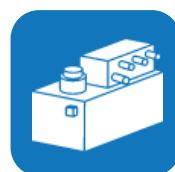
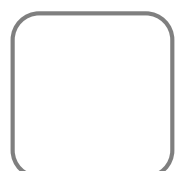
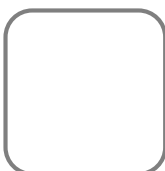


INDUSTRIAL DESIGNS



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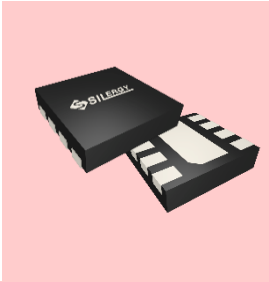
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Single Output Step Down (Buck) Converter, V_{IN} Max < 7V (Temp Range -40°C to 125°C)

Part Number	V_{IN} Min (V)	V_{IN} Max (V)	I_{OUT} (Max) (A)	f_{SW} (MHz)	V_{OUT} (Min) (V)	V_{REF} Accuracy	Quiescent Current (μ A)	MOSFET (R_{on} H/L) (m Ω)	SST	Temp Range	PG	Output Discharge	Feature/ Special Function	Package
SY26012ART	2.5	5.5	2	1.5	0.6	$\pm 1.5\%$	21	45/35	600 μ s Internal	-40°C to 125°C		✓	PFM, Hic-cup SCP	SOT563
SY26002QWC	2.75	5.5	3	1.5	0.6	$\pm 2.0\%$		85/50	External	-40°C to 125°C		✓	CCM, Hic-cup SCP	QFN1.5×1.5-7
SY26003SYD	2.5	6	3	2.4	0.8	$\pm 1.5\%$	23	31/23	0.8ms Internal	-40°C to 125°C	✓	✓	Hic-cup SCP	DFN2×2-7
SY26083DQD	2.5	5.5	3	2.2	0.6	$\pm 1.0\%$	21	38/30	2ms Internal	-40°C to 125°C	✓	✓	PFM, Hic-cup SCP	DFN1.5×1.5-6
SY26084DQD	2.5	5.5	4	2.2	0.6	$\pm 1.0\%$	21	38/30	2ms Internal	-40°C to 125°C	✓	✓	PFM, Hic-cup SCP	DFN1.5×1.5-6
SY26004SYD	2.5	6	4	2.4	0.6	$\pm 1.5\%$	23	25/17	0.8ms Internal	-40°C to 125°C	✓	✓	Hic-cup SCP	DFN2×2-7
SY26006SYD	2.5	6	6	1	0.6	$\pm 1.5\%$	23	22/12	0.8ms Internal	-40°C to 125°C	✓	✓	Hic-cup SCP	DFN2×2-7
SY26016QDC	2.95	6	6	0.2~2	0.6	$\pm 1.0\%$		12/12	External	-40°C to 125°C	✓		CCM, External COMP, Hic-cup SCP	QFN3×3-16
SY26056WEQ	0.8	6	6	0.6/1	0.4	$\pm 1.0\%$		18/10	1.6ms Internal	-40°C to 125°C	✓	✓	PFM or FCCM Hic-cup SCP	QFN3.5×4-20

Single Output Step Down (Buck) Converter, V_{IN} Max > 7V (Temp Range -40°C to 125°C)

Part Number	V_{IN} Min (V)	V_{IN} Max (V)	I_{OUT} (Max) (A)	f_{SW} (MHz)	V_{OUT} (Min) (V)	V_{REF} Accuracy	Quiescent Current (μ A)	MOSFET (R_{on} H/L) (m Ω)	SST	Temp Range	PG	Output Discharge	Feature/ Special Function	Package
SY26406SXC	7	100	0.6	0.2~1	1.225	$\pm 2.0\%$	/	500/285	2ms Internal	-40°C to 125°C			FCCM, Programmable Switching Frequency Range: 200kHz ~600kHz	DFN4×4-8
SY26406FCC	7	100	0.6	0.2~0.6	1.225	$\pm 2.0\%$	/	500/285	2ms Internal	-40°C to 125°C			FCCM, Programmable Switching Frequency Range: 200kHz ~600kHz	SO8E
SY26407FCC	7	100	1	0.2~0.6	1.225	$\pm 2.0\%$	/	500/240	Internal	-40°C to 125°C			Programmable Switching Frequency Range: 200kHz ~600kHz	SO8E
SY26420FCC	4.5	60	2	0.1~1	0.8	$\pm 1.0\%$	100	175/	2ms Internal	-40°C to 125°C	✓		Hic-cup SCP	SO8E
SY26230AIC	4.5	30	3	0.5~2.5	0.6	$\pm 3\%$	19	110/70	1ms Internal	-40°C to 125°C			Hic-cup SCP	TSOT23-8
SY26335FCA	4.2	40	3.5	0.3~2.2	0.6	$\pm 2.0\%$	18	115/80	1ms Internal	-40°C to 105°C	✓		Hic-cup SCP	SO8E
SQ27693FCP	4.5	60	3.5	0.1~2.5	0.8	$\pm 1.0\%$	152	95/	2ms Internal	-40°C to 125°C			Accurate Feedback Set Point: 0.8V $\pm 1\%$ from -40°C to 125°C	SO8E
SY26103RHQ	5.2	18	4	2	0.6	$\pm 1.83\%$	75	50/25	Programmable	-40°C to 125°C	✓		Programmable Soft-start	QFN2.5×2.5 -16
SY26425TOD	4.5	60	5	0.1~2.5	0.8	$\pm 1.0\%$	152	95/	Internal and Adjustable	-40°C to 125°C	✓	✓	Hiccup Mode for UVP, Asynchronous Buck	DFN4×4-10
SY26136RAC	4	23	6	0.6	0.6	$\pm 1.0\%$	120	38/19	1.3ms Internal		✓	✓	Power Good Indicator, Hic-cup SCP, PFM/PWM	QFN3×3-20
SY26106BWYQ	2.85	16	6	0.66/ 1.1/2.2	0.9	$\pm 1.0\%$	850	22.1/8.1	Programmable	-40°C to 125°C	✓	✓	Programmable Valley Current Limit & Soft-start, Latch-off Protection, PFM/FCCM	QFN2×3-14

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Single Output Step Down (Buck) Converter, V_{IN} Max >7V (Temp Range -40°C to 125°C)

Part Number	V_{IN} Min (V)	V_{IN} Max (V)	I_{OUT} (Max) (A)	f_{SW} (MHz)	V_{OUT} (Min) (V)	V_{REF} Accuracy	Quiescent Current (μ A)	MOSFET (R_{on} H/L) (m Ω)	SST	Temp Range	PG	Output Discharge	Feature/ Special Function	Package
SY26105BWWQ	2.85	16	6	0.66/ 1.1/2.2	0.6	$\pm 1.0\%$	850	22.1/8.1	Programmable	-40°C to 125°C	✓	✓	Programmable Valley Current Limit & Soft-start, Hic-cup Protection, PFM/FCCM	QFN2×3-14
SY26138RAC	4	23	8	0.6	0.6	$\pm 1.0\%$	120	22/11	1.1ms Internal		✓	✓	Power Good Indicator, Hic-cup SCP, PFM/PWM	QFN3×3-20
SY26147WZQ	4.5	17	12	0.4/0.8 /1.2	0.6	$\pm 1.0\%$	600	9.8/4.5	Internal & Adjustable	-40°C to 125°C	✓	✓	Power Good Indicator, pre-bias startup, FCCM/PFM	QFN3.5× 3.5-18
NEW														
SQ29047BWZQ	4.5	17	12	0.4/0.8 /1.2	0.6	$\pm 1.0\%$	600	9.8/4.5	Internal & Adjustable	-40°C to 125°C	✓	✓	Power Good Indicator, pre-bias startup, FCCM/PFM, Ultra fast load transient	QFN3.5× 3.5-18
NEW														
SQ29047CWZQ	4.5	17	12	0.4/0.8 /1.2	0.6	$\pm 1.0\%$	600	9.8/4.5	Internal & Adjustable	-40°C to 125°C	✓	✓	Power Good Indicator, pre-bias startup, FCCM/PFM, Low ripple voltage at PFM	QFN3.5× 3.5-18
SY26112VDC	2.7	16	12	0.6/0.8 /1.0	0.6	$\pm 1.0\%$	650	12.6/4.3	Internal & Adjustable	-40°C to 125°C	✓	✓	Remote sense, seamless ILMT, pre-bias startup, FCCM/PFM	QFN3×4-19
NEW														
SY26168TXQ	2.7	16	12	0.6/0.8 /1.0	0.9	$\pm 1.0\%$	650	13.3/3.8	Internal & Adjustable	-40°C to 125°C	✓	✓	Remote sense, seamless ILMT, pre-bias startup, Ultra fast load transient, OSM, Output tracking, Latch off for UVP, OVP, OTP	QFN3×4-21
SY26169TXQ	2.7	16	12	0.6/0.8 /1.0	0.6	$\pm 1.0\%$	650	13.3/3.8	Internal & Adjustable	-40°C to 125°C	✓	✓	Remote sense, seamless ILMT, pre-bias startup, Ultra fast load transient, OSM, Output tracking	QFN3×4-21
SY26172TXQ	2.7	16	12	0.6/0.8 /1.0	0.6	$\pm 1.0\%$	650	12.6/4.3	Internal & Adjustable	-40°C to 125°C	✓	✓	Remote sense, seamless ILMT, pre-bias startup	QFN3×4-21
SY26171TXQ	2.7	16	20	0.6/0.8 /1.0	0.6	$\pm 1.0\%$	650	8.6/2.5	Internal & Adjustable	-40°C to 125°C	✓	✓	Remote sense, seamless ILMT, pre-bias startup, Ultra fast load transient, OSM, Output tracking	QFN3×4-21
SY26120VDC	2.9	16	20	0.6/0.8 /1.0	0.6	$\pm 1.0\%$	550	7.5/2.4	Internal & Adjustable	-40°C to 125°C	✓	✓	Remote sense, seamless ILMT, pre-bias startup, FCCM/PFM	QFN3×4-19
SY26180TXQ	2.9	16	20	0.6/0.8 /1.0	0.6	$\pm 1.0\%$	550	7.5/2.4	Internal & Adjustable	-40°C to 125°C	✓	✓	Remote sense, seamless ILMT, pre-bias startup, FCCM/PFM	QFN3×4-21
SY26190VDQ	2.9	16	20	0.6/0.8 /1.0	0.6	$\pm 1.0\%$	550	8.6/2.5	Internal & Adjustable	-40°C to 125°C	✓	✓	Remote sense, seamless ILMT, pre-bias startup, FCCM/PFM	QFN3×4-19
SY26190TXQ	2.9	16	20	0.6/0.8 /1.0	0.6	$\pm 1.0\%$	550	8.6/2.5	Internal & Adjustable	-40°C to 125°C	✓	✓	Remote sense, seamless ILMT, pre-bias startup, FCCM/PFM	QFN3×4-21
SY26132NIG	3	16	15/ per phase	0.4~ 1.8	0.4	$\pm 1.0\%$ ($V_{ref} \geq$ 600mV)	4000	9/4	Adjustable	-40°C to 125°C	✓	✓	Stackable Dual Phase Synchronous Step-down Converter, PMBus Compatible Interface, Black-Box Function	LGA6×6-42
SY26613QDQ (Controller)	4.5	19	/	0.5	0.6	$\pm 1.0\%$	1mA (max.)	/	Programmable	-40°C to 125°C	✓	✓	Programmable Soft- start/ Switching frequency/Over current limit, USM or FCCM	QFN3×3-16
SY26145NDG	6	16	45	0.4/ 0.6/0.8 /1.0	0.35	$\pm 1.0\%$	/	3/0.9	Programmable	-40°C to 125°C	✓	✓	Flexible configurations via PMBus interface	LGA5×6-30 Back

Single Output Step Up (Boost) Converter (Low Voltage) (Temp Range -40°C to 125°C)

Part Number	V _{IN}		I _{LIM}	f _{sw}	V _{OUT}	Sync	V _{REF}	Input Quiescent	MOSFET(Ron	Feature/ Special Function	Package
	Min	Max	(A)	(MHz)	(max)	Boost	Accuracy	Current (μA)	Main/Sync)		
	(V)	(V)			(V)				(mΩ)		
SY26522ABC	0.98	5.5	2	1	5.5	Y	1.2V±1.5%	0.7	100/170	Auto Bypass Mode When V _{IN} ≥ V _{OUT} , OVP	SOT23-6
SY26501QDQ	2.8	5.5	0.68	0.85	70	N	external	500	600	2.5mA Precision Protection APD Bias, Dual-Gain Track/Hold Current Mirror	QFN3×3-16

Single Output Step Up (Boost) Converter (High Voltage) (Temp Range -40°C to 125°C)

Part Number	V _{IN}		I _{OUT}	f _{sw}	V _{OUT}	Sync	V _{REF}	Input Quiescent	MOSFET(Ron	Feature/ Special Function	Package
	Min	Max	(max)	(MHz)	(max)	Boost	Accuracy	Current (μA)	Main/Sync)		
	(V)	(V)	(A)		(V)				(mΩ)		
SY26532ABC	3	30	2	1	33	N	0.6V±3%	100	200/-	Internal SS/Comp	SOT23-6
SY26512ARAC	2.9	16	10	0.4~2	16	Y	1V±2%	200	10/20	PFM/PWM Light Load Operation Mode, OVP, Programmable Switching Frequency: 0.4~2MHz, Programmable I _{LIM} : 2~10A	QFN3×3-20
SY26533ABC	3	30	0.6	1	33	N	1.24V±2%	100	400/-	Internal SS/Comp	SOT23-6

DC-DC PWM Controller (External Switch) (Temp Range -40°C to 125°C)

Part Number	V _{IN}	V _{IN}	f _{sw}	V _{REF}	Quiescent	Temp Range	Feature/ Special Function	Package
	(min)	(max)	(MHz)	Accuracy	Current (μA)			
	(V)	(V)						
SY26612AFHC	3	25	0.3	1V±8%	130	-40°C to 125°C	Current mode DC/DC controller targeted for both Boost and SEPIC applications with DC Output Current Limit	SSOP10
NEW								
SQ25001QEQ	6	60	0.15-0.4	0.8V±1%	NA	-40°C to 125°C	Four-Switch Single Inductor/PFM or PWM Light Load/ Power Good/Fault Indicator/Spread-Spectrum Function/ CBC Current Limit Protection	QFN5×5-32

Power Stage DrMOS (Temp Range -40°C to 125°C)

Part Number	Package	VCC/VDRV	V _{IN}	Continuous	IMON	Overall IMON	REFIN	f _{sw}	Temp Range	Features
		Supply	(V)	Output	Output	Accuracy	Range (V)	(kHz)		
		Voltage (V)		Current (A)	Type					
SY26663XBQ	QFN5×6-41	5	5~16	70	Voltage Output	±5%	1~2	250~1000	-40°C to 125°C	16V, 70A co-package DrMOS
SY26670NGG	LGA5×6-41	3.3	5~16	70	Current Type	±5%	1~1.4	200~2000	-40°C to 125°C	16V, 70A DrMOS

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Multiphase Controller (Temp Range -40°C to 125°C)

Part Number	Package	Number of Output Rail	Number of Phases	Supply Voltage (V)	fsw (kHz)	Interfaces	Temp Range	Typical Application	Features
SY26616QJQ	QFN7×7-48	1	6	3.3	300-1000	PMBus	-40°C to 125°C	ASIC, Networking, ASSP	Ripple-based COT control with built-in flexible loop compensation, single rail 6 phase digital controller
SQ51202QJQ	QFN7×7-48	1	6	3.3	300-1200	PMBus	-40°C to 125°C	ASIC, Networking, ASSP	Ripple-based COT control with built-in flexible loop compensation, single rail 6 phase digital controller, enhanced version
SQ51222RPO	QFN5×5-40	2	N+M≤5 (M≤2)	3.3	300-1000	PMBus AVSBus	-40°C to 125°C	ASIC, Networking, ASSP	Ripple-based COT control with built-in flexible loop compensation, dual rail, phases with N+M≤5 (M≤2) digital controller
SQ51225QJQ	QFN7×7-48	2	N+M≤5 (M≤2)	5	300-2000	PMBus AVSBus	-40°C to 125°C	ASIC, Networking, ASSP	Ripple-based COT control with built-in flexible loop compensation, dual rail, phases with N+M≤5 (M≤2) digital controller

LDO Regulator(Temp Range -40°C to 125°C)

Part Number	V _{IN} (min) (V)	V _{IN} (max) (V)	Output Voltage Range (V)	I _{OUT} (A)	V _{FB} /V _{ADJ}	V _{FB} /V _{ADJ} Accuracy	PSRR	Dropout Voltage (mV)	Temp Range	Function	Package
SY20736DED	2.5	30	Adjustable	0.15	0.6	±2%	50dB@1kHz	150	-40°C to 125°C	LDO Regulator	DFN2x2-6
SY20737HDGD	4	36	Adjustable	0.5	1.235	±1%	60dB @1kHz	500	-40°C to 125°C	LDO Regulator	DFN2x3-8
SY20773DSDD	1.6	5.5	Adjustable	1	1	±5%	-60dB@1kHz	320mV@V _{OUT} =1.5V 180mV@V _{OUT} =2.8V	-40°C to 125°C	LDO Regulator Current Limiting Protection	DFN3x3-6
SY20739FCC	1.5	6	Adjustable	2	0.5	±2%	30dB@100kHz	400mV@2A	-40°C to 125°C	2A LDO with Enable	SO8E
SY20739DAC	1.5	6	Adjustable	2	0.5	±2%	30dB@100kHz	400mV@2A	-40°C to 125°C	2A LDO with Enable	DFN3x3-8
SQ24302BSED	1.8	6.5	Adjustable	2	0.8	±2%	40dB@500 kHz	200mV @at 2A	-40°C to 125°C	2A Low Noise LDO	DFN2.5x2.5-10
SY20775BTDD	2.375	3.5	Adjustable	2				/	-40°C to 125°C	Sink and Source DDR Termination Regulator	DFN2x2-10
SY20787MAB	3	18	Adjustable	3	1.24	±2%	30dB @100kHz	480	-40°C to 125°C	LDO Regulator	TO263-5
SY20775DBDD	2.375	3.5	Adjustable	3				/	-40°C to 125°C	Sink and Source DDR Termination Regulator	DFN3x3-10

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Protection Switch(Temp Range -40°C to 125°C)

Part Number	Package	Enable Logic	OC	OV	Output Clamp	Output Discharge	No. of Channels	V _{IN} (V)	I _{OUT} (A)	R _{DS(ON)}	Special Function
SY28846AQSC	QFN3x4-20	H	Y	Y		N	1	2.7~18	0.6~5.3	42mΩ	Output Reverse Blocking
SY28846BQSQ	QFN3x4-20	H	Y	Y		N	1	2.7~18	0.6~5.3	42mΩ	4ms Fault Timer Then Shutoff
SY28892ZDEC	DFN2x2-6	H	Y	N		Y	1	2.5~5.5	2	65mΩ	Output Discharge at Shutdown Reverse Blocking, Fast OCP, OCB Indicator
SQ24201EDED	DFN2×2-6	H	Y	N		Y	1	2.5~5.5	0~2	65mΩ	Programmable Current Limit, Fast Reverse Recovery, OCB Indicator
SQ24201EABT	SOT23-6	H	Y	N		Y	1	2.5~5.5	0~2	65mΩ	Programmable Current Limit, Fast Reverse Recovery, OCB Indicator
NEW SQ24201E2DED	DFN2x2-6	L	Y	N		Y	1	2.5~5.5	0~2	65mΩ	Programmable Current Limit, Fast Reverse Recovery, OCB Indicator
SQ24201FAAT	SOT23-5	H	Y	N		Y	1	2.5~5.5	1.4	65mΩ	1.57A±9% Current Limit Accuracy, , Fast Reverse Recovery, OCB Indicator
SY28815BDBC	DFN3x3-10	H	Y	Y	Y	Y	1	2.5~18	1A/2A	40mΩ	2 Level Current Limit (1.4A/2.75A), Prog.SS, Selectable Input /Clamping Voltage Range
SY28815CDBC	DFN3x3-10	H	Y	Y	Y	Y	1	2.5~18	5	40mΩ	Fixed Current Limit, Prog.SS,3.3V/5V Selectable Power Rail with 2.4V UVLO
SY28482LTLO	QFN2x2-12	H	Y	N		Y	1	2.5~16	5	30mΩ	Blocking FET Control, Programmable OUT Slew Rate Built-in Thermal Shutdown and Latch-off
SQ24802K1DFD	DFN2x2-8	H	Y	Y	Y	N	1	4.2~16	0~5	31mΩ	Adjustable Current Limit Adjustable Output Slew Rate Control Overtemperature/Overvoltage Protection
SY28826DUC	DFN3x2-14	H	N	N		Y	2	0.8~5.5	6	18mΩ	Dual-channel, Programmable Soft-start Time
SY28810ADHC	DFN2x3-10	H	N	N		Y	1	0.6~5.5	10	2.8mΩ	Controlled and Adjustable Slew Rate, Power Good Indicator
SQ24810QMQ	QFN2x2-10	H	Y	Y		Y	1	2.7~16	10	6mΩ	Programmable Current Limit, Programmable Overcurrent Response Time , Power Good Indicator
SY28481DCD	DFN3x3-12	H	Y	N		Y	1	0.5~13.5	0~24	4.1mΩ	Advanced Controller with Charge Pump Controlled and Adjustable Slew Rate, Load Bleed (Quick Discharge)
SY28481BDCD	DFN3x3-12	H	Y	N		Y	1	3~24	0~10	5.2mΩ	Advanced Controller with Charge Pump Programmable Soft Start Time Fault Detection with Power Good Output
SY28481CDCD	DFN3x3-12	H	Y	N		Y	1	3~24	0~20	3.8mΩ	Advanced Controller with Charge Pump Programmable Soft Start Time Fault Detection with Power Good Output
SY28480QEQ	QFN5×5-32	H	Y	N		Y	1	4.5~18	0~50	0.76mΩ	Current Monitor, Fault Detection with Status OK Output, Adjustable Slew Rate Control/ Current Limit/Over Current Alert Output
SY28480BQEQ	QFN5×5-32	H	Y	N	N	Y, 0.8V<V _{ON} <1.2V	1	4.5~18	0~50	0.76mΩ	Current Monitor, Latch off for Fault Response , 100A SCP Threshold Adjustable Slew Rate Control/ Current Limit/Over Current Alert Output

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Hotswap ORing (Temp Range -40°C to 125°C)

Part Number	Package	Enable Logic	OC	OVP	No. of Channels	V _{IN} (V)	V _{OUT} (V)	Temp Range	Special Function
SY28901HCK	TSSOP16	Y	Y	Y	1	-10~-200	0~-80	-40°C to 125°C	Integrated ORing Controller, Dual Hot Swap Gate Driver
SY28902FBC	MSOP10	/	/	/	1	1.5~60	0~60	-40°C to 125°C	IEEE802.3bt PD Interface Controller
SY28902BDBD	DFN3x3-10	/	/	/	1	1.5~60	0~60	-40°C to 125°C	IEEE 802.3af/at-compliant PD Interface Controller
SY28903FBP	MSOP10	H	Y		1	2.5~18	0~18	-40°C to 125°C	Power Limiting Hotswap Controller/Fault Timer/UV Threshold/Programmable FET SOA Protection
NEW SQ24905CQEQ	QFN5x5-32	H	Y	Y	1	4.5~20	4.5~20	-40°C to 125°C	Hot Swap Controller with Digital Power, Energy Monitor and PMBus Interface

Supervisor & Reset ICs (Temp Range -40°C to 125°C)

Part Number	Package	Number of Supplies Monitored	Output Driver/Reset Output	Threshold Voltage (V)	Delay Time (ms)	Reset Threshold Accuracy	Quiescent Current (μA)	Temp Range	Features
SY28637ADTD	DFN1.45×1-6	1	Active high, Push-pull	Adjustable	Programmable	±1%	9	-40°C to 125°C	EN ON delay time programmable
SY28637EDTD	DFN1.45×1-6	1	Active high, open drain	Adjustable	Programmable	±1%	9	-40°C to 125°C	EN ON delay time programmable
SY28637FDTD	DFN1.45×1-6	1	Active high, open drain	Adjustable	Programmable	±1%	9	-40°C to 125°C	200ns EN ON delay time

Charge Pump (Temp Range -40°C to 125°C)

Part Number	Package	Enable Logic	V _{IN} (V)	V _{OUT} (V)	No. of Channels	Quiescent Current (mA)	I _{OUT} (A)	f _{SW} (kHz)	Temp Range	Features
SY20749VLQ	QFN1.4×1.8-10	H	2.3~5.5	-VIN	2	1.2	0.2	500	-40°C to 125°C	Negative Charge Pump and Adjustable Regulator
SY20749BVLQ	QFN1.4×1.8-10	H	2.3~5.5	-VIN	2	1.2	0.2	500	-40°C to 125°C	Negative Charge Pump and Adjustable Regulator

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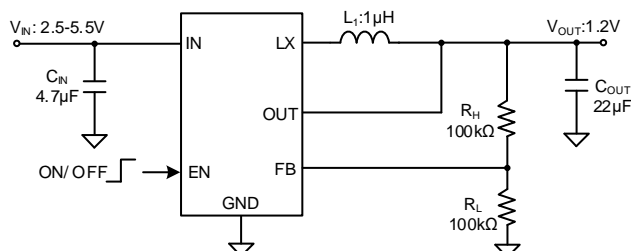
Single Output Step Down (Buck) Converter, $V_{IN} \text{ Max} < 7V$ (Temp Range $-40^{\circ}C$ to $125^{\circ}C$)

SY26012ART

21 μ A Ultra Low I_Q , 1.5MHz, 2A Sync Buck

Features

- Voltage-output, Current-sense Amplifier
- 2.5V to 5.5V Input Voltage Range
- Ultra-Fast Load Transient Speed
- Low $R_{DS(ON)}$ for Internal Switches (Top/Bottom) 45m Ω /35m Ω
- High Switching Frequency 1.5MHz Minimizes the External Components
- $\pm 1.0\%$ Feedback or Output Voltage Accuracy Over $0^{\circ}C \sim 85^{\circ}C$ Temperature Range
- $\pm 1.5\%$ Feedback or Output Voltage Accuracy Over $-40^{\circ}C \sim 125^{\circ}C$ Temperature Range
- PFM Mode for Light Load Efficiency
- 21 μ A Operating Quiescent Current
- Internal Soft-Start Limits the Inrush Current
- 100% Dropout Operation
- Output Auto Discharge Function
- Auto Recovery for SCP/OVP/OTP Protection
- RoHS Compliant and Halogen Free
- Compact Package: SOT563



Applications

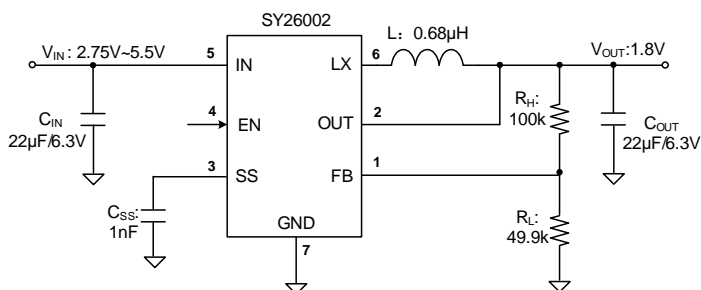
- Portable Electronics
- Industrial PC
- Smart Phone

SY26002QWC

High Efficiency 1.5MHz, 3A Ultra Fast Dynamic Response Sync Buck

Features

- 2.75~5.5V Input Voltage Range
- Ultra Fast Load Transient Speed
- Low $R_{DS(ON)}$ for Internal Switches (Top/Bottom) 85m Ω /50m Ω
- High Switching Frequency 1.5MHz Minimizes the External Components
- External Soft-start Limits the Inrush Current
- CCM Only Operation
- Reliable Short Circuit Protection: Hic-cup Mode
- Output Auto Discharge Function
- RoHS Compliant and Halogen Free
- Compact Package: QFN1.5 \times 1.5-7



Applications

- Smart Phone
- LCD TV
- Set Top Box
- Mini-notebook PC

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Single Output Step Down (Buck) Converter, $V_{IN} \text{ Max} < 7V$ (Temp Range $-40^{\circ}C$ to $125^{\circ}C$)

SY26003SYD/SY26004SYD/SY26006SYD

High Efficiency, 1M/2.4MHz, 3A/4A/6A Sync Buck

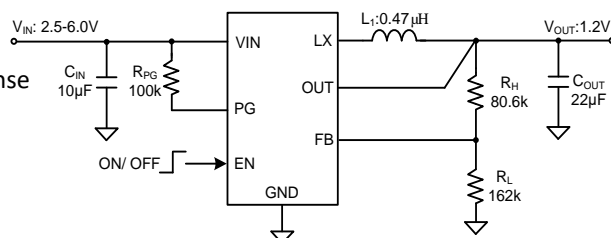
Features

- 2.5~6.0V Input Voltage Range
- 23 μA Low Quiescent Current(SY26003/26006)
- Low $R_{DS(ON)}$ for Internal Switches
- Instant PWM Control Achieve Ultra Fast Dynamic Response
- 2.4MHz Switching Frequency Minimizes the External Components
- Internal Soft-start Limits the Inrush Current
- 100% Drop Out Operation
- Output Auto Discharge Function
- Hiccup Mode for Short Circuit Protection
- RoHS Compliant and Halogen Free
- Compact Package: DFN2 \times 2-7

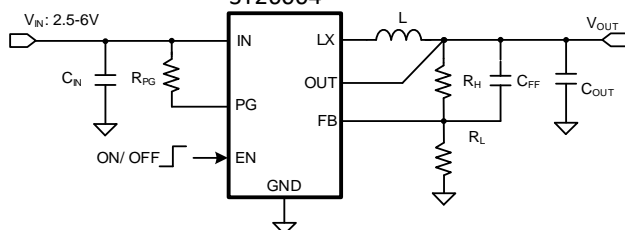
Applications

- Set Top Box
- USB Dongle
- Media Player
- Smart Phone

SY26003/6



SY26004



SY26083/SY26084DQD

21 μA Ultra Low I_Q , 3A/4A, 2.2MHz Sync Buck

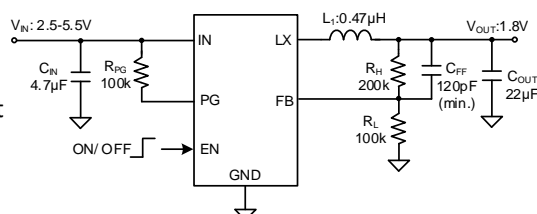
Features

- 2.5V to 5.5V Input Voltage Range
- Ultra-Fast Load Transient Speed
- Low $R_{DS(ON)}$ for Power MOSFETs
- High Switching Frequency 2.2MHz $\pm 1\%$ Feedback or Output Voltage Accuracy (Full Temperature Range)
- PFM Mode for Light Load Efficiency
- 21 μA Operating Quiescent Current
- Internal Soft-start Limits the Inrush Current
- 100% Dropout Operation
- Output Auto Discharge Function
- Power Good Indicator
- Auto Recovery for SCP/OVP/OTP Protection
- RoHS Compliant and Halogen Free
- Compact Package: DFN1.5 \times 1.5-6

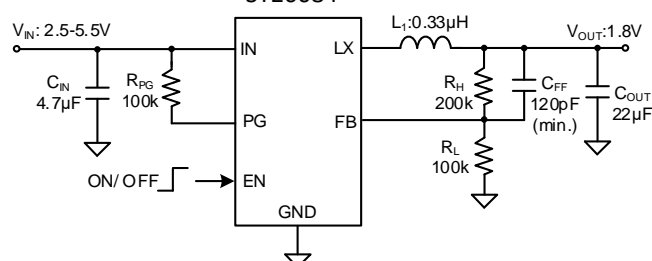
Applications

- Portable Electronics
- Notebooks and Desktop PCs
- Smart Phones

SY26083



SY26084



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Single Output Step Down (Buck) Converter, $V_{IN} \text{ Max} < 7V$ (Temp Range $-40^{\circ}C$ to $125^{\circ}C$)

SY26016QDC

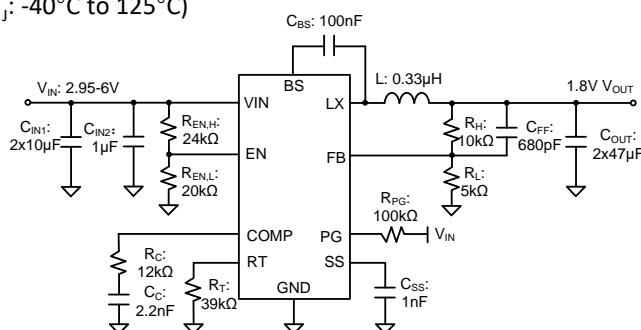
21 μ A Ultra Low I_Q , 3A, 2.2MHz Sync Buck

Features

- Input Voltage Range: 2.95V to 6V
- Low $R_{DS(ON)}$ for Internal Switches (Top/Bottom): 12m Ω /12m Ω
- 0.6V \pm 1% Voltage Reference Over Temperature Range (T_J : $-40^{\circ}C$ to $125^{\circ}C$)
- 200kHz to 2MHz Switching Frequency
- CCM Only Operation
- Start-up with Pre-biased Voltage
- Adjustable Input Voltage UVLO by EN
- External Soft-start Limits the Inrush Current
- Power Good Indicator
- Hic-cup Mode Output Short Circuit Protection
- Over Temperature Protection with Auto recovery
- RoHS Compliant and Halogen Free
- Compact Package: QFN3 \times 3-16

Applications

- Telecom
- Server



SY26056WEQ

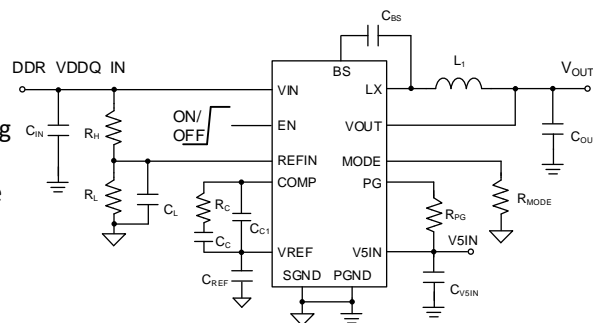
Continuous Source- or Sink-Current, 6A, 6V Input High-Efficiency Sync Buck

Features

- 0.8V to 6V Input Voltage Range
- 6A Continuous Output Source or Sink Current
- Internal 18m Ω Power Switch and 10m Ω Sync Rectifier
- Accurate \pm 1% Output Voltage
- Fast Transient Response
- 600kHz and 1000kHz Operating Frequency
- Adjustable 0.4 to 1.2V Output Voltage
- Selectable Peak-, Valley-, and Reverse-Current Limit
- Selectable Automatic High-Efficiency Discontinuous Operating Mode at Light Loads
- Output Voltage Tracking Using an External Voltage Reference
- Internal Soft-Start Limits Inrush Current
- Smooth Pre-Biased Startup
- Power-Good Indicator
- Auto-Recovery for Input Undervoltage (UVLO), Output Undervoltage (UVP), Output Overvoltage (OVP) and Overtemperature (OTP) Conditions
- MSL-3 Compliant
- Package: QFN3.5mm \times 4mm

Applications

- Memory Termination Regulator for DDR/DDR2/DDR3/DDR3L/DDR4
- V_{TT} Termination



Single Output Step Down (Buck) Converter, V_{IN} Max >7V (Temp Range -40°C to 125°C)

SY26406SXC/SY26406FCC/SY26407FCC

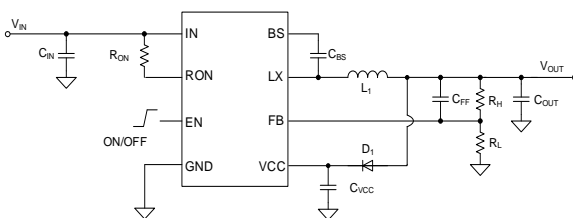
High Efficiency, 0.6A/1A, 100V Input Sync Buck

Features

- Wide Input Voltage Range: 7-100V
- Internal 500mΩ Main Switch and 285mΩ Synchronous Switch
- 0.6A Output Current Capability (SY26406)
- 1A Output Current Capability (SY26407)
- COT Ripple-Based Control to Achieve Fast Transient Responses
- Programmable Switching Frequency Range: 200kHz~1MHz (SY26406SXC) 200kHz~600kHz (SY26406/7FCC)
- 2ms Internal Soft-start Limits the Inrush Current
- Accurate Feedback Set Point: $1.225V \pm 2\%$
- Cycle-by-cycle Peak/Valley Current Limit
- Cycle-by-cycle Reverse Current Limit
- Auto Recovery for Over Temperature (OTP)
- RoHS Compliant and Halogen Free
- Compact Package DFN4×4-8 / SO8E

Applications

- Isolated Telecom Bias Supply
- Secondary High Voltage Post Regulator
- Automotive Systems



SY26335FCA

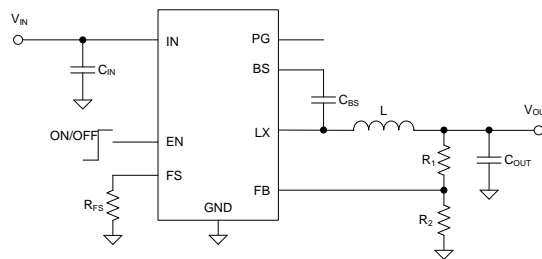
High Efficiency Fast Response, 3.5A, 40V Input Sync Buck

Features

- Low $R_{DS(ON)}$ for Internal Switches (Top/Bottom): 115/80mΩ
- 4.2-40V Input Voltage Range
- Internal Compensation
- Internal 1ms Soft-start Limits the Inrush Current
- Adjustable Switching Frequency Range: 300kHz to 2.2MHz
- 3.5A Output Current Capability
- $\pm 2\%$ 0.6V Reference Over -40°C ~ 105°C
- Cycle-by-cycle Peak Current Limitation
- Short Circuit Protection
- Thermal Shutdown and Auto Recovery
- RoHS Compliant and Halogen Free
- Compact Package: SO8E

Applications

- Industrial
- High-Voltage DC/DC Converters



Single Output Step Down (Buck) Converter, V_{IN} Max >7V (Temp Range -40°C to 125°C)

SY26230AIC

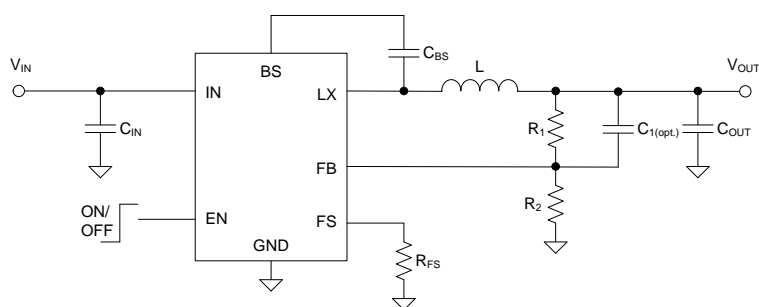
High Efficiency Fast Response, 3A, 30V Input Sync Buck

Features

- Low $R_{DS(ON)}$ for Internal Switches (Top/Bottom): 110/70 mΩ
- 4.5-30V Input Voltage Range
- Internal Compensation
- Internal 1ms Soft-start Limits the Inrush Current
- Adjustable Switching Frequency Range: 500kHz to 2.5MHz
- 3A Output Current Capability
- 1.5% 0.6V Reference
- Low Quiescent Current
- Cycle-by-cycle Peak Current Limit
- Short Circuit Protection
- Thermal Shutdown and Auto Recovery
- RoHS Compliant and Halogen Free
- Compact Package: TSOT23-8

Applications

- LCD-TV
- SetTop Box
- Notebook
- Storage
- High Power AP Router
- Networking



Single Output Step Down (Buck) Converter, V_{IN} Max >7V (Temp Range -40°C to 125°C)

SY26420FCC

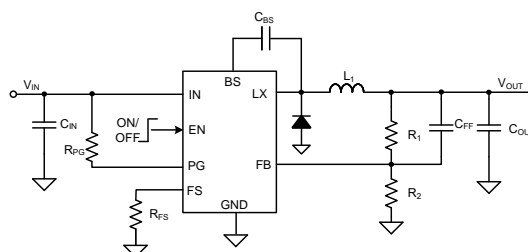
High Efficiency, 60V Input, 2A Asynchronous Step Down Regulator

Features

- Low $R_{DS(ON)}$ for Internal N-channel Power FET (TOP): 175mΩ
- 4.5-60V Input Voltage Range
- 2A Output Current Capability
- Adjustable Switching Frequency Range: 100kHz to 1MHz
- Internal Soft-start Limits the Inrush Current
- Hic-cup Mode Output Short Circuit Protection
- EN ON/OFF Control with Accurate Threshold
- Cycle-by-cycle Peak Current Limit
- $0.8V \pm 1\%$ Reference Voltage Accuracy
- Compact Package: SO8E

Applications

- Non-isolated Telecommunication Buck
- Secondary High Voltage Post Regulator
- Automotive Systems
- Electric Bicycle



SQ27693FCP

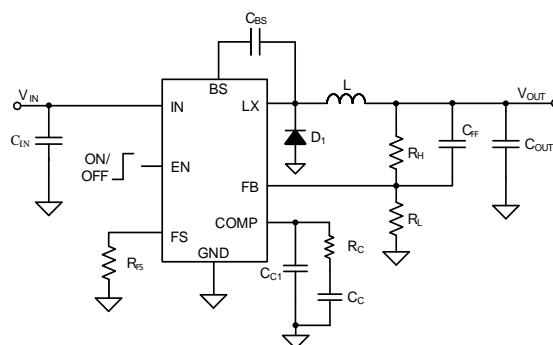
High Efficiency, 60V Input, 3.5A Asynchronous Step Down Regulator

Features

- Wide Input Voltage Range: 4.5V ~ 60V
- Output Current Capability: 3.5A
- Low $R_{DS(ON)}$ for Internal N-channel Power FET(TOP): 95mΩ
- Accurate Feedback Set Point: $0.8V \pm 1\%$ from -40°C to 125°C
- Adjustable Switching Frequency: 100kHz to 2500kHz
- High Efficiency at Light Loads with Pulse Skipping Mode
- Cycle by Cycle Peak Current Limit Protection
- Automatic Recovery for UVLO, OVP and OTP Conditions
- Hiccup Mode for UVP Condition
- Compact Package: SO8E

Applications

- 5G AAU/RRU
- Industrial
- High-Voltage DC-DC Converters



Single Output Step Down (Buck) Converter, V_{IN} Max >7V (Temp Range -40°C to 125°C)

SY26103RHQ

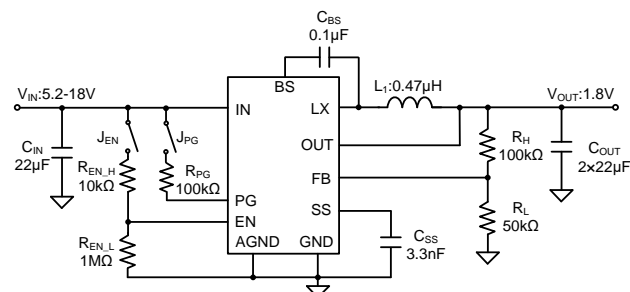
High Efficiency, 2.0MHz, 4A Synchronous Step Down Regulator

Features

- 5.2V to 18V Input Voltage Range
- Low $R_{DS(ON)}$ for Internal Switches (Top/Bottom): 50mΩ/25mΩ
- High Switching Frequency 2.0MHz Minimizes the External Components
- 75μA Operating Quiescent Current
- Power Good Indicator
- Power Save Mode for Light Load Efficiency
- Reliable Protection Mode: Auto-recovery Mode for UVLO, UVP, OTP
- Cycle-by-cycle Valley Current Limit and Peak Current Limit
- Programmable Soft-start
- RoHS Compliant and Halogen Free
- Compact Package: QFN2.5x2.5-16

Applications

- Server and Data-center



SY26136RAC

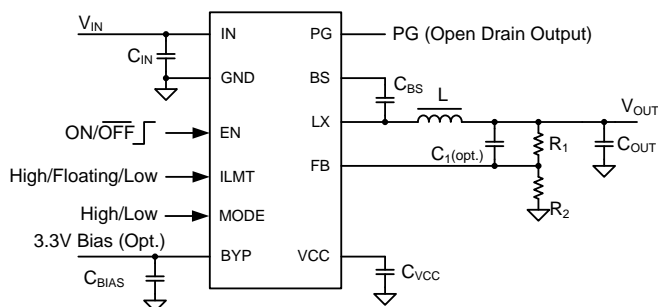
High Efficiency Fast Response 6A, 23V Input Sync Buck

Features

- Low $R_{DS(ON)}$ for Internal Switches (Top/Bottom): 38/19 mΩ
- Wide Input Voltage Range: 4-23V
- Instant PWM Architecture to Achieve Fast Transient Responses
- Internal 1.3ms Soft-start Limits the Inrush Current
- Pseudo-constant Frequency: 600kHz
- 6A Output Current Capability
- $\pm 1\%$ Internal Reference Voltage
- PFM/PWM Selectable Light Load Operation Mode
- Optional Bypass Input
- Power Good Indicator
- Output Discharge Function
- Output Current Limit Protection
- Hiccup Mode Output Short Circuit Protection
- Output Over Voltage Protection
- Input UVLO
- Over Temperature Protection with Auto Recovery
- RoHS Compliant and Halogen Free
- Compact Package: QFN3x3-20

Applications

- LCD-TV/Net-TV/3DTV
- Set Top Box
- Notebook
- High Power AP



Single Output Step Down (Buck) Converter, V_{IN} Max >7V (Temp Range -40°C to 125°C)

SY26425TOD

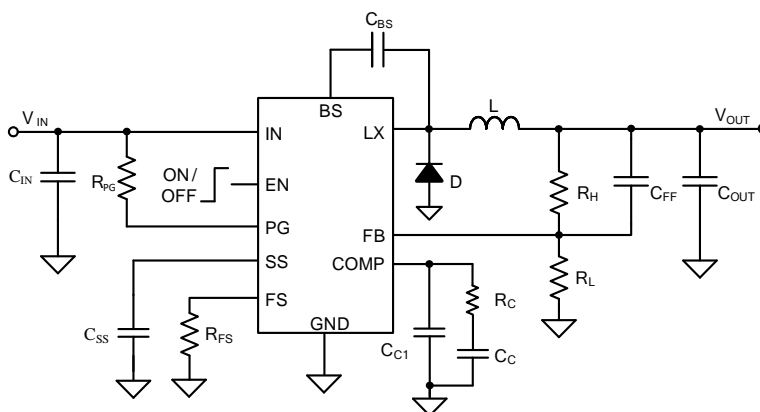
High Efficiency, 60V Input, 5A Asynchronous Step Down Regulator

Features

- Wide Input Voltage Range: 4.5V ~ 60V
- Output Current Capability: 5A
- Low RDS(ON) for Internal N-Channel Power FET (TOP): 95mΩ
- Accurate Feedback Set Point: 0.8V \pm 1% from -40°C to 125°C
- Adjustable Switching Frequency: 100kHz to 2500kHz
- High Efficiency at Light Loads with Pulse Skipping Mode
- Cycle by Cycle Peak Current Limit Protection
- Automatic Recovery for UVLO, OVP and OTP Conditions
- Hiccup Mode for UVP Condition
- Internal and Adjustable Soft-Start Limits Inrush Current
- Power Good Output Monitor for Under-Voltage and Over-Voltage
- Compact Package: DFN4×4-10

Applications

- 5G AAU/RRU
- Industrial
- High-Voltage DC-DC Converters



Single Output Step Down (Buck) Converter, V_{IN} Max >7V (Temp Range -40°C to 125°C)

SY26105BWYQ/SY26106BWYQ

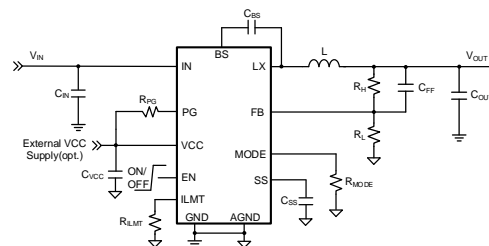
High Efficiency, 16V/6A Sync Buck

Features

- Wide Input Voltage Range:
 - 2.85V to 16V if VCC is Supplied by External Source
 - 3.6V to 16V if VCC is Supplied by Internal LDO
- Internal 22.1mΩ Power Switch and 8.1mΩ Synchronous Rectifier
- $\pm 1\%$ Reference Voltage Over -40°C to +125°C Junction Temperature Range
- Instant-PWM™ Provides Fast Transient Response
- 660kHz, 1100kHz and 2200kHz Operating Frequency
- Selectable PFM/FCCM Operation
- Programmable Valley Current Limit
- Reliable Built-in Protections:
 - Cycle-by-cycle Valley and Peak Current Limit (OCP)
 - Cycle-by-cycle Reverse Current Limit if FCCM is Selected
 - Latch off for Output Over-voltage (OVP), Output Under-voltage (UVP), Over-temperature (OTP) conditions and after 32 Consecutive Cycles Valley Current Limit Protection(SY26106B)
 - Hic-cup Mode after 32 Consecutive Cycles Valley Current Limit Protection(26105B)
- Pre-biased Startup
- Power Good Indicator

Applications

- Telecom and Networking Systems
- Servers
- High Power AP



SY26138RAC

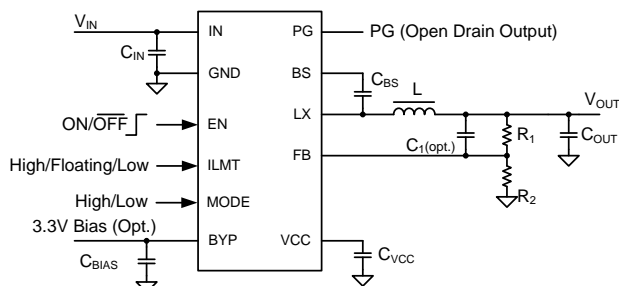
High Efficiency Fast Response 8A, 23V Input Sync Buck

Features

- Low $R_{DS(ON)}$ for Internal Switches (Top/Bottom): 22 mΩ / 11 mΩ
- Wide Input Voltage Range: 4~23V
- Instant PWM Architecture to Achieve Fast Transient Responses
- Internal 1.1ms Soft-start Limits the Inrush Current
- Pseudo-constant Frequency: 600kHz
- 8A Output Current Capability
- $\pm 1\%$ Internal Reference Voltage
- PFM/PWM Selectable Light Load Operation Mode
- Optional Bypass Input
- Power Good Indicator
- Output Discharge Function
- Output Current Limit Protection
- Hiccup Mode Output Short Circuit Protection
- Output Over Voltage Protection
- Input UVLO
- Over Temperature Protection with Auto Recovery
- RoHS Compliant and Halogen Free
- Compact Package: QFN3×3-20

Applications

- LCD-TV/Net-TV/3DTV
- Set Top Box
- Notebook
- High Power AP



Single Output Step Down (Buck) Converter, V_{IN} Max >7V (Temp Range -40°C to 125°C)

SY26147WZQ

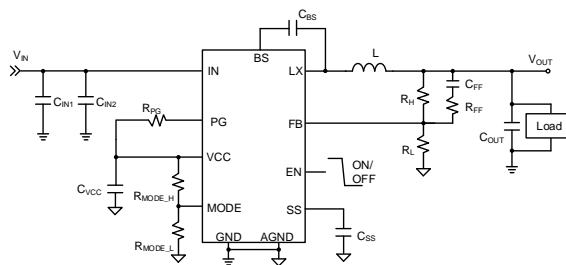
High Efficiency, 17V/12A Sync Buck

Features

- Wide Input Voltage Range: 4.5-17V
- Internal 9.8mΩ Power Switch and 4.5mΩ Synchronous Rectifier
- Accurate Feedback Set Point: 0.6V \pm 1%
- Fast Transient Response
- Selectable 400kHz, 800kHz and 1200kHz Operating Frequency
- Selectable Automatic High-efficiency Discontinuous Operating Mode at Light Loads
- Selectable Valley Current Limit
- Reliable Built-in Protections:
 - Automatic Recovery for Input Under-voltage (UVLO), Output Under-voltage (UVP), Output Over-voltage (OVP) and Over-temperature (OTP) Conditions
 - Cycle-by-cycle Valley and Peak Current Limit (OCP)
 - Cycle-by-cycle Reverse Current Limit
- Internal, Adjustable Soft-Start Limits Inrush Current
- Smooth Pre-biased Startup
- Power Good Output Monitor for Under-voltage and Over-voltage

Applications

- Telecom and Networking Systems
- Servers



SQ29047BWZQ/SQ29047CWZQ

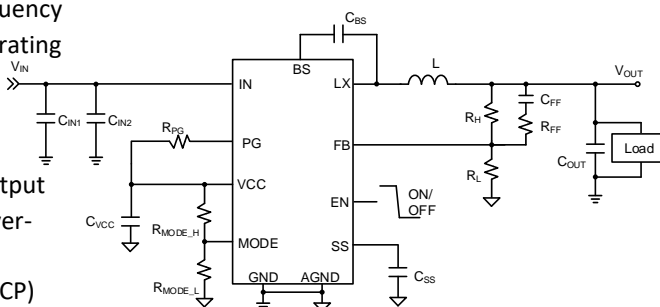
High Efficiency, 16V/12A Sync Buck

Features

- Wide Input Voltage Range: 4.5-17V
- Internal 9.8mΩ Power Switch and 4.5mΩ Synchronous Rectifier
- Accurate Feedback Set Point: 0.6V \pm 1%
- Fast Transient Response
- Selectable 400kHz, 800kHz and 1200kHz Operating Frequency
- Selectable Automatic High-efficiency Discontinuous Operating Mode at Light Loads
- Selectable Valley Current Limit
- Reliable Built-in Protections:
 - Automatic Recovery for Input Under-voltage (UVLO), Output Under-voltage (UVP), Output Over-voltage (OVP) and Over-temperature (OTP) Conditions
 - Cycle-by-cycle Reverse, Valley and Peak Current Limit (OCP)
- Internal, Adjustable Soft-Start to limit Inrush Current
- Smooth Pre-biased Startup
- Power Good Output Monitor for Under-voltage and Over-voltage

Applications

- Telecom and Networking Systems
- Servers



Single Output Step Down (Buck) Converter, V_{IN} Max >7V (Temp Range -40°C to 125°C)

SY26168TXQ/SY26169TXQ

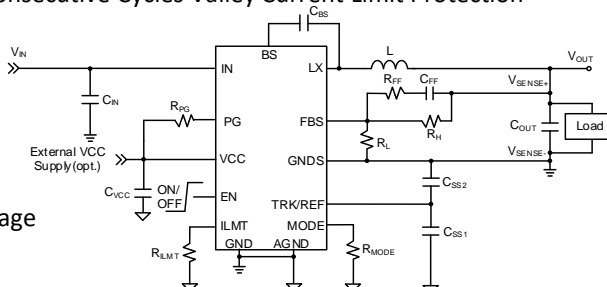
High Efficiency, 16V/12A Sync Buck

Features

- Wide Input Voltage Range:
- 2.7V to 16V if VCC is Supplied by External Source
- 3.6V to 16V if VCC is Supplied by Internal LDO
- Internal 13.3 mΩ Power Switch and 3.8mΩ Synchronous Rectifier
- Accurate Feedback Setpoint: $\pm 1\%$ from -40°C to 125°C
- Remote Sensing at Point of Load Side
- Ultra-Fast Load Transient Response
- Selectable 600kHz, 800kHz, and 1000kHz Switching Frequency
- Selectable Automatic High Efficiency Discontinuous Operating Mode at Light Loads
- Programmable Valley Current Limit
- Reliable Built-In Protections:
- Automatic Recovery for Input Undervoltage (UVLO)
- SQ29068 Latch-Off, SQ29069 Automatic Recovery for Output Undervoltage (UVP) and Overtemperature (OTP) Conditions
- SQ29068 Latch-Off Mode, SQ29069 Hiccup Mode after 32 Consecutive Cycles Valley Current Limit Protection
- Latch-Off for Output Overvoltage Condition(OVP)
- Cycle-by-Cycle Reverse, Valley, and Peak Current Limit (OCP)
- Internal and Adjustable Soft-Start to Limit Inrush Current
- Smooth Startup with Pre-Biased VOUT
- Output Voltage Tracking
- Output Sinking Mode
- Power-Good Output Monitor for Undervoltage and Overvoltage

Applications

- Telecom and Networking Systems
- Servers
- High Power Access Points
- Storage Systems
- Cellular Base Station



SY26112VDC/SY26172TXQ

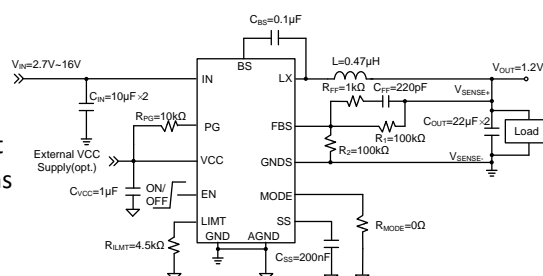
High Efficiency, 16V/12A Sync Buck

Features

- Wide Input Voltage Range:
 - 2.7V to 16V if VCC is Supplied by External Source
 - 3.6V to 16V if VCC is Supplied by V_{IN}
- Internal 12.6mΩ Power Switch and 4.3mΩ Synchronous Rectifier
- Accurate Feedback Set Point: $0.6V \pm 1\%$
- Differential Remote Sense
- Fast Transient Response
- 600kHz, 800kHz and 1000kHz Operating Frequency
- Selectable Automatic High-efficiency Discontinuous Operating Mode at Light Loads
- Programmable Peak Current Limit
- Reliable Built-in Protections:
 - Automatic Recovery for Input Under-voltage (UVLO), Output Under-voltage (UVP) and Over-temperature (OTP) Conditions
 - Cycle-by-cycle Valley and Peak Current Limit (OCP)
 - Cycle-by-cycle Reverse Current Limit
- Internal and Adjustable Soft-start to Limits Inrush Current
- Smooth Pre-biased Startup
- Power Good Output Monitor for Under-voltage and Over-voltage
- Package: QFN3*4-19(SY26112VDC)
QFN3*4-21(SY26172TXQ)

Applications

- Telecom and Networking Systems
- Servers
- High Power Access Points
- Storage Systems
- Cellular Base Stations



Single Output Step Down (Buck) Converter, $V_{IN} \text{ Max} > 7V$ (Temp Range $-40^{\circ}C$ to $125^{\circ}C$)

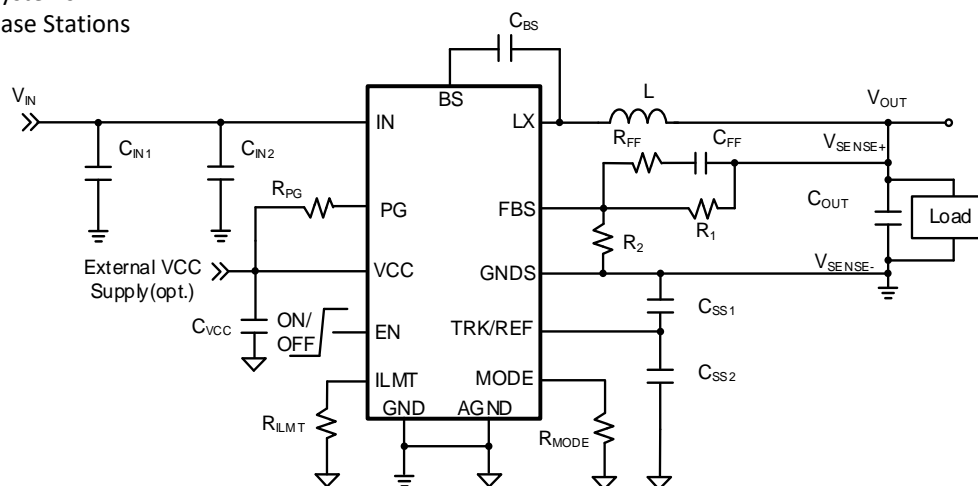
SY26171TXQ

12A/20A 16V Input Synchronous Step-Down Regulator Features

- Wide Input Voltage Range:
- 2.7V to 16V if VCC is Supplied by an External Source
- 3.6V to 16V if VCC is Supplied by Internal LDO
- Internal $8.6m\Omega$ Power Switch and $2.5m\Omega$ Synchronous Rectifier
- Accurate Feedback Setpoint: $\pm 1\%$ from $-40^{\circ}C$ to $125^{\circ}C$
- Remote Sensing at Point of Load Side
- Ultra-Fast Load Transient Response
- Selectable 600kHz, 800kHz, and 1000kHz Switching Frequency
- Selectable Automatic High Efficiency Discontinuous Operating Mode at Light Loads
- Programmable Valley Current Limit
- Reliable Built-In Protections:
- Automatic Recovery for Input Undervoltage (UVLO)
- SQ29070 Latch-Off, SQ29071 Automatic Recovery for Output Undervoltage (UVP) and Overtemperature (OTP) Conditions
- SQ29070 Latch-Off Mode, SQ29071 Hiccup Mode after 32 Consecutive Cycles Valley Current Limit Protection
- Latch-Off for Output Overvoltage Condition (OVP)
- Cycle-by-Cycle Reverse, Valley, and Peak Current Limit (OCP)
- Internal and Adjustable Soft-Start to Limit Inrush Current
- Smooth Startup with Pre-Biased VOUT
- Output Voltage Tracking
- Output Sinking Mode
- Power-Good Output Monitor for Undervoltage and Overvoltage

Applications

- Telecom and Networking Systems
- Servers
- High Power Access Points
- Storage Systems
- Cellular Base Stations


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Single Output Step Down (Buck) Converter, V_{IN} Max >7V (Temp Range -40°C to 125°C)

SY26120VDC/SY26180TXQ/SY26190VDQ/SY26190TXQ

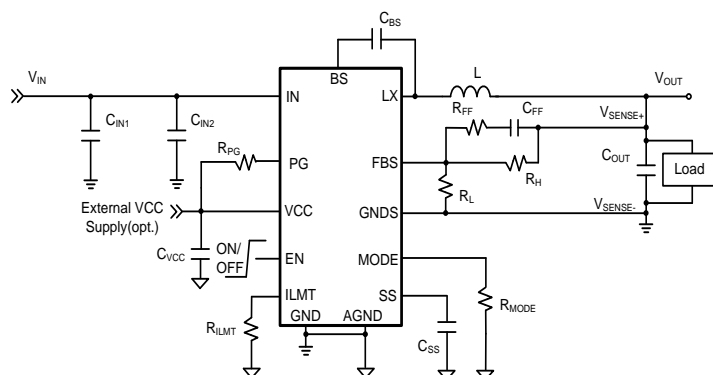
High Efficiency, 16V/20A Sync Buck

Features

- Wide Input Voltage Range: 3.6-16V, and as Low as 2.9V with External VCC Applied
- SY26120/SY26180: Internal 7.5mΩ Power Switch and 2.4mΩ Synchronous Rectifier
- SY26190: Internal 8.6mΩ Power Switch and 2.5mΩ Synchronous Rectifier
- Accurate Feedback Set Point: $0.6V \pm 1\%$
- Differential Remote Sense
- Fast Transient Response
- 600kHz, 800kHz and 1000kHz Operating Frequency
- Selectable Automatic High-Efficiency Discontinuous Operating Mode At Light Loads
- Programmable Valley Current Limit
 - Automatic Recovery for Input Under-voltage (UVLO), Output Under-voltage (UVP) and Over-temperature (OTP) Conditions
 - Cycle-by-cycle Valley and Peak Current Limit (OCP)
 - Cycle-by-cycle Reverse Current Limit
- Internal, Adjustable Soft-Start Limits Inrush Current
- Smooth Pre-Biased Startup
- Power Good Output Monitor for Under-Voltage and Over-Voltage
- Package: QFN3*4-19(SY26112VDC/SY26190VDQ)
QFN3*4-21(SY26172TXQ/SY26160TXQ)

Applications

- Telecom and Networking Systems
- Servers
- High Power Access Points
- Storage Systems
- Cellular Base Stations



Single Output Step Down (Buck) Converter, V_{IN} Max >7V (Temp Range -40°C to 125°C)

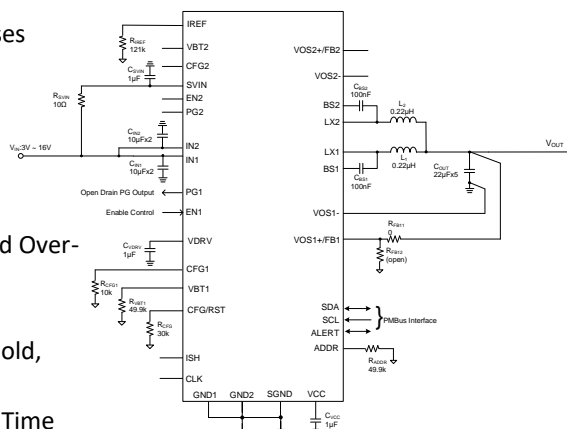
SY26132NIG High Efficiency 16V Input, 15A, Dual Phase Stackable Sync Buck

Features

- Wide Input Voltage Range:
 - 4V to 16V if VCC and VDRV are Supplied by Internal LDO
 - 3V to 16V if VCC and VDRV are Supplied by External 3.3V DC Source
- Low RDS(ON) for Internal Switches (Top FET/Bottom FET): 9/4mΩ
- 0.6V \pm 1% Reference Voltage Over Temperature Range (TJ = -40°C to 125°C)
- Selectable 1-, 2-, or 4 (Two Devices Paralleled) Interleaved Phases Shifts
- Accurate Current Sharing
- Power Good Indicator
- Fast Transient Response
- Differential Output Voltage Remote Sense
- Fully Protected for Short Circuit, Over Voltage, Over Current and Over-Temperature
- PMBus Compatible Interface
- Programmable Output Voltage (0.4V to 6V), Input UVLO Threshold, Output Current Limit, OVP/UVLP Threshold and Response
- Programmable ton rise / toff fall Time, Turn-on/ Turn-off Delay Time
- Selectable Switching Frequency (400kHz~1800kHz, 200kHz/step)
- Phase Number, PFM/FCCM Light Load Operation Mode Selected
- Real-Time Detection of Input Voltage, Output Voltage, Current, Temperature and Faults
- RoHS Compliant and Halogen Free
- Compact package: LGA6x6-42

Applications

- Power Module
- Telecom and Networking Systems
- Servers
- Storage SSD



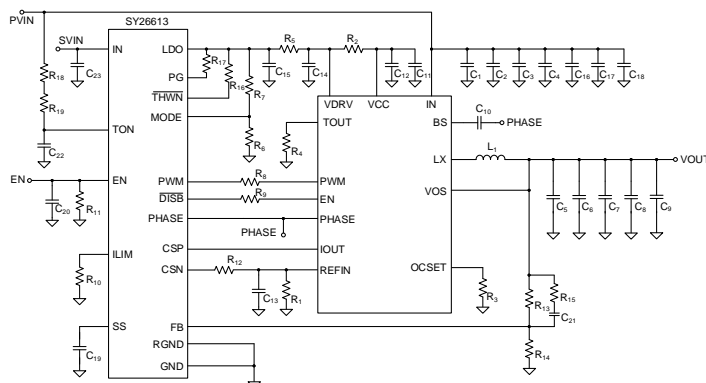
SY26613QDQ High-efficiency and High-current Sync Buck

Features

- 4.5V to 19V Input Voltage Range
- 0.6V Reference with \pm 1% Accuracy from -40oC to 125oC
- Instant PWM Architecture to Achieve Fast Transient Responses
- Integrated 5V LDO@100mA for DrMOS Module
- Startup with Pre-bias Voltage
- Programmable Soft-start
- Programmable Switching Frequency
- Programmable Over Current Limit
- Power Good Indication
- Over Temperature Protection
- OVP, UVP, UVLO Protection
- RoHS Compliant and Halogen Free
- Compact Package: QFN3×3-16

Applications

- Base Stations
- Telecom and Networking Systems

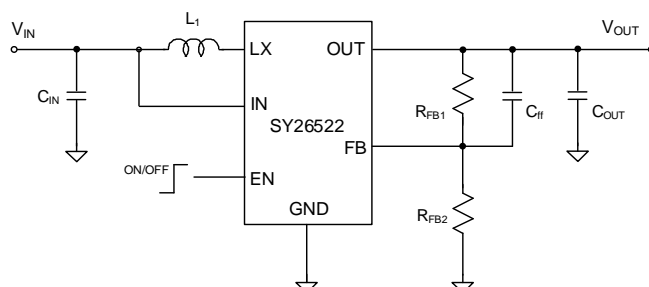

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Single Output Step Up (Boost) Converter (Low Voltage) (Temp Range -40°C to 125°C)

SY26522ABC 0.98V Minimum Input, 5.5V Maximum Output, High Efficiency 2A Valley Current Synchronous Boost Converter

Features

- 0.98V Minimum Input Voltage
- Adjustable Output Voltage from 1.8V to 5.5V
- Minimum 2A Valley Current Limit
- 5μA Typical Quiescent Current
- Load Disconnect During Shutdown
- Low $R_{DS(ON)}$ at 3.3V Output: 100mΩ Main, 170mΩ Synchronous
- Output OVP
- Auto-Bypass Mode when $V_{IN} \geq V_{OUT}$
- RoHS-Compliant and Halogen-Free
- Compact Package: SOT23-6



Applications

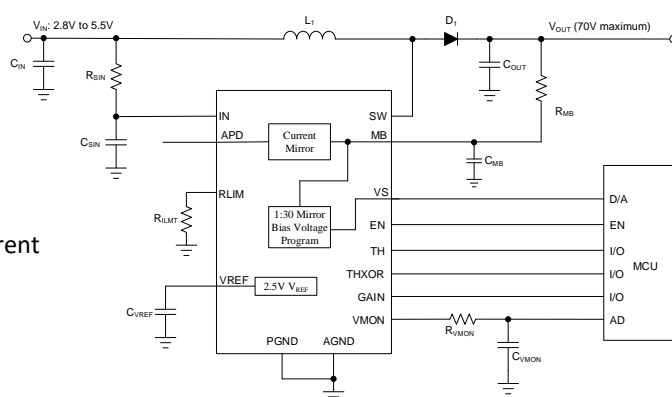
- Single-cell Lithium or Dual-Cell Nickel Battery-Powered Devices (MP3 Players, PDAs, etc.)

SY26501QDQ

70V, 2.5mA Precision Protection APD Bias Dual-Gain Track/Hold Current Mirror

Features

- Wide Input Range: 2.8V to 5.5V
- Wide Output Voltage Range from ($V_{IN} + 5V$) to 70V
- 850kHz Switching Frequency
- Less Than 1μA Shutdown Current
- 1:30 Output Voltage Programming
- Adjustable Precision, Over-Current Protection
- Internal 1×/1.8× Dual-Gain Current Mirror
- Up to 2.5V Voltage Buffer for Full-Scale Output Current
- Input Voltage UVLO
- Over Temperature Protection
- Full Chain Circuit: Bias-Mirror-Track/Hold
- Compact Package: QFN3×3-16
- -40°C to +85°C Operating Temperature Range



Applications

- GPS Navigation Systems
- Handheld Devices
- Portable Media Player

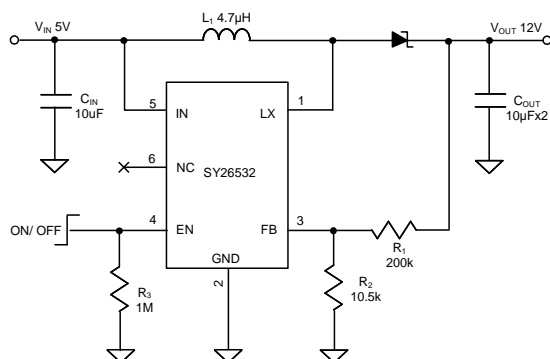
Single Output Step Up (Boost) Converter (High Voltage) (Temp Range -40°C to 125°C)

SY26532ABC

High Efficiency 1MHz, 2A Step-Up Regulator

Features

- 3V to 30V Bias Input Voltage Range, 33V_{OUT,MAX}
- Up to 2A Output Current
- Quiescent Current I_Q 100 μ A (typ.)
- Shutdown Current I_{SHDN} 5 μ A (typ.)
- Low $R_{DS(ON)}$ for Internal N-Channel MOSFET: 200m Ω
- 1MHz Switching Frequency
- Minimum On-Time: 100ns Typical
- Minimum Off-Time: 100ns Typical
- Internal Soft-Start Limits Inrush Current
- $\pm 2\%$ 0.6V Reference
- RoHS-Compliant and Halogen-Free
- Compact SOT23-6 Package



Applications

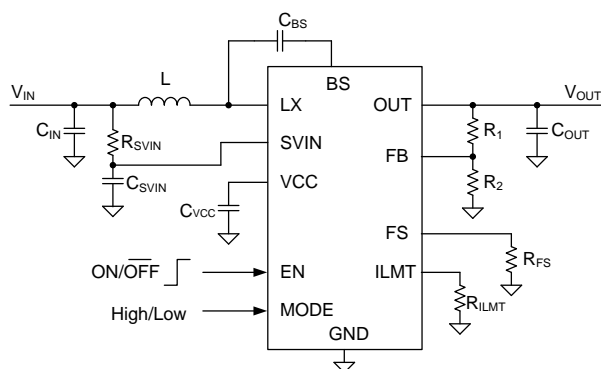
- Digital Camera
- Cell Phone
- PDA, PMP, MP3

SY26512ARAC

High Efficiency, 16V, Synchronous Step-Up Regulator With 10A Programmable Current Limit

Features

- 2.9V to 16V Input Voltage Range
- 16V Maximum Output Voltage
- 1.5 μ A Shutdown Current (Typ.)
- 200 μ A Quiescent Current (Typ.)
- Low $R_{DS(ON)}$ for Internal N-Channel MOSFET: 10m Ω Main, 20m Ω Rectifier
- Programmable Peak Current Limit
- Programmable Pseudoconstant 400kHz-2MHz Frequency
- PFM/PWM Selectable Light Load Operation Mode
- Internal Loop Compensation
- Internal Soft-Start Limits Inrush Current
- Input Voltage UVLO
- Output Overvoltage Protection
- Overtemperature Protection
- RoHS-Compliant and Halogen-Free
- Compact QFN3mm \times 3mm-20 Package



Applications

- Power Banks
- E-cigarettes
- Bluetooth Speakers

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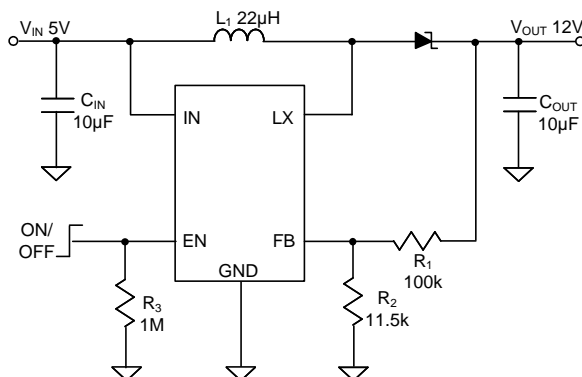
Single Output Step Up (Boost) Converter (High Voltage) (Temp Range -40°C to 125°C)

SY26533ABC

High Efficiency 1MHz, 33V Output, Boost Converter

Features

- Wide Input Range: 3-30V
- Output Voltage Range: V_{IN} to 33V_{OUT, MAX}
- 1MHz Switching Frequency
- Minimum ON Time: 100ns typical
- Minimum OFF Time: 100ns typical
- Low $R_{DS(ON)}$: 400mΩ
- RoHS Compliant and Halogen Free
- Accurate Reference: 1.24V_{REF}
- Compact Package: SOT23-6



Applications

- Digital Cameras
- PDA, PMP, MP3
- LED/ Backlight Drivers

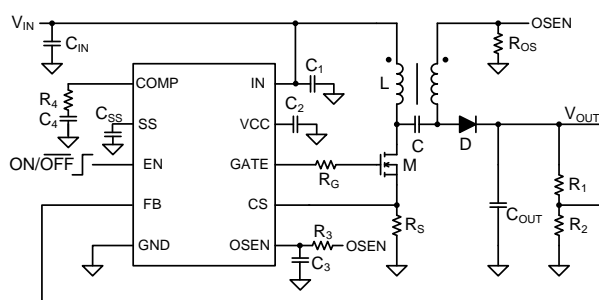
DC-DC PWM Controller (External Switch) (Temp Range -40°C to 125°C)

SY26612AFHC

High Efficiency 300kHz, 25V Boost/SEPIC Controller
with Output Current Limit

Features

- Input Voltage Range 3V to 25V
- 300kHz Fixed Switching Frequency
- Output Current Limit
- External Compensation
- Programmable Soft-start Limits the Inrush Current
- Integrated Low Side Driver: 1.5A Sourcing and 3A Sinking
- RoHS Compliant and Halogen Free
- Compact Package: SSOP10



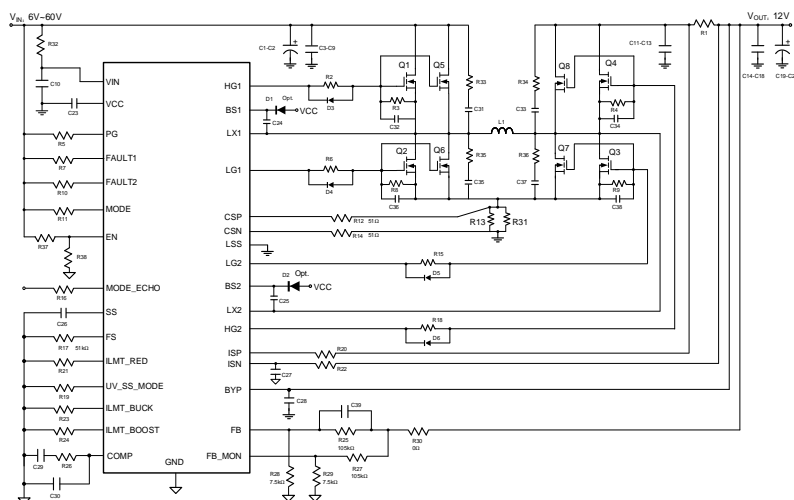
Applications

- GPS Navigation Systems
- Handheld Devices
- Portable Media Player

DC-DC PWM Controller (External Switch) (Temp Range -40°C to 125°C)

SQ25001QE

60V Synchronous Four-Switch Buck-Boost Controller



Features

- Four-Switch Single Inductor Architecture
- 6V to 60V Input Voltage Range
- 4.5V to 30V Output Voltage Range
- Peak Drive Current > 3A
- 0.8V \pm 1% Reference Voltage
- Adjustable Switching Frequency from 150kHz to 400kHz
- Adjustable Soft-Start Time
- PWM or PFM Operation Selectable in Light Load
- Smooth Pre-Biased Startup
- Spread-Spectrum Function
- Power Good Indicator
- Fault Indicator
- CBC Current Limit Protection
- Output Voltage Undervoltage, Overvoltage, and Overcurrent Protection
- Thermal Shutdown
- Package: QFN5 \times 5-32

Applications

- GPS Navigation Systems
- Handheld Devices
- Portable Media Player

SY26663XBQ

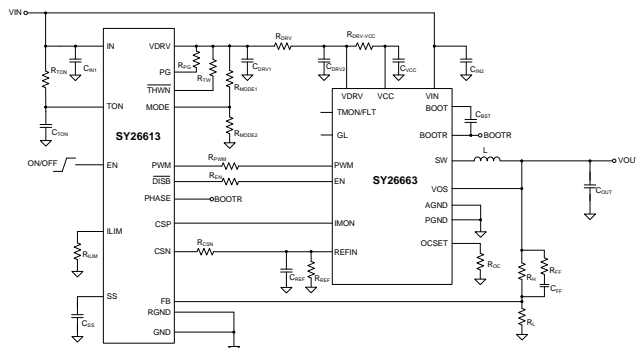
16V/70A Integrated Power Stage DrMOS

Features

- 70A Output Current Capability
- Integrated Driver and Power MOSFET
- VDRV/VCC/VBST/VIN UVLO
- Provide Pre-OVP protection via VOS Pin
- Support Switching Frequency up to 1.0MHz
- 3.3V/5V PWM Input Compatible with Tri-state Logic
- Integrated 5mV/A Current Sensing and Accurate Inductor Current Report
- Integrated 8mV/°C Temperature Monitor and Report
- Provide OTP with Fault Flag
- Cycle by Cycle Peak Current Protection with Fault Flag and Negative Over Current Protection
- Programmable Threshold for Peak Current and Valley Current Protection
- Switching-node Short Circuit Protection with Fault Flag
- Auto Refresh for VBST Power Supply in Tri-state
- Package: QFN5×6-41

Applications

- Multi-phase Synchronous Buck Converters
- POL DC-DC Converters
- Telecom and Server Power
- GPU/CPU Core Power



SY26670NGG

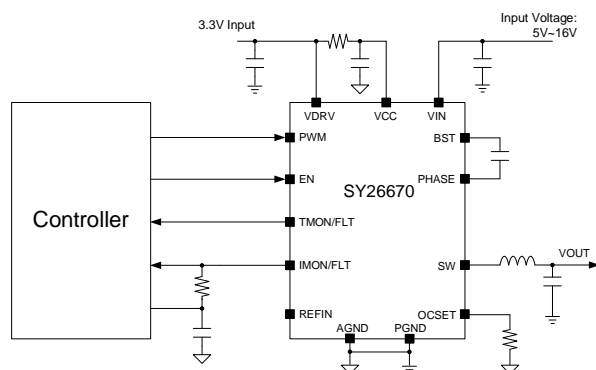
16V/70A DrMOS

Features

- 70A Output Current Capability
- Integrated Driver, Power MOSFET and Decoupling Capacitors
- VDRV/VCC/BST/VIN UVLO
- Support Switching Frequency up to 2.0MHz
- 3.3V PWM Input Compatible with Tri-state Logic
- Integrated 5μA/A Current Sensing and Accurate Inductor Current Report
- Integrated 8mV/°C Temperature Monitor and Report
- Provide OTP with Fault Flag
- Cycle-by-cycle Peak Current Protection with Fault Flag and Negative Over Current Protection
- Programmable Threshold for Peak Current and Valley Current Protection
- Auto Refresh for VBST Power Supply in Tri-state
- Common Footprint Package: LGA5×6-41

Applications

- Multiphase Synchronous Buck Converters
- High Current CPU, GPU, ASIC and AI Power Supply
- Telecom and Server Power

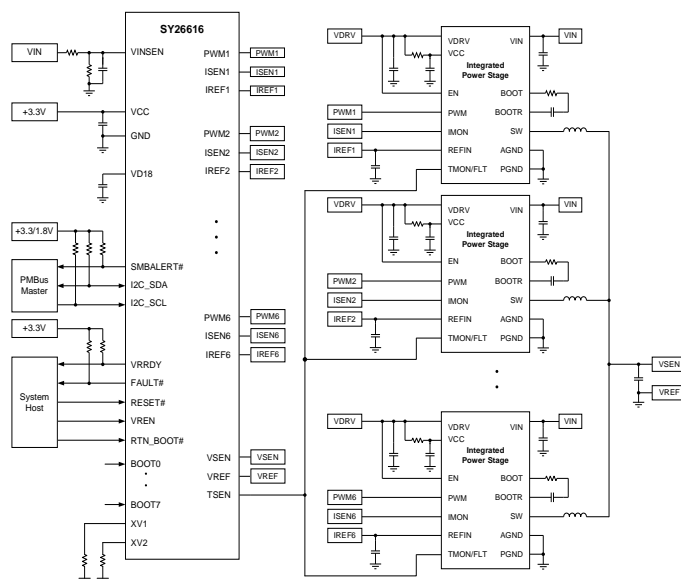


SY26616QJQ

Single Rail, 6 Phase Controller

Features

- Flexible Phase Assignment, $N \leq 6$
- Differential Remote Sense
- Output Voltage Regulation Range Covers:
 - 0.25~1.52V in 5mV table
 - 0.5~2.3V in 10mV table
- Programmable Soft-Start Slew Rate And Voltage Positioning Slew Rate
- Flexible Pin-Strap Settings Including:
 - 8-bit Boot Voltage
 - 4 PMBus Addresses
 - Operation Phase Configuration
- PMBus™ 1.8/3.3V Logic Compatible, 1.3.1 Compliant:
 - System Configuration
 - Dynamic Voltage Scaling by VOUT_COMMAND
 - Operation Control And Fault Handling
 - Status Reporting And Telemetry
- Flexible PWM Driver Design to Support SPS (Smart Power Stage) by Multiple Vendors
- Integrated Programmable Loop Compensation, Minimal External Components
- Adjustable Current Balancing With Optional Thermal Balancing Offsets
- Advanced Protection Scheme With Programmable Response And Threshold
 - Fault Response: Latch Shutdown, Hiccup, Autonomous Recovery
 - IUVP, IOVP, OUV, OOV (fix and tracking)
 - OCP
 - OTP
 - SPS Current Sharing Protection
 - Pulse by Pulse Current Limit
 - Open/Short Voltage Sense Line Detection
- Internal NVM to Store Customer Configuration
- Single +3.3V Supply Operation
- 48-lead QFN7x7 0.5mm Pitch Package



Applications

- Application-Specific ASIC Power
- Core Routers And Switches
- High Performance XPU/FPGA Power
- High Density Power Solution

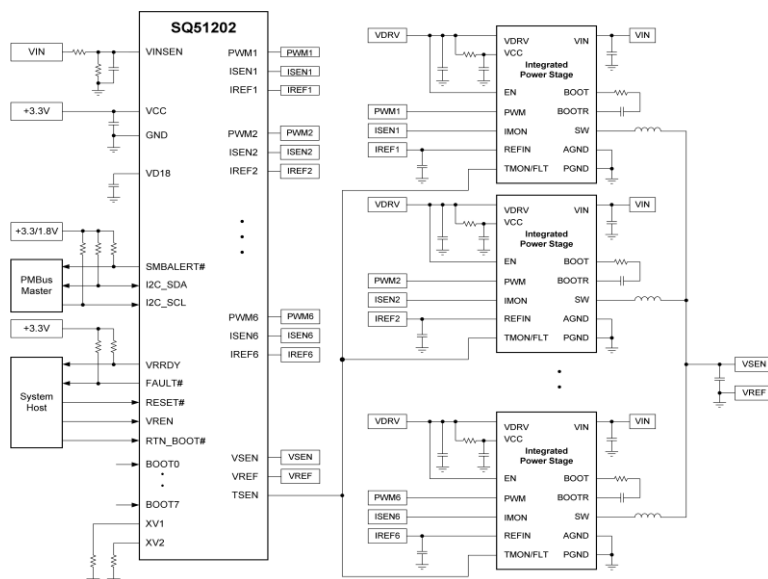
Multiphase Controller (Temp Range -40°C to 125°C)

SQ51202QJQ

Single Rail, 6 Phase Controller

Features

- Flexible Phase Assignment and Arbitrary Firing Sequence, $N \leq 6$
- Differential Remote Sense
- Output Voltage Regulation Range Covers:
 - 0.25~1.52V in 5mV Table
 - 0.5~2.0V in 10mV Table
 - 0.25~2V in Linear Mode (LSB=1.953mV)
- Programmable Soft-Start Slew Rate and Voltage Positioning Slew Rate
- Flexible Pin-Strap Settings Including:
 - Multiple(8) Customer Configurations
 - 5mV/10mV VID Table
 - 4 PMBus Addresses with Additional 5 Bit Programmable Offset
 - 8-Bit Boot Voltage
- PMBus 1.3.1 Compliant, 1.8/3.3V Signaling:
 - System Configuration
 - DVS using VOUT_COMMAND
 - Operation Control and Fault Handling
 - Status Reporting and Telemetry
- Flexible PWM Driver Design to Support SPS from Multiple Vendors
- Integrated Programmable Loop Compensation, Minimal External Components
- Adjustable Current Balancing with Optional Thermal Balancing Offsets
- Autonomous Phase Shedding with Enhanced Transient Performance
- Advanced Protection Scheme with Programmable Response and Thresholds
 - Fault Response: Latched Shutdown, Hiccup, Autonomous Recovery
 - IUVP, IOVP, OUV, OOV (Fix and Tracking)
 - OCP
 - OTP, DRV_FLT, DRV_NONRDY Protection
 - Driver UVLO and Limp Mode fault detection
 - SPS Current Sharing Protection
 - Pulse by Pulse Current Limit
 - Open/Short Voltage Sense Line Detection
 - Per-Phase Negative Current Limit
- Internal NVM to Store Up to 8 Customer Configurations
- Switching Frequency Range from 300kHz to 1.2MHz with Frequency Compensation
- Single +3.3V Supply Operation
- 48-Lead QFN7x7 0.5mm Pitch Package



Applications

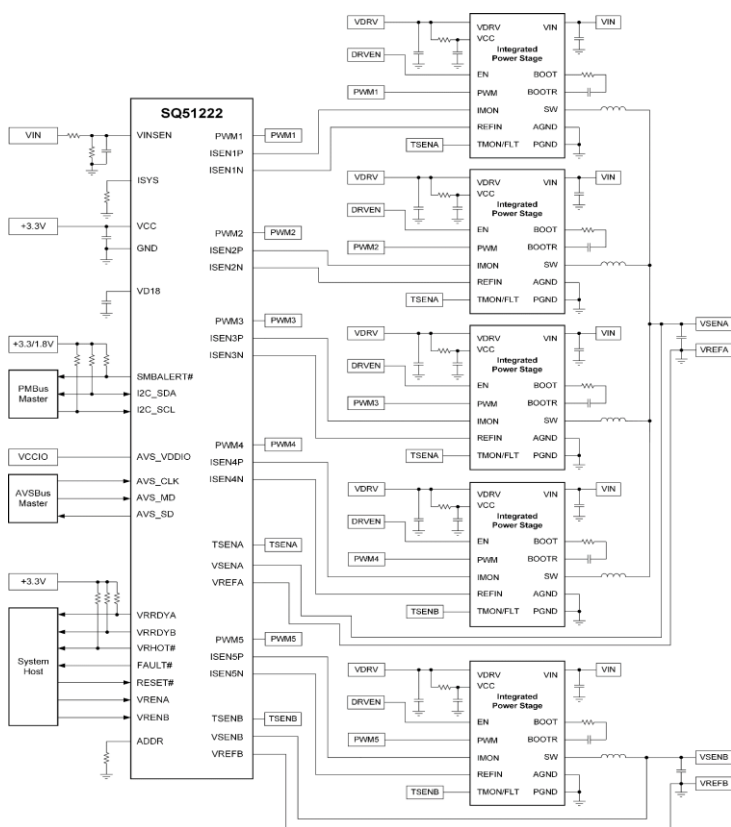
- Application-Specific ASIC power
- Core Routers and Switches
- High Performance XPU/FPGA Power
- High Density Power Solutions

SQ51222RPQ

Dual Rail, $N+M \leq 5 (M \leq 2)$ Phase Digital Controller

Features

- Flexible Phase Assignment between Two Rails and Arbitrary Sequence for $N+M \leq 5 (M \leq 2)$
- Differential Remote Sense
- Output Voltage Regulation Range:
 - 0.25~1.52V using 5mV Table
 - 0.5~2.0V using 10mV Table
- Programmable Soft-Start and Voltage Positioning Slew Rate
- Flexible Pin-strap Settings including:
 - 16 PMBus Device Addresses
- PMBus® 1.3.1 Compliant, 1.8V/3.3V Signaling:
 - System Configuration
 - Dynamic Voltage Scaling using VOUT_COMMAND
 - Operation Control and Fault Handling
 - Status Reporting and Telemetry
- PMBus® PARTIII, AVSBus Compatible
- Flexible PWM Driver Design to Support SPS (Smart Power Stage) from Multiple Vendors
- Integrated Programmable Loop Compensation
- Adjustable Current Balancing with Optional Thermal Balancing Offsets
- Advanced Protection Scheme with Programmable Response and Thresholds
 - Fault Response: Latched Shutdown, Hiccup, Autonomous Recovery
 - IUVP, IOVP, OUV, OOV (Fixed and Tracking)
 - OCP
 - OTP, DRV_FLT, DRV_NONRDY Protection
 - Pulse by Pulse Current Limit
 - Open/Short Voltage Sense Line Detection
- Internal NVM to Store Customer Configuration
- Switching Frequency Range from 300kHz to 1MHz with Frequency Compensation
- Single +3.3V Supply Operation
- 40-Lead QFN5x5 0.4mm Pitch



Applications

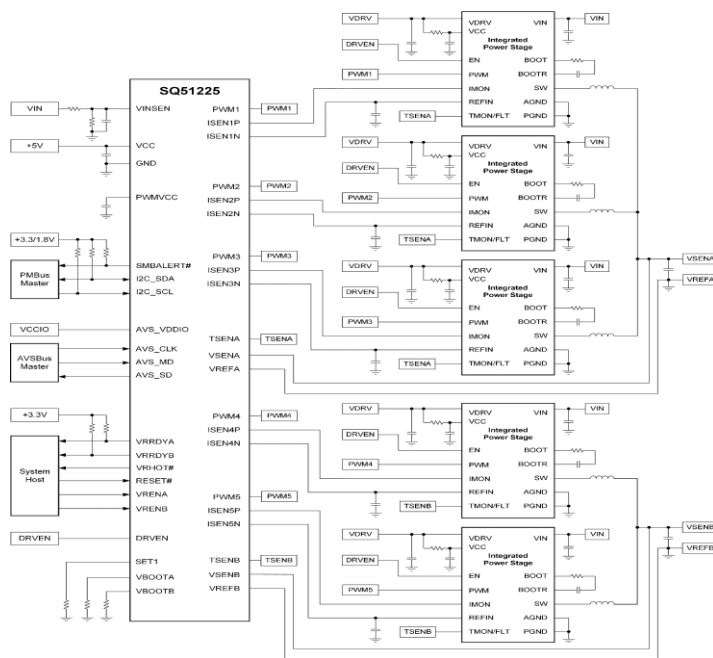
- Application-Specific ASIC Power
- ASIC Core supply for Routers and Switches
- High Performance XPU/FPGA Power
- High Density Power Solutions

SQ51225QJQ

Dual Rail, $N+M \leq 5 (M \leq 2)$ Phase Digital Controller

Features

- Flexible Phase Assignment Between Two Rails and Arbitrary Firing Sequence, $N+M \leq 5 (M \leq 2)$
- Differential Remote Sense
- Output Voltage Regulation Range:
 - 0.25~1.52V in 5mV Table
 - 0.25~1.52V in Linear Mode (1mV Custom Table)
- Programmable Soft-Start Slew Rate and Voltage Positioning Slew Rate
- Flexible Pin-strap Settings including:
 - 8 PMBus Device Address
 - 16 Boot Voltage for Both Rails
- PMBus® 1.3.1 Compliant, 1.8/3.3V Signaling:
 - System Configuration
 - Dynamic Voltage Scaling using VOUT_COMMAND
 - Operation Control and Fault Handling
 - Status Reporting and Telemetry
- PMBus® PARTIII, AVSBus Compatible
- Flexible PWM Driver Design to Support SPS (Smart Power Stage) from Multiple Vendors
- Integrated Programmable Loop Compensation
- Adjustable Current Balancing with Optional Thermal Balancing Offsets
- Advanced Protection Scheme with Programmable Response and Thresholds:
 - Fault Response: Latch Shutdown, Hiccup, Autonomous Recovery
 - IUVP, IOVP, OUV, OOV (Fixed and Tracking)
 - OCP
 - OTP, DRV_FLT, DRV_NONRDY Protection
 - SPS Current Sharing Protection
 - Pulse-by-Pulse Current Limit
 - Open/Short Voltage Sense Line Detection
- Internal NVM to Store Configuration
- Switching Frequency Range from 300kHz to 2MHz
- Single +5V Supply Operation
- 48-Lead QFN7x7 0.5mm Pitch Package



Applications

- Application-Specific ASIC Power
- Core Routers and Switches
- High Performance XPU/FPGA Power
- High Density Power Solutions

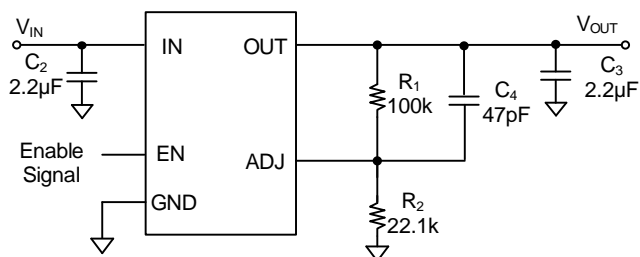
LDO Regulator(Temp Range -40°C to 125°C)

SY20736DED

30V Max 150mA LDO

Features

- Wide Input Voltage Range: 2.5V to 30V
- Low Dropout Voltage: 150mV at 150mA
- 150mA Output Current Capability
- Low Ground Current
- Ultra-Low Shutdown Current (1 μ A Typ.)
- Output Current Limitation
- High Output Accuracy: $\pm 2\%$ at Room Temperature
- Stable with Small Ceramic Capacitors
- Excellent Load and Line Regulation
- TTL Logic Enable Input
- Thermal Shutdown
- RoHS Compliant and Halogen Free
- Compact DFN2 \times 2-6 Package



Applications

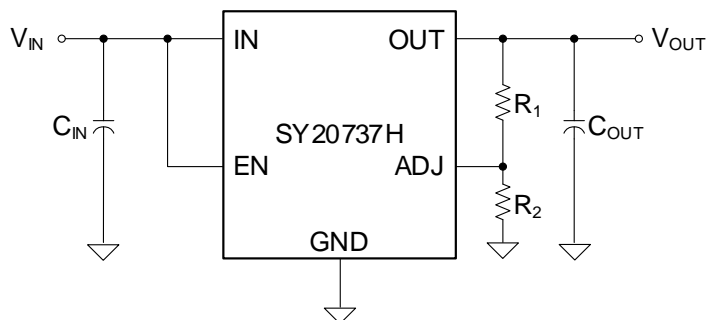
- Battery Powered Applications
- Consumer and Portable Products
- Notebooks
- Smartphones
- SMPS Post-Regulators/ DC/DC Modules

SY20737HDGD

36V, 500mA LDO Regulator

Features

- Input Voltage Range: 4V to 36V
- $V_{ABS} = 40V$
- $V_{FB} = 1.235V (\pm 1\%)$
- Output Voltage Tolerance: $\pm 1\%$
- Line Regulation: 0.2%/V
- Load Regulation: 0.25%
- PSRR: 60dB
- Noise Level: 150 μ VRMS
- Operating TJ: -40°C to 125°C
- Auto Retry-During Fault Conditions
- Compact Package: DFN2 \times 3-8



Applications

- Portable Consumer Equipment
- Portable Instrumentation
- Industrial Equipment
- SMPS Post Regulators

[Back](#)

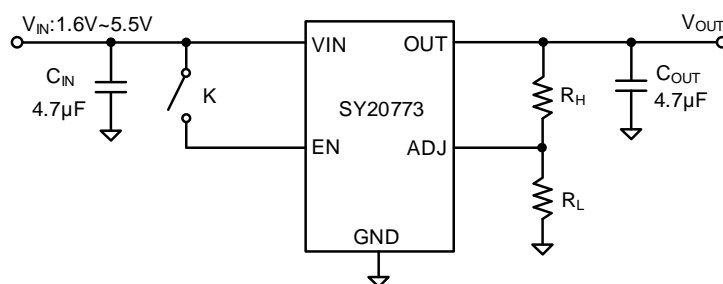
LDO Regulator(Temp Range -40°C to 125°C)

SY20773DSD

Super Low Dropout 1A LDO Regulator

Features

- Input Voltage Range: 1.6-5.5V
- Output Voltage Accuracy: $\pm 5\%$
- Up to 1A Output Current
- Low Dropout Voltage:
 - Typ. 0.32V at $I_{OUT}=1A$, $V_{OUT}=1.5V$
 - Typ. 0.18V at $I_{OUT}=1A$, $V_{OUT}=2.8V$
- Current Limiting Protection
- Thermal Shutdown Protection
- Quiescent Current: 60 μ A
- Output Auto-discharge Function
- Over Temperature Protection
- RoHS Compliant and Halogen Free
- Compact Package: DFN3 \times 3-6



Applications

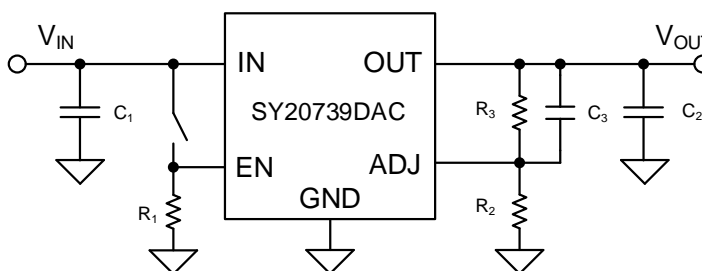
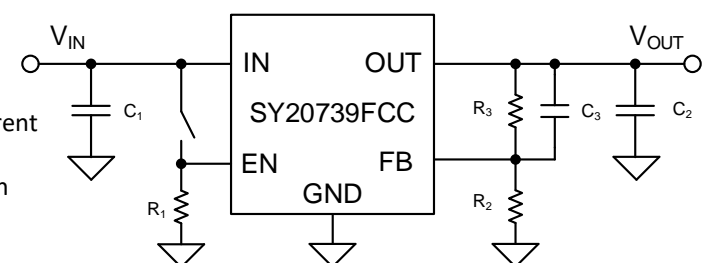
- Portable Communication Equipment
- Hand-Held Instruments, Notebook PC
- Camcorders and Cameras

SY20739FCC/SY20739DAC

Low Input/Low dropout, 2A LDO with Enable

Features

- Input Voltage as Low as 1.5V
- 400mV Dropout @ 2A
- Adjustable Output from 0.5V
- 0.9ms Internal Soft-start Minimizes Inrush Current
- 10 μ A Quiescent Current in Shutdown
- Over Current and Over Temperature Protection
- Enable Control: Default High
- Reverse Blocking from Output to Input
- Full Industrial Temperature Range
- RoHS Compliant and Halogen Free
- Packages: SO8E (SY20739FCC)
DFN3 \times 3-8 (SY20739DAC)



Applications

- Telecom/Networking Cards
- Motherboards/Peripheral Cards
- Industrial Applications
- Wireless Infrastructure
- Set Top Box
- Medical Equipment
- Notebook Computers
- Battery Powered Systems

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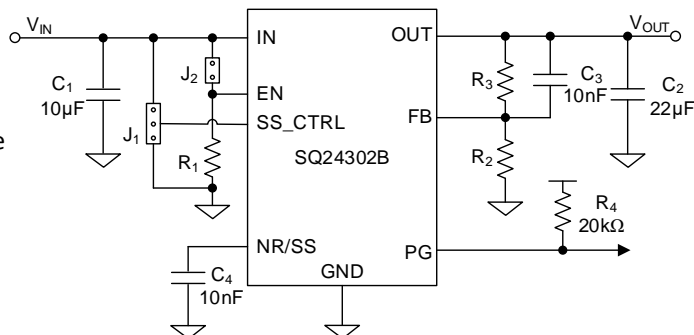
LDO Regulator(Temp Range -40°C to 125°C)

SQ24302BSED

2A, High Accuracy, Low Noise LDO Voltage Regulator

Features

- 2.0% Accuracy Over Line, Load and Temperature
- Low Dropout: 200 mV (Typ) at 2 A
- Wide Input Voltage Range: 1.8 V to 6.5 V
- Wide Output Voltage Range: 0.8 V to 5.2 V
- Fast Transient Response
- Adjustable Start-up In-Rush Control with Selectable Soft-start Charging Current
- Open-Drain Power-Good (PG) Output
- Stable with a 22μF or Larger Ceramic Output Capacitor
- RoHS Compliant and Halogen Free
- 2.5mm × 2.5mm, 10-Pin DFN Package



Applications

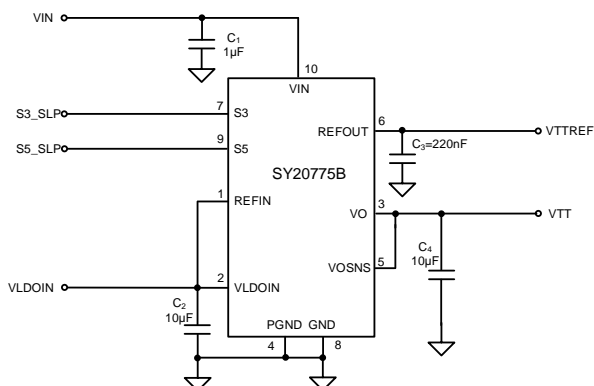
- High Speed Analog Circuits: VCO, ADC, DAC, LVDS
- Imaging: CMOS Sensors, Video ASICs
- Test and Measurement
- Instrumentation, Medical, and Audio
- Digital Loads: SerDes, FPGA, DSP

SY20775BTDD

Sink and Source DDR Termination Regulator

Features

- Input Voltage: Supports 2.5V Rail and 3.3V Rail
- VLDOIN Voltage Range: 1.1V to 3.5V
- 2A Peak Sink and Source Current
- Sink and Source Termination Regulator Includes Droop Compensation
- Requires Minimum Ceramic Output Capacitance of 10uF for memory
- Support High-Z in S3 and Soft-Stop in S4 and S5 with S3 and S5 inputs
- Remote Sensing (VOSNS)
- ±10mA Buffered Reference (REFOUT)
- REFIN/2 ±1% Accuracy (REFOUT)
- Built-in Soft Start, UVLO, and OCL
- Thermal Shutdown
- Supports DDR, DDR2, DDR3, DDR3L, Low Power DDR3, DDR4 VTT Applications
- Packages: 10-Pin, DFN2mm×2mm With Thermal Pad



Applications

- Memory Termination Regulator for DDR, DDR2, DDR3, DDR3L, Low-Power DDR3 and DDR4
- Notebooks, Desktops, and Servers
- Base Stations

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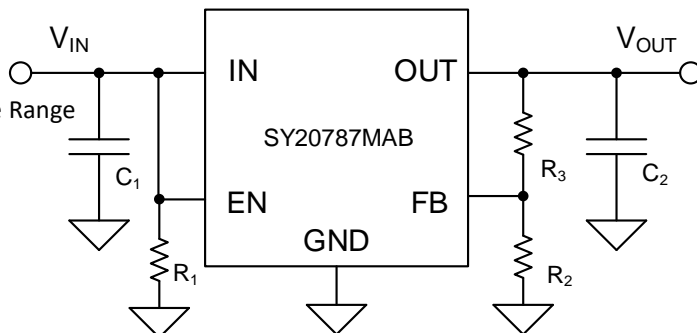
LDO Regulator(Temp Range -40°C to 125°C)

SY20787MAB

3A Fast-Response LDO Regulator

Features

- Input Voltage Range: 3V to 18V
- High Current Capability: 3A Over Full Temperature Range
- Adjustable Output Voltage
- Low Dropout Voltage: 480mV at Full Load 3A
- Fast Transient Response
- Zero-Current Shutdown Mode
- Low Ground Current
- Current Limiting Protection
- Over Temperature Protection
- Output Short Circuit Protection
- Package: TO263-5



Applications

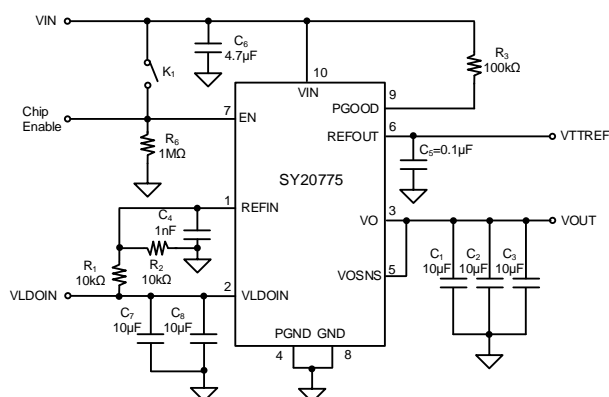
- High Efficiency Linear Low Power Supply Applications
- Battery-Powered Equipment
- Hand-Held Instruments
- Notebook PCs

SY20775DBD

Sink and Source DDR Termination Regulator

Features

- System Voltage Range (VIN): 2.35V to 3.5V
- Wide VLDOIN Voltage Range: 1.1V to 3.5V
- Current Source/Sink Capability: 3A/3.5A
- PGOOD Pin Monitors Output Regulation
- Output Voltage Remote Sensing (VOSNS)
- REFIN Input Allows Flexible Input Voltage Tracking
- Output Current Limit Setting
- Thermal Shutdown Protection
- $\pm 10\text{mA}$ Buffered Reference (REFOUT)
- Supports DDR, DDR2, DDR3, DDR3L, DDR4 VTT Applications
- Package: DFN3 \times 3-10 with Thermal Pad



Applications

- Memory Termination Regulator for DDR, DDR2, DDR3, DDR3L, and DDR4 Applications
- Notebooks, Desktops, and Servers
- Base Stations

Protection Switch(Temp Range -40°C to 125°C)

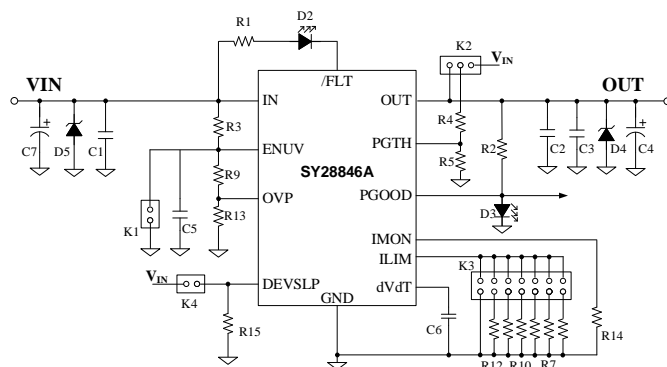
SY28846AQSC

2.7V-18V Switch

With True Reverse Blocking and DevSleep Support for SSDs

Features

- 2.7V – 18V Operating Voltage, 30V (Max)
- Ultra Low $R_{DS(ON)}$: 42 mΩ R_{ON} (Typical)
- 0.6A to 5.3A Adjustable Current Limit ($\pm 8\%$)
- IMON Current Indicator Output ($\pm 8\%$)
- 115μA Operating I_Q (Typical)
- Reverse Current Blocking
- Programmable dV/dt Control
- Power Good and Fault Outputs
- -40°C to 125°C Junction Temperature Range
- Compact package: QFN 3x4-20



Applications

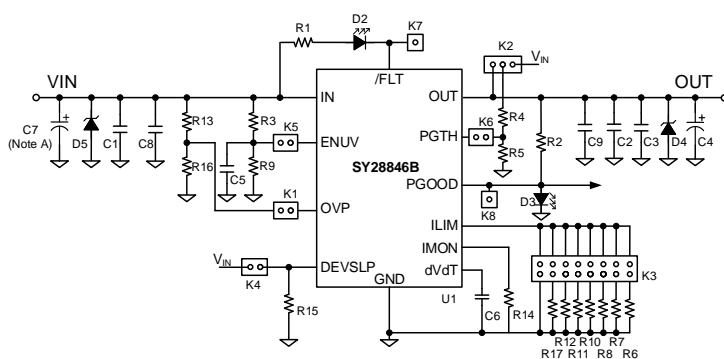
- PCIe/SATA/SAS HDD and SSD Drives
- Enterprise and Micro Servers
- Set-Top-Box (STB), DTVs and Game Consoles
- RAID Cards - Holdup Power Management
- Telecom Switches and Routers
- Adapter Powered Devices

SY28846BQSQ

2.7V-18V Load Switch With Reverse Blocking

Features

- 2.7V to 18V Operating Voltage, 30V (Max)
- Ultra-low $R_{DS(ON)}$: 42mΩ R_{ON} (Typical)
- 0.6A to 5.3A Adjustable Current Limit ($\pm 8\%$)
- IMON Current Indicator Output ($\pm 8\%$)
- Operating I_Q : 115μA (typ.)
- Reverse Current Blocking
- Programmable dV/dt Control
- Power Good and Fault Outputs
- 4ms Fault Timer Then Shutoff
- -40°C to 125°C Junction Temperature Range
- Compact Package: QFN3 4-20



Applications

- PCIe/SATA/SAS HDD and SSD Drives
- Enterprise and Micro Servers
- Smart Load Switch
- PLCs, SS Relays, and Fan Control
- RAID Cards - Holdup Power Management
- Telecom Switches and Routers
- Adapter Powered Devices

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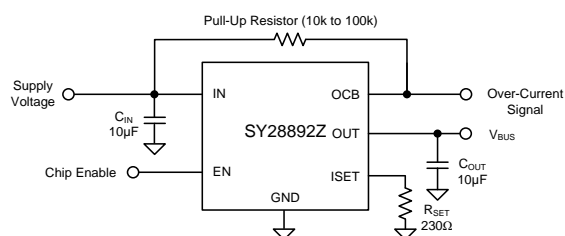
Protection Switch(Temp Range -40°C to 125°C)

SY28892ZDEC

Low Loss Power Distribution Switch
With Programmable Current limit

Features

- Input Voltage: 2.5V to 5.5V
- Low Power Path Resistance: 65mΩ (Typ.)
- Adjustable Current Limit up to 2.0A
- Over-Temperature Shutdown and Automatic Retry
- Reverse Blocking (No Body Diode)
- Open-Drain Fault Flag (OCB) Output for Over-Current and Fault Conditions
- Built-in Soft-Start
- Compact Package: DFN2×2-6



Note: If 1µF input cap will lead to large Vin voltage spike, it is strongly recommended to add additional 10µF ceramic cap.

Applications

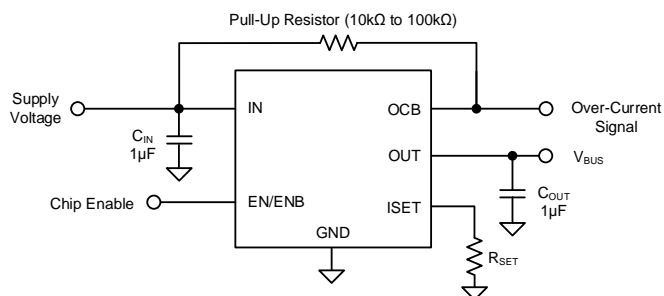
- USB 3.1 Applications
- USB 3G Data Cards
- USB Dongles
- Mini PCI Accessories
- USB Chargers
- Public Multi-USB Chargers
- PC Card Hot Swap Applications

SQ24201EDED/SQ24201EABT/SQ24201E2DED

Low Loss Power Distribution Switch with Programmable Current limit

Features

- Input Voltage: 2.5V to 5.5V
- Extremely Low Power Path Resistance: 65mΩ (Typ.)
- Adjustable Current Limit up to 2A
- Reverse Blocking (No Body Diode)
- Fast Reverse Recovery
- Fault Flag (OCB) Output for Over Current and Fault Conditions
- At Shutdown, OUT Can Be Forced Higher than IN
- Built-in Soft-start
- RoHS Compliant and Halogen Free
- Compact Package Minimizes the Board Space:
DFN2×2-6/ SOT23-6



*EN for SQ24201EDED and SQ24201EABT,
ENB for SQ24201E2DED*

Applications

- USB 3.1 Application
- USB 3G Data Card
- USB Dongle
- Mini PCI Accessories
- USB Charger
- Public Place Multi-USB Charger
- PC Card Hot Swap Applications

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SQ24201FAAT

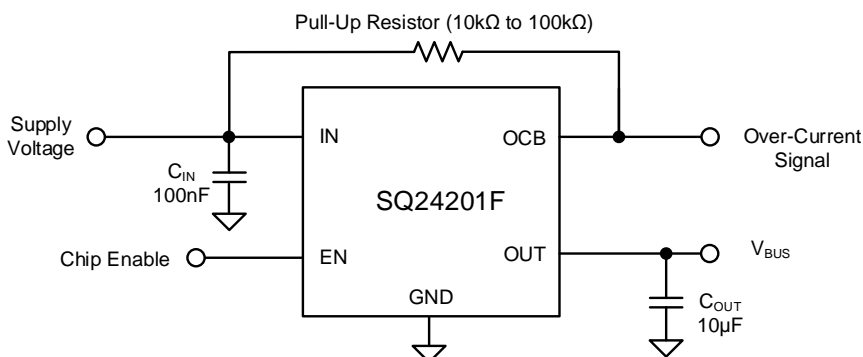
Low Loss Power Distribution Switch with 1.57A Fixed Current Limit

Features

- Input Voltage: 2.5V to 5.5V
- Extremely Low Power Path Resistance: 65mΩ (Typ.)
- 1.57A±9% Current Limit Accuracy
- Reverse Blocking (No Body Diode)
- Fast Reverse Recovery
- Fault Flag (OCB) Output for Over Current and Fault Conditions
- At Shutdown, OUT Can Be Forced Higher than IN
- Built-in Soft-start
- RoHS Compliant and Halogen Free
- Compact Package Minimizes the Board Space: SOT23-5

Applications

- USB 3.1 Application
- USB 3G Data Card
- USB Dongle
- USB Charger
- Public Place Multi-USB Charger
- PC Card Hot Swap Applications



SY28826DUC

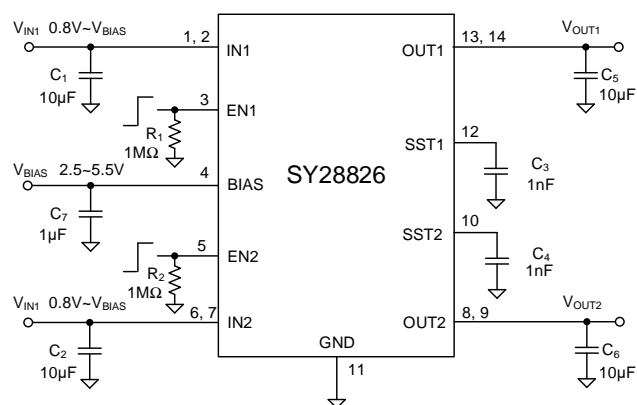
5.5V, Low $R_{DS(ON)}$ Dual-Channel 6A Load Switch

Features

- Dual-Channel 6A Load Switch
- Wide Input Voltage Range: 0.8V to 5.5V
- Low Bias Current:
 - 20μA Typical (Both Channels)
 - 18μA Typical (Single Channel)
- Extremely Low $R_{DS(ON)}$ for the Integrated Switch: 18mΩ ($V_{BIAS}=5V$)
- Programmable Soft-Start Time
- Compact Package: DFN3×2-14

Applications

- Notebook Tablet, or Net PCs
- Desktop PCs
- Servers
- Set Top Boxes
- E-Book or MID's
- Smart TVs
- Routers
- Industrial PCs
- Solid-state Drives (SSD)



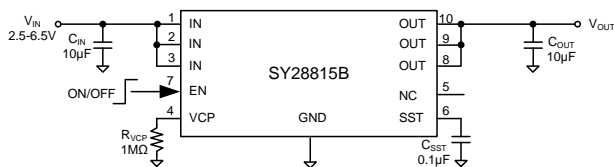
Protection Switch(Temp Range -40°C to 125°C)

SY28815BDBC

Current Limit Switch with Output Voltage Clamping

Features

- Wide Input Voltage Range from 2.5V to 6.5V with Surge up to 18V
- Ultra Low Bias Current: 50μA Typical
- Extremely Low RDS(ON) for the Integrated Protection Switch: 40mΩ
- Programmable Soft-start Time
- 2 Level Current Limit:
 - 1.4A for 3.3 Mode
 - 2.75A for 5V Mode
- Short Circuit Protection
- Selectable Input and Clamping Voltage Range
- Enable Interface Pin
- Thermal Shutdown Protection & Auto Recovery
- RoHS Compliant and Halogen Free
- Compact Package: DFN3×3-10



Applications

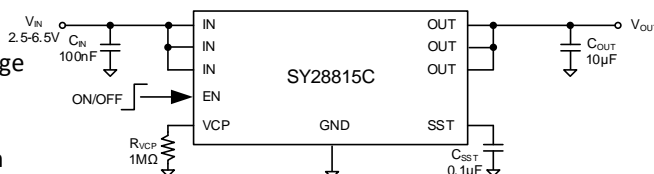
- Notebook PC
- I-pad Mini
- Server
- Service PC

SY28815CDBC

Current Limit Switch with Output Voltage Clamping

Features

- Wide Input Voltage Range from 2.5V to 6.5V with surge up to 18V
- Ultra Low Bias Current: 50μA Typical
- Extremely Low RDS(ON) for the Integrated Protection Switch: 40mΩ
- Programmable Soft-start Time
- Current Limit Protection: 6A
- Short Circuit Protection
- Selectable Input and Clamping Voltage Range
- Enable Interface Pin
- Thermal Shutdown Protection & Auto Recovery
- RoHS Compliant and Halogen Free
- Compact Package: DFN3×3-10



Applications

- PCIE/SATA/SAS HDD and SSD Drives
- Enterprise and Micro Servers
- Smart Load Switch
- Set-Top-Box (STB), DTVs and Game Consoles
- RAID Cards - Holdup Power Management
- Telecom Switches and Routers
- Adapter Powered Devices

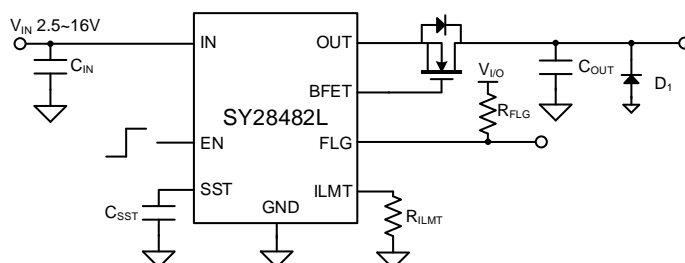
Protection Switch(Temp Range -40°C to 125°C)

SY28482LTLQ

2.5V to 16V Protection Switch with Blocking FET Control

Features

- 2.5V to 16V Input Voltage Range
- Extremely Low Power Path Resistance $R_{DS(ON)}$
- $R_{DS(ON)}=30m\Omega$ (typ.)
- Open-drain Indicator Pin for Operation Status
- 1A to 5A Adjustable I_{ILMT}
- $\pm 10\%$ I_{ILMT} Accuracy at 3A
- Reverse Blocking Support when EN OFF
- Programmable OUT Slew Rate
- Built-in Thermal Shutdown and Latch-off
- RoHS Compliant and Halogen Free
- Small Footprint –QFN (2mmX2mm)



Applications

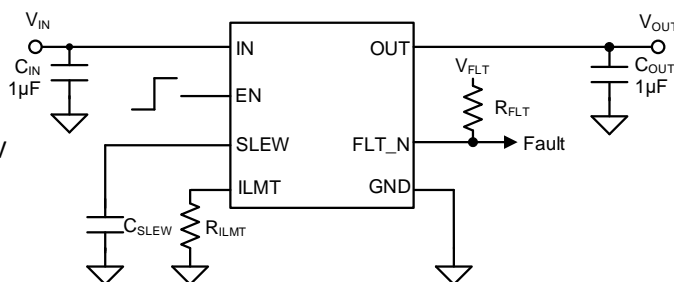
- Power Bank
- LCD Panel
- HDD and SSD Drives
- Set Top Boxes
- Servers / AUX Supplies
- Fan Control
- PCI/PCIe Cards
- Adapter Powered Devices

SQ24802K1DFD

4.2V to 16V, 5A, 31mΩ eFuse with Over-voltage Protection

Features

- Low Power Path Resistance : $R_{DS(ON)}=31m\Omega$ (Typical)
- Overvoltage Protection Clamp at 14V
- Adjustable Current Limit (ILIMIT) : 1A to 5A
- Adjustable Output Slew Rate Control (SLEW)
- Overtemperature Protection (OTP)
- Fault Indication Pin (FLT_N)
- Protection Mode: Auto-Restart
- Operating Voltage Range: 4.2V to 16V, $V_{ABSMAX} = 18V$
- Compact Package: DFN2×2-8



Applications

- Industrial Systems
- Hot-Swap Applications
- Digital Televisions
- SSDs and HDDs
- Adapter Powered Systems

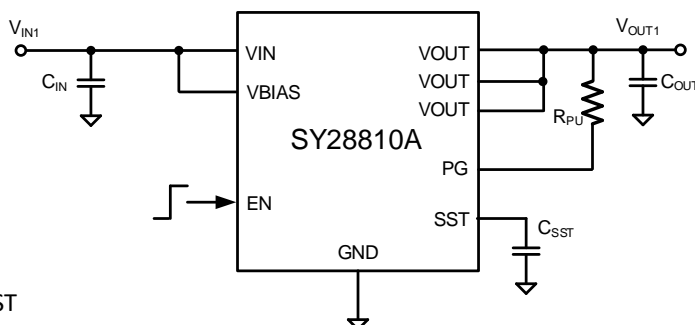
[Back](#)

SY28810ADHC

5.5V 10A Load Switch with Ultra low $R_{DS(ON)}$

Features

- Integrated Single Channel Load Switch
- V_{BIAS} Voltage Range: 2.5V to 5.5V
- V_{IN} Voltage Range: 0.6V to V_{BIAS}
- On-Resistance: $2.8m\Omega @ V_{IN}=3.3V, V_{BIAS}=3.3V$
- 10A Maximum Continuous Switch Current
- Shutdown Current
 - $I_{SD_VBIAS} = 5.5\mu A$ at $V_{BIAS} = 5V$
 - $I_{SD_VIN} = 4nA$ at $V_{BIAS} = 5V, V_{IN} = 5V$
- Controlled and Adjustable Slew Rate through CSST
- Power Good (PG) Indicator
- Compact DFN2×3-10 Package



Applications

- Servers
- Telecom systems

SQ24810QMQ

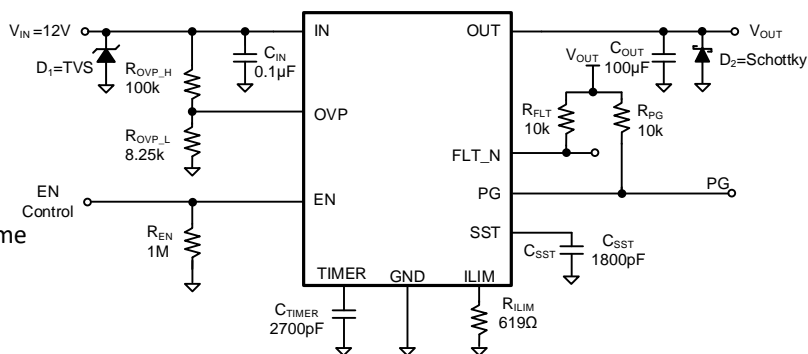
2.7V ~ 16V, 10A, 6mΩ Programmable Current Limit Switch

Features

- Wide Input Voltage Range from 2.7V to 16V with 20V Absolute Maximum Voltage Rating
- Extremely Low Power Path Resistance RPWPT: 6mΩ(typ) at 3.3V/5V/12V VIN
- 10A Output Current Capability
- Programmable Current Limit
- ±10% Load Current Monitor Accuracy ($I_{OUT} \geq 3A$)
- Programmable Soft-Start Time
- Programmable Overvoltage Threshold
- Programmable Overcurrent Response Time (TIMER)
- Power Good Indication (PG)
- Response to Fault: Latch-Off
- Independent ON/OFF Control Input
- Thermal Shutdown Protection
- Output Fast Discharge Function
- Compact Package: QFN2×2-10

Applications

- Servers
- SSDs
- Industrial PCs

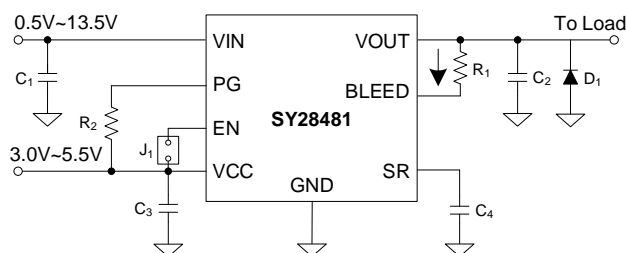


SY28481DCD

Advanced Load Management Controlled Load Switch with Low R_{ON}

Features

- Integrated N-Channel MOSFET with Ultra Low R_{ON}
- Input Voltage Range 0.5 V to 13.5 V
- Soft-start via Controlled Slew Rate
- Power Good Signal
- Thermal Shutdown
- Under Voltage Lockout
- Short Circuit Protection
- Extremely Low Standby Current
- Load Bleed (Quick Discharge)



Applications

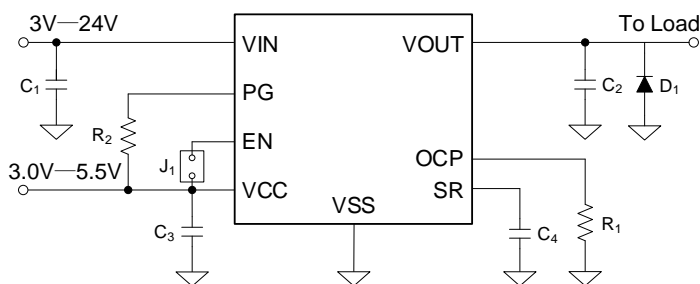
- Portable Electronics and Systems
- Notebook and Tablet Computers
- Telecom, Networking, Medical, and Industrial Equipment
- Set Top Boxes, Servers, and Gateways
- Hot Swap Devices and Peripheral Ports

SY28481BDCD/SY28481CDCD

Advanced Load Management Controlled Load Switch with Low R_{ON}

Features

- Integrated N-Channel MOSFET with Ultra Low R_{ON}
- Low R_{ON}
 - SY28481B: 5.2mΩ
 - SY28481C: 3.8mΩ
- Input Voltage Range 3 V to 24 V
- 3V to 5.5V Input Voltage Range for VCC
- Programmable Soft Start time
- Fault Detection with Power Good Output
- Thermal Shutdown Protection
- Short Circuit and Adjustable Over-Current Protection and latch off
- Output capacitor discharge during EN OFF
- Extremely Low Standby Current
- Compact Package: DFN3x3-12



Applications

- USB Type C Power Delivery
- Portable Electronics and Systems
- Notebook and Tablet Computers
- Telecom, Networking, Medical, and Industrial Equipment
- Set-Top Boxes, Servers, and Gateways
- Hot-Swap Devices and Peripheral Ports

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Protection Switch(Temp Range -40°C to 125°C)

SY28480QEQ

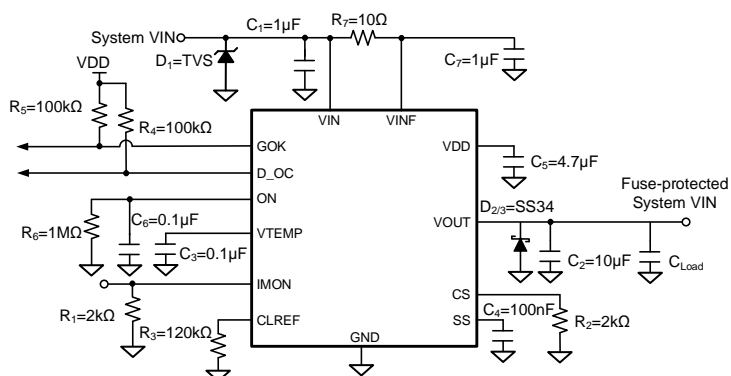
18V, 50A E-Fuse Switch

Features

- Wide Input Range: 4.5 V to 18 V
- Up to 60 A Peak Current Output, 50 A Continuous
- Integrated N-Channel MOSFET with 0.76 mΩ Ultra Low R_{ON}
- Adjustable Slew Rate Control
- Adjustable Current Limit
- Accurate Analog Load Current Monitor
- Adjustable Over Current Alert Output
- Temperature Indicator
- Fault Detection with Status OK Output
- Can be used in Parallel for Higher Current Applications
- Auto-Retry Mode for Following Protection Features
 - Soft Start Duration Timeout
 - Thermal Shutdown
 - Fast Short-Circuit Protection
 - Current Limiting Response Timeout
- Compact Package Minimizes the Board Space: QFN 5 mm × 5 mm-32

Applications

- Servers
- Base Station
- Hot Swap Applications



SY28480BQEQ

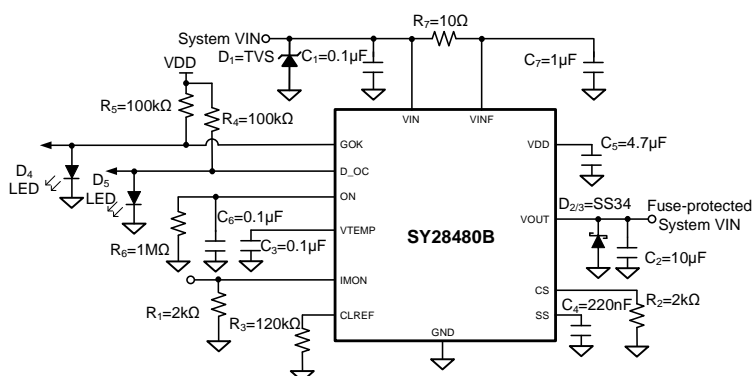
Hot Swap Smart Fuse

Features

- Wide Input Range: 4.5 V to 18 V
- Up to 60 A Peak Current Output, 50 A Continuous
- Integrated N-Channel MOSFET with 0.76 mΩ Ultra Low R_{ON}
- Optional Output Discharge Function when Disabled
- Adjustable Slew Rate Control
- Adjustable Current Limit
- Accurate Analog Load Current Monitor
- Adjustable Over Current Alert Output
- Temperature Indicator
- Fault Detection with status OK Output
- Built-in Insertion Delay
- Can be used in Parallel for Higher Current Applications
- Latch off for Following Protection Features
 - Soft Start Duration Timeout
 - Thermal Shutdown
 - Fast Short-Circuit Protection
 - Current Limiting Response Timeout
- Compact Package Minimizes the Board Space: QFN 5 mm × 5 mm-32

Applications

- Servers
- Base Station
- Hot Swap Applications

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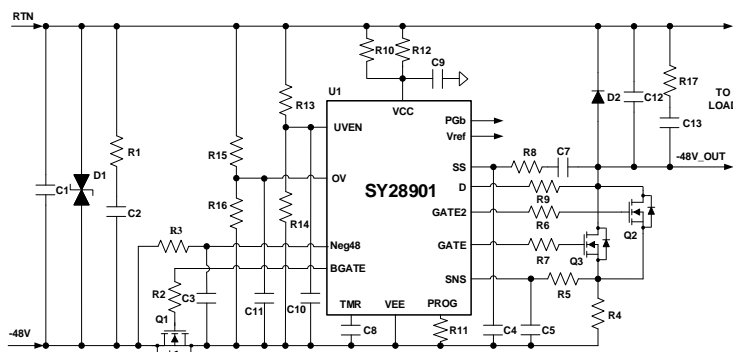
Hotswap ORing (Temp Range -40°C to 125°C)

SY28901HKC

-48V Hot Swap and Single OR-ing Controller

Features

- -10V to -80V DC Operation,
- -200V Absolute Maximum
- Soft-start Cap Disconnect
- Dual Hot Swap Gate Drive
- 340μA Gate Sourcing Current
- Dual Current Limit (based on VDS)
 - 26 mV $\pm 8\%$ When Low VDS
 - 3.7 mV $\pm 22\%$ When High VDS
- Programmable UV($\pm 1.5\%$) and OV ($\pm 2\%$)
 - Programmable Hysteresis ($\pm 11\%$)
- Integrated OR-ing Controller
 - Regulation: 25 mV ± 15 mV
 - Fast Turn off: -25 mV ± 4 mV
- Retries After Time Out
- RoHS Compliant and Halogen Free
- TSSOP16



Applications

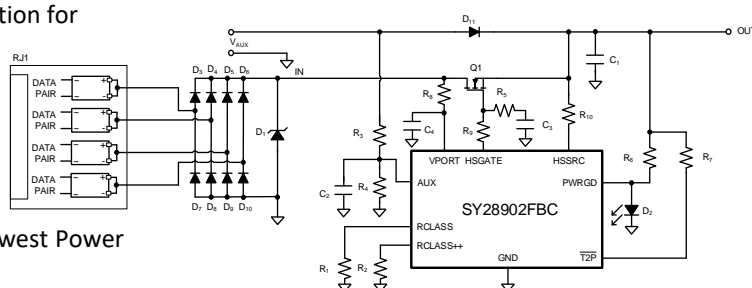
- Remote Radio Units
- Baseband Units
- Routers and Switchers
- Small Cells
- -48V Telecommunications Infrastructure

SY28902FBC

IEEE 802.3bt PD Interface Controller

Features

- IEEE 802.3af/at/bt Powered Device (PD) Solution for Type 1-4 PoE Applications
- Supports up to 71.3W PDs
- Supports up to 5-Event Classification Sensing
- 100V Robust Surge Protection (Abs. Max.)
- Integrated Signature Resistor
- Thermal Shutdown Protection
- External Hot-swap N-Channel MOSFET for Lowest Power Dissipation and Highest System Efficiency
- Configurable AUX Power Support as Low as 9V
- -40°C to 125°C Junction Temperature Range



Applications

- Security Cameras
- Base Stations
- IEEE 802.3bt Compliant Devices
- Video and VoIP Telephones
- Industrial Applications

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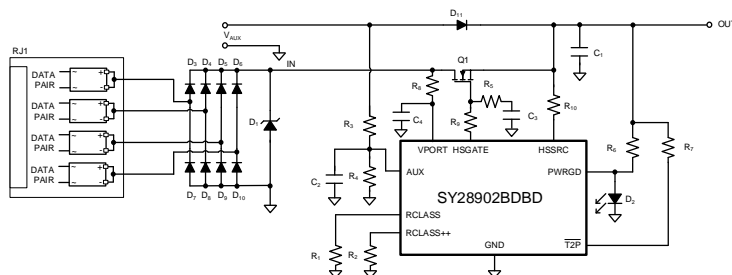
Hotswap ORing (Temp Range -40°C to 125°C)

SY28902BDBD

IEEE 802.3af/at-compliant PD Interface Controller

Features

- IEEE 802.3af/at Powered Device (PD) Controller
- Supports Up to 90W PDs
- Supports All of the Following Standards:
 - High Power Mode: 38.7W, 52.7W, 70W and 90W
 - IEEE 802.3at 25.5W Compliant
 - IEEE 802.3af up to 13W Compliant
- 100V Robust Surge Protection (Abs. Max.)
- Integrated Signature Resistor
- Thermal Shutdown Protection
- External Hot Swap N-Channel MOSFET for Lowest Power Dissipation and Highest System Efficiency
- Configurable Aux Power Support as Low as 9V
- -40°C to 125°C Junction Temperature Range



Applications

- Security Cameras
- Base Stations
- IEEE 802.3bt Compliant Devices
- Video and VoIP Telephones

SY28903FBP

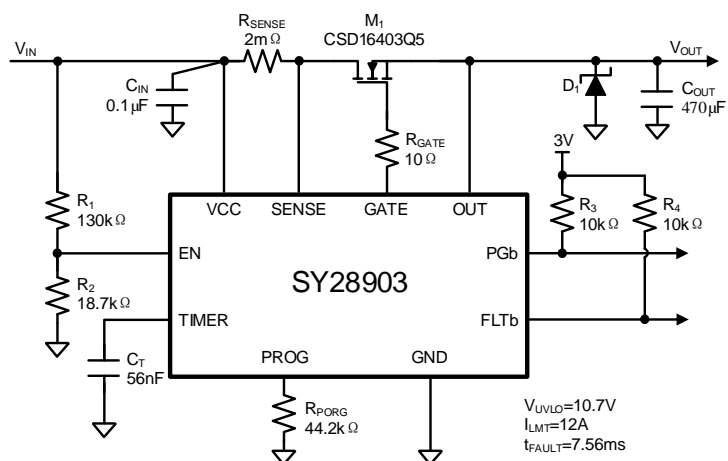
2.5V to 18V High Efficiency Power Limiting Hot-swap Controller

Features

- 2.5V to 18V Operation
- Accurate Current Limiting for Startup
- Programmable FET SOA Protection
- Accurate 25mV Current-Sense Threshold
- Power Good Output
- Fast Breaker for Short-Circuit Protection
- Programmable Fault Timer
- Programmable UV Threshold
- RoHS Compliant and Halogen Free
- MSOP-10 Package

Applications

- SSD
- Networking
- DWDM



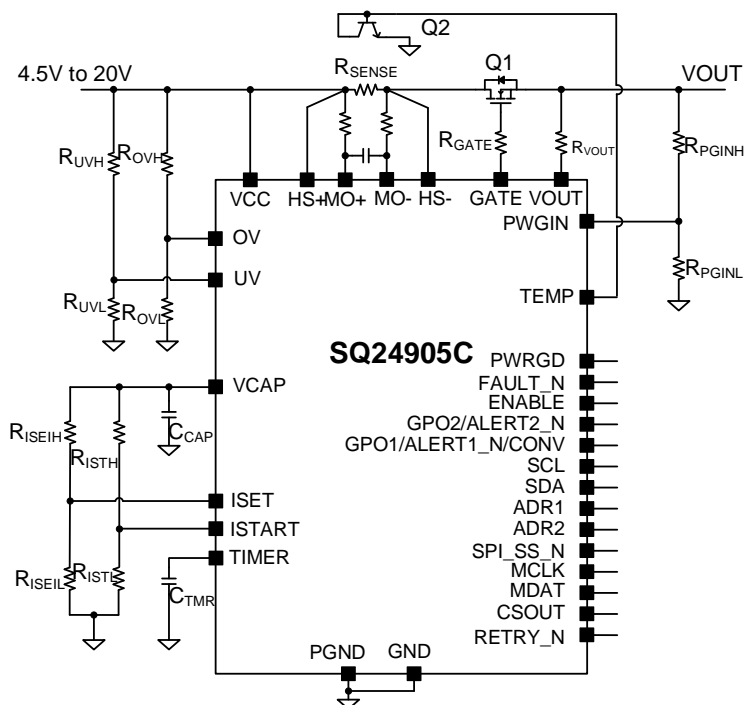
Hotswap ORing (Temp Range -40°C to 125°C)

SQ24905CQEQ

Hot Swap Controller with Digital Power, Energy Monitor and PMBus Interface

Features

- 4.5V to 20V Input Voltage Range
- $\pm 0.6\%$ Accurate, 12-Bit ADC for V_{IN} , V_{OUT} , I_{OUT} , and Temperature Measurement
- Split Hot Swap and Power Monitor Inputs for Additional External ADC Filtering
- 320ns Response Time to Short-Circuit Events
- Resistor-Programmable Current Limit of 5mV to 25mV V_{SENSE}
- Programmable Start-Up Current Limit
- 1% Accurate UV, OV, and PWRGD Thresholds
- Remote Temperature Sensing with Configurable Warning and Shutdown Thresholds
- Shutdown After Detecting MOSFET Health Faults
- FAULT_N Open Drain Output
- Multi-functional GPO Output Pin:
 - SMBAlert Mode
 - General-purpose Digital Output Mode
 - Digital Comparator Mode
 - CONV Function Mode
- Reports Power and Energy Consumption Over Time
- Peak Detection Registers for Voltage, Current, and Power Monitoring
- PROCHOT Power Throttling Capability for Precise Control of System Power Usage
- PMBus Fast-Mode Compliant Interface and SPI Interface
- Moisture Sensitivity Level (MSL): 3
- QFN 5x5-32 Package



Applications

- Servers and Datacenters
- Power Distribution Systems
- Telecommunication Equipment and Switches

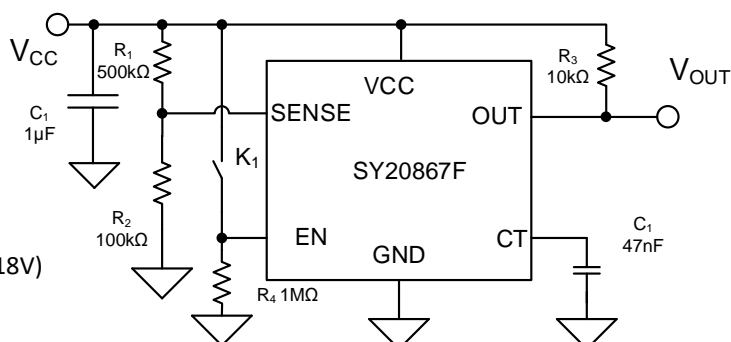
Supervisor & Reset ICs (Temp Range -40°C to 125°C)

SY28637A/E/FDTD

IEEE 802.3af/at-compliant PD Interface Controller

Features

- Operating Voltage Range: 1.7V to 6.5V
- Adjustable Threshold Down to 500mV
- Threshold Accuracy: 1% Over temperature
- Capacitor-adjustable Delay Time
- Low Quiescent Current: 9μA (typ.)
- External Enable Input
- SY28637A: Active-High Enable Input
- SY28637E/F: Open Drain Output (Rated at 18V)
- Temperature Range: -40°C to 125°C
- RoHS Compliant and Halogen Free
- Compact Package: DFN1.45×1-6



Applications

- Notebook and Desktop Computers
- Microcontrollers, DSPs, and Microprocessors
- Portable and Battery-Powered Products
- FPGAs and ASICs

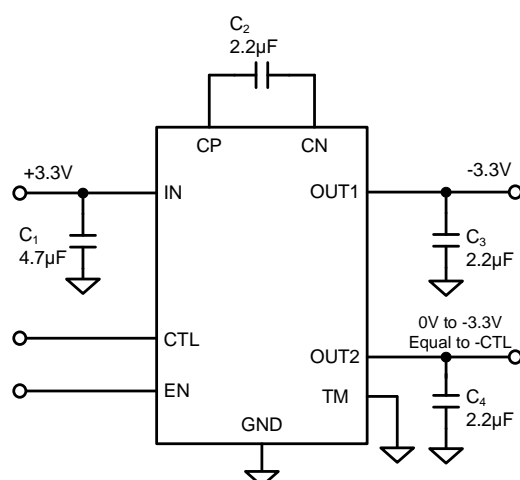
Charge Pump (Temp Range -40°C to 125°C)

SY20749VLQ/SY20749BVLQ

Negative Charge Pump and Adjustable Regulator

Features

- Wide Input Voltage Range: 2.3V to 5.5V
- Low Quiescent Current: 1.2mA
- Output Current: Up to 200mA
- No Inrush Current During Startup:
 - SY20749: 1.6A Charge Pump Current Limit (Typ.)
 - SY20749B: 0.8A Charge Pump Current Limit (Typ.)
- Overcurrent and Short-Circuit Protection
- Dual Output:
 - -1× Charge Pump
 - Regulated Output Between 0V and -VIN
- Compact Package: QFN 1.4mm×1.8mm



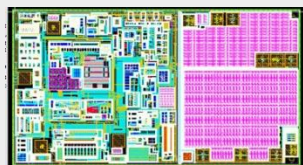
Applications

- Negative Rails for Analog Power
- Optical Applications Modules
- Power Supply for RF Amplifiers
- Power Source for Sensors in Portable Devices

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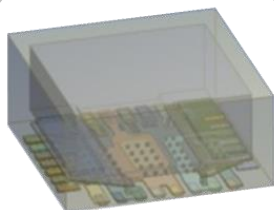


Power Module



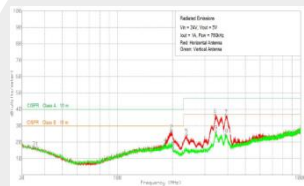
IC Design

- ✓ Advanced Single Die solution
- ✓ High efficiency topology
- ✓ High Frequency & low loss switch



3D Package

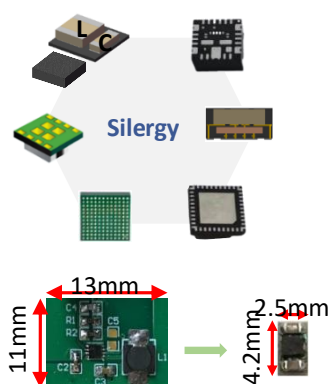
- ✓ Patent 3D package tech
- ✓ Low Parasitic Parameter
- ✓ Excellent thermal design



Mag. & EMI

- ✓ Customized Mag. Design
- ✓ New Material & process
- ✓ Low core & AC copper loss

Power Module Advantage



Space Saving

- ✓ Compared to Discrete, Up to 90% Size Reduction

High Performance

- ✓ Reduced Parasitic L/C Improving Efficiency and Minimize Signal Distortions
- ✓ Excellent Thermal & EMI Performance with 3D Package
- ✓ Good Anti-vibration and Environmental Ability

Low Total Cost

- ✓ PCB Cost Saving & SMD Process Time Saving
- ✓ Shorter Time to Market (Easy Layout, Fast Testing, Debug).
- ✓ Simpler Sourcing Management (Lower MOQ, Low CE & System job)

5V Bus Buck Module(Temp Range -40°C to 125°C)

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	I _{OUT} (Max) (A)	F _{SW} (MHz)	Output Voltage (V)	V _{FB} Accuracy	Efficiency @ full load	Features	Package	Height (Max)(mm)
SQ76001RCC	2.5	5.5	1.2	3	Adjustable	±2%	79% @ 3.3V _{IN} , 1.8V _{OUT}	PFM	QFN2.5×2-8	1.15
SQ76002CAEE	2.5	5.5	2	2.4	Adjustable	±1.5%	87% @ 3.3V _{IN} , 1.8V _{OUT}	FCCM	MDFN1.9×1.75-6	1.08
SQ76003D3AAE	2.5	6	3	2.4	Adjustable	±1%	89% @ 3.3V _{IN} , 1.8V _{OUT}	FCCM	QFN2.5×2-10	1.22
SQ76004BAKE	2.5	6	4	2.4	Adjustable	±1%	86% @ 3.3V _{IN} , 1.8V _{OUT}	FCCM	QFN2.5×2.5-10	1.25
SQ76825DABE	2.7	5.5	6	1.5	Adjustable, Default: 0V	±1%	83% @ 3.3V _{IN} , 1V _{OUT}	I ² C	MQFN3×4-16	1.68
SQ76006B1AIE	2.85	7	6	1.1	Adjustable	±1.5%	88% @ 3.3V _{IN} , 1.8V _{OUT}	PFM&FCC M	MQFN3x3-19	1.5
SQ76020AFE	2.75	5.5	20	3.4	Adjustable, Default: 0V	±1%	79.8% @ 3.3V _{IN} , 0.95V _{OUT}	FCCM	MQFN5×6-24	1.8
SQ76040ADG	2.9	5.5	40	3.4	Adjustable, Default: 0V	±1%	81.8% @ 3.3V _{IN} , 0.6V _{OUT}	FCCM	MLGA6.2×6.7-80	2.9

12V Bus Buck Module(Temp Range -40°C to 125°C)

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	I _{OUT} (Max) (A)	F _{SW} (MHz)	Output Voltage (V)	V _{FB} Accuracy	Efficiency @ full load	Features	Package	Height (Max)(mm)
SQ76103C3ACE	4.7	18	3	2	Adjustable	±1.8%	85% @ 12V _{IN} , 3.3V _{OUT}	FCCM	QFN3×2.8-8	1.5
SQ76106BAIE	2.85		6@0.6- 3.3V	1.1	Adjustable	±1.5%	90.7% @ 12V _{IN} , 3.3V _{OUT}	PFM&FCCM	MQFN3x3-19	1.7
SQ76115BADE	2.9	16	15	Adj	Adjustable	±1%	90.7% @ 12V _{IN} , 3.3V _{OUT}	PFM&FCCM	MQFN5×5-32	2.8

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20V Bus Buck Module(Temp Range -40°C to 125°C)

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	I _{OUT} (Max) (A)	F _{SW} (MHz)	Output Voltage (V)	V _{FB} Accuracy	Efficiency @ full load	Features	Package	Height (Max)(mm)
SY20652QNC	4.5	23	2	1.7	Adjustable	±1.5%	83% @ 12VIN, 3.3VOUT	PFM	QFN3*3-10	2

Isolated Module (Temp Range -40°C to 125°C)

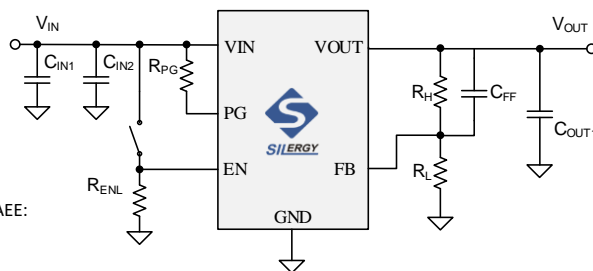
Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	I _{OUT} (Max) (A)	F _{SW} (MHz)	Output Voltage (V)	Load Regulation	Efficiency @ full load	Features	Package	Height (Max)(mm)
SQ79002AJE	4.5	14	0.2	1.6	5	1%(typ)	65% @ 5V _{IN} , 5V _{OUT}	3kV DC Hipot	MQFN4*5.5-14	4.05

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SQ76002C -- 5V input, 2A Module

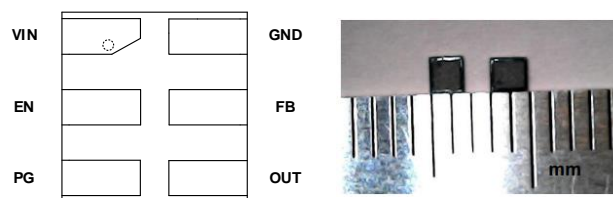
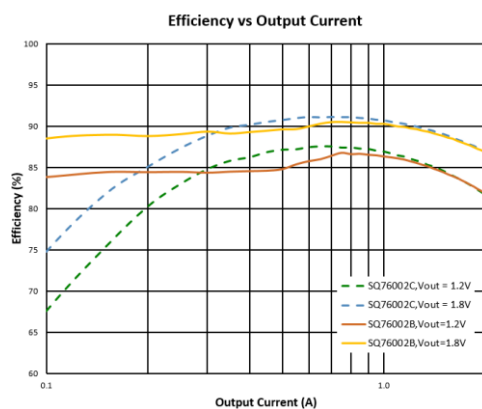
Features:

- ✓ 2.5V to 5.5V input voltage range
- ✓ Capable of 2A constant output current
- ✓ Compact Package: MDFN1.9×1.75-6 (Height:1.08mm max)
- ✓ High Switching Frequency 2.4MHz Minimizes the External Components
- ✓ PFM/FCCM under light load condition: – SQ76002BAEE: PFM – SQ76002CAEE: FCCM
- ✓ 100% Duty Cycle Operation
- ✓ Power Good Indicator
- ✓ Reliable Protection Mode: Auto-retry Mode for OVP, UVLO and OTP. Hiccup Mode for OCP



Typical Schematic

Efficiency@3.3V Input :

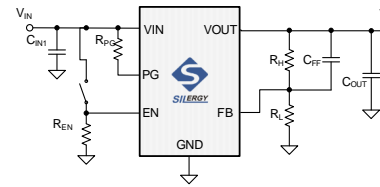


Package:MDFN1.9x1.75-6, Height: 1.08mm max

SQ76003D3 -- 6V input, 3A Module

Features:

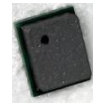
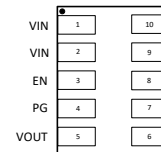
- ✓ 2.5~6V input voltage range
- ✓ Adjustable output voltage
- ✓ Maximum current Capability: 3A
- ✓ 2.4MHZ switching Frequency
- ✓ Power good indicator
- ✓ Package:QFN2.5x2-10, Height: 1.22mm max



Typical Schematic

Competition:

P/N	Max $I_{OUT}(A)$	Package (mm)	Efficiency @ $I_{OUT}=3.0A$ $V_{IN}=3.3V, V_{OUT}=1.8V$
SQ76003A	3.0A	3.0x3.0x1.1	86%
SQ76003D3	3.0A	2.5x2x1.22	88.8%

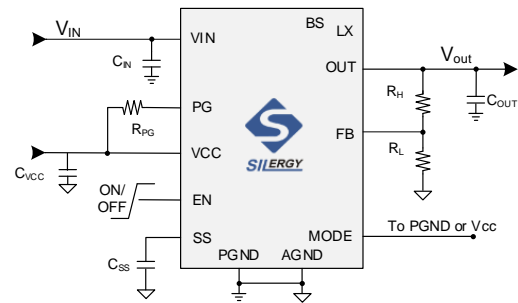


Package:MQFN2.5x2-10, Height: 1.22mm max

SQ76006B1 -- 7V input, 6A Module

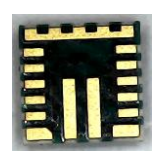
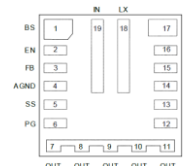
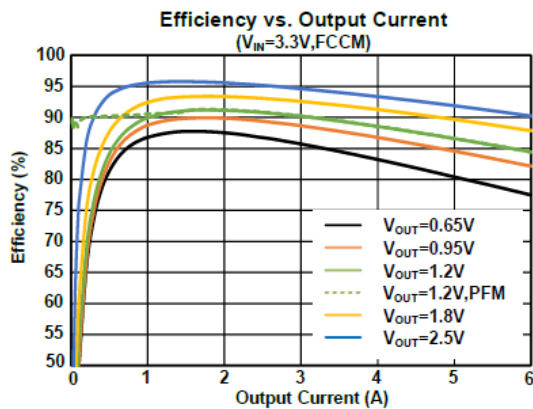
Features:

- ✓ 2.85V to 7V input voltage range
- ✓ 6A continuous output current capability
- ✓ Output adjustable from 0.6V
- ✓ Output Default Adjustable
- ✓ Selectable FCCM and PFM light load
- ✓ Package: MQFN 3mm*3mm-19
- ✓ Height: 1.5mm max



Typical Schematic

Efficiency@3.3V_{IN} (FCCM mode) :



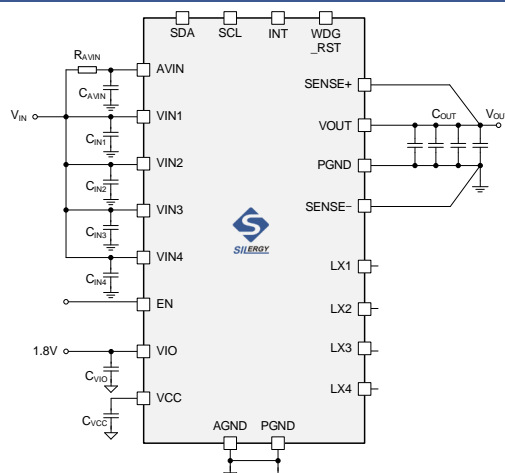
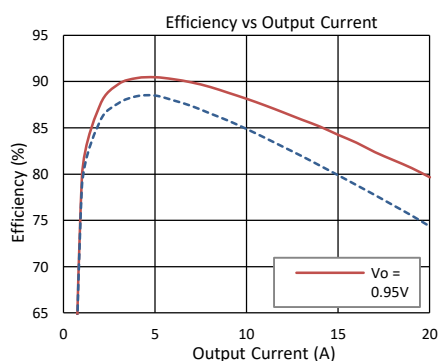
Package:MQFN3x3-19, Height: 1.5mm max

SQ76020– 5V input, 20A Module

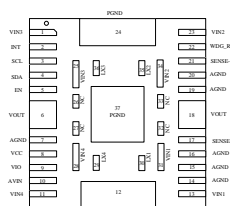
Features:

- ✓ 2.75V to 5.5V input voltage range
- ✓ 20A maximum output current capability
- ✓ I²C programmable output voltages from 0.3V to 1.85V
- ✓ Forced CCM mode
- ✓ COT control achieves fast transient performance
- ✓ OCP/SCP/OVP/UVLO/OTP protections
- ✓ Low output ripple & high efficiency with 4-phase Interleaved topology
- ✓ Package: MQFN5x6-24, Height: 1.8mm max

Efficiency@3.3V Input:



Typical Schematic



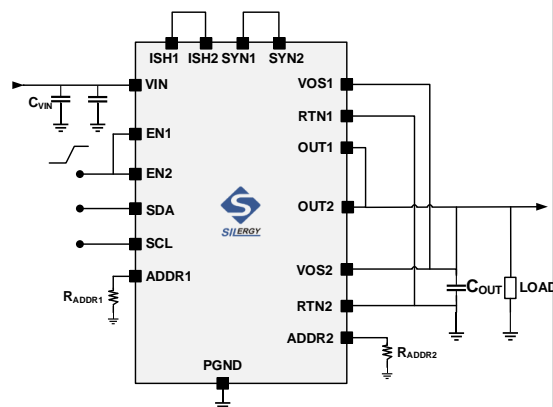
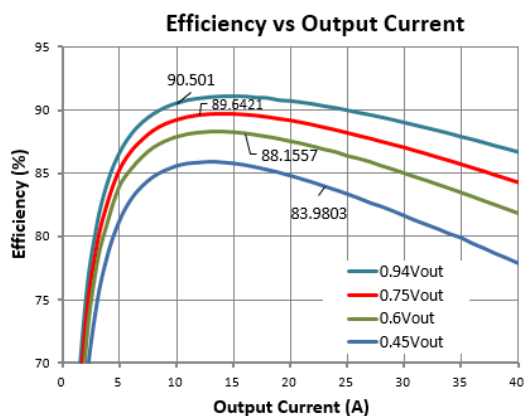
Package:MQFN5x6-24, Height: 1.8mm max

SQ76040– 5V input, 40A Module

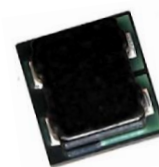
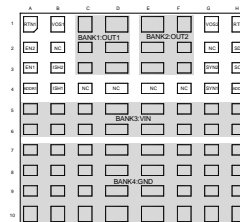
Features:

- ✓ 2.9V to 5.5V input voltage range
- ✓ 40A maximum output current capability
- ✓ I²C programmable output voltages from 0.34V to 1.23V
- ✓ Forced CCM mode
- ✓ OCP/SCP/UVLP/UVLO/OTP protections
- ✓ Low output ripple & high efficiency with 2-phase Interleaved topology
- ✓ Package: MLGA6.2x6.7-80, Height: 2.9mm max

Efficiency@3.3V Input:



Typical Schematic

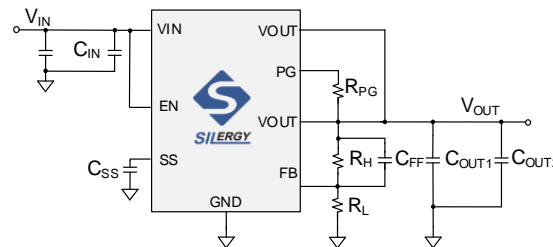


Package:MLGA6.2x6.7-80, Height: 2.9mm max

SQ76103C3 – 18V input, 3A Module

Features:

- ✓ 4.7-18V input voltage range
- ✓ 0.8V to 5.4V adjustable output voltage
- ✓ 3A load current capability
- ✓ FCCM for small output voltage ripple
- ✓ External programmable soft-start time to limit the inrush current
- ✓ Compact Package: MQFN 2.8×3-8 (H: 1.5mm max)



Typical Schematic

Efficiency@3.3V Output:

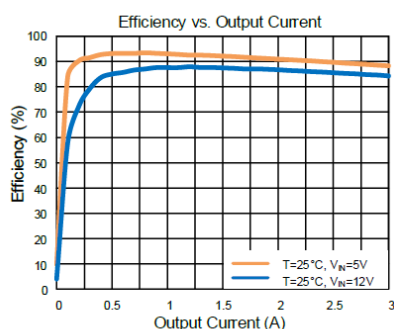
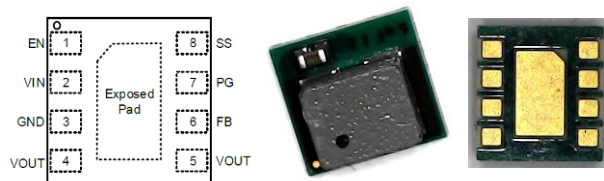


Figure 2. $V_{OUT}=3.3\text{V}$ Efficiency vs. Output Current



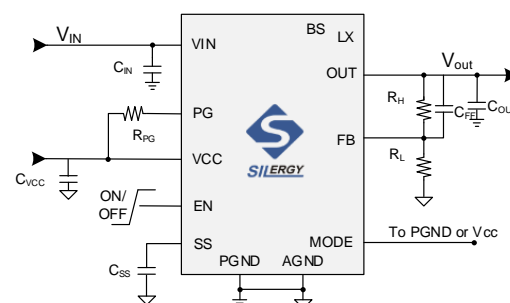
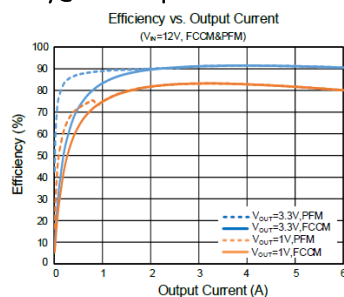
Package:MQFN 2.8×3-8, Height: 1.5mm max

SQ76106B – 16V input, 6A Module

Features:

- ✓ 2.85V to 16V Input Voltage Range
- ✓ Output adjustable from 0.6V
- ✓ Output current:
 - 0.6V to 3.3V: 6A
 - Above 3.3V: 5A
- ✓ Smooth Pre-biases startup
- ✓ Selectable FCCM for low V_{OUT} ripple and PFM for high light load efficiency
- ✓ Compact Package:MQFN 3×3-19 (H: 1.7mm max)

Efficiency@3.3V Output:



Typical Schematic



Package:MQFN 3×3-19, Height: 1.7mm max

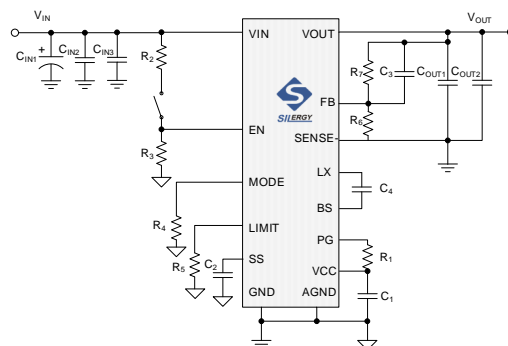
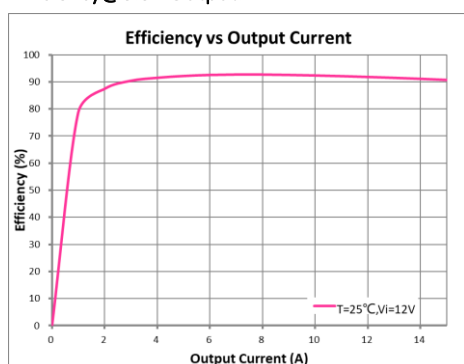
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SQ76115B – 12V input, 15A Module

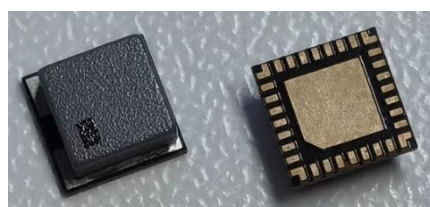
Features:

- ✓ 2.9~16V wide input voltage Range
- ✓ 15A continuous output current capability
- ✓ 600k/800k/1MHZ switching frequency selection
- ✓ High Reference Voltage Accuracy Over -40°C to 125°C
- ✓ Instant PWM architecture to achieve fast transient response
- ✓ Power good indicator
- ✓ OCP/UVLP/UVLO/OTP
- ✓ Tiny MQFN5x5-32 package (H: 2.8mm max)

Efficiency@3.3V Output:



Typical Schematic

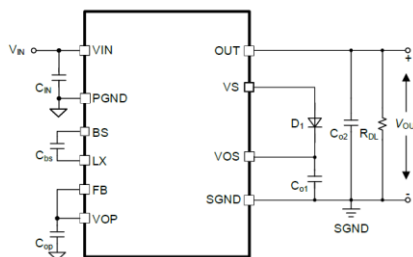


Package:MQFN5x5, Height: 2.8mm max

SQ79002 – 5-14V input,1W Isolation Module

Features:

- ✓ 4.5~14V wide input, 5V/1W output
- ✓ 3000Vdc Isolation
- ✓ Input UVLO /OTP/OCP/SCP
- ✓ 1% typical Load regulation
- ✓ Tiny MQFN4*5.5-14 package (H: 4.05mm max)
- ✓ Recommended Ambient Temperature: -40 °C ~105 °C

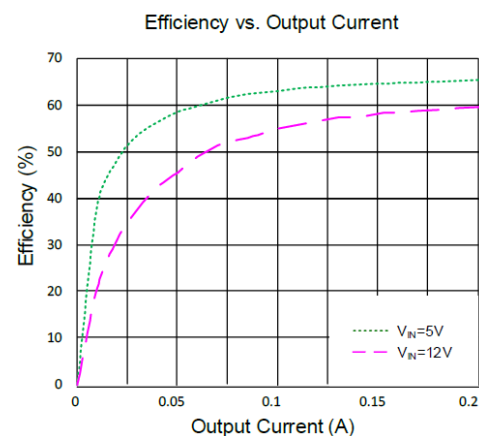


Typical Schematic



MQFN4x5.5-14, H: 4.05mm max

Efficiency:





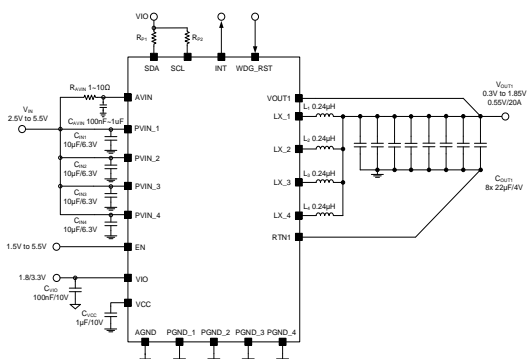
PMIC

Low Voltage Multiphase PMIC (Temp Range -40°C to 125°C)

Part Number	Operating Voltage	Numbers of Phase	Output Current	Output Voltage	Package	Features	Operation Temperature	Typical Applications
SY21525AVCS	2.5~5.5V	4	20A	0.3V~1.85V	WLCSP 2.66×3.89-54	5A per Phase, Single Output 4-Phase total 20A Output Current Capability; Supports Phase Shedding	-40°C to 125°C	Industrial MPU Power
SY21525BVCS	2.5~5.5V	4	5A/Channel	0.45V~2.0V	WLCSP 2.66×3.89-54	Quad Output 1+1+1+1, 5A Per Phase Output Current Capability	-40°C to 125°C	Industrial MPU Power

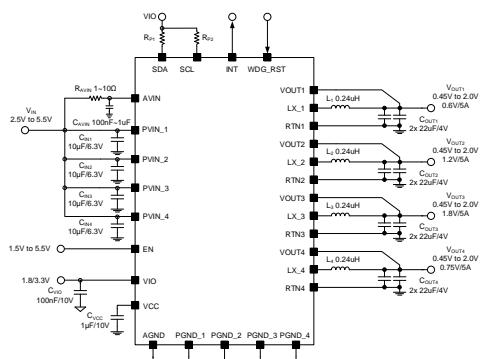
SY21525AVCS

Quad-Phase Buck Converter



SY21525BVCS

Quad Output PMIC



Features

- Five Distinct Phase Configurations:
 - SY21525A (3+1)
 - SY21525B (1+1+1+1)
- I²C Programmable Output Voltages from 0.3V to 1.85V or 0.45V to 2V
- COT Control Achieves Fast Transient Performance
- ±1.0% Accuracy with Remote Sensing
- Fixed-phase Configuration and Continuous Conduction Mode (FPCCM), OTP Programmable Light Load Mode(DCM/FPCCM)
- Supports Phase Shedding if Configured with DCM Mode by Factory OTP
- Supports Startup with Pre-Biased Output Voltage
- Status Feedback with Interrupt Pin
- Reliable OTP/SCP/UVP/OVP Protection

Applications

- Industrial MPU Power

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AC/DC

High Voltage AC/DC Auxiliary Power Supply (Buck/Flyback) (Temp Range -40°C to 125°C)

Partnumber	V _{VCC} (min) (V)	V _{VCC} (max) (V)	f _{SW} (kHz)	V _{REF} Accuracy	I _{D_MAX} (mA)	Temp Range	Feature/ Special Function	Package
SY26741FHP	4.5	25.5	60	1.2V±2%	360	-40°Cto 125°C	Peak current mode Buck/Flyback switcher integrated 800V power MOS	SSOP10
SQ38343FHP	4.5	25.5	120	1.2V±2%	590	-40°Cto 125°C	Peak current mode Buck/Flyback switcher integrated 800V power MOS	SSOP10

AC/DC High Frequency QR Flyback Controller for Industrial Auxiliary Power Supply

Partnumber	Function	Operation Mode	Max Frequency	HV Startup	OC Protection	OVP Protection	UVP Protection	BO/BI	X-cap Discharge	External OTP Protection	Package
SQ33020FVP	QR SSR Flyback Controller with Valley Lock	QR	500kHz	YES	YES	YES	YES	YES	YES	YES	SSOP10

AC/DC LLC SR Controller for TV/PC/Gaming Adapter

Partnumber	Function	Operation Mode	Max DSEN	Dual Supply Channel	Green Mode at Light Load	Package
SQ33260FAP	LLC SR Controller	CCM/DCM	200V	YES	YES Control by MOD Pin	SO8
SQ33261FAP	LLC SR Controller	CCM/DCM	200V	YES	YES Control by Internal	SO8

AC/DC LLC SR Controller for Industrial Auxiliary Power Supply

Part Number	Function	Operation Mode	Max DSEN	SR Position	Dual Supply Channel	ZVS Function	Package
SQ33239FPP	ZVS SR Controller	QR/DCM	130V	High Side / Low Side	YES	YES	CPC8

Isolated DC-DC Flyback Controller

Part Number	Function	Package	Integrated FET	Max Power	VIN Range	Max Frequency	OC Protection	OVP
SQ33604AFBP	PSR/SSR Flyback	MSOP10	NO	<60W	100V	500kHz	YES	YES

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Isolated DC/DC Auxiliary Power Supply (Temp Range -40°C to 125°C)

Partnumber	V _{IN} (min) (V)	V _{IN} (max) (V)	f _{SW} (MHz)	V _{REF} Accuracy	MOSFET (BV & Ron)	Temp Range	Feature/ Special Function	Package
SY26715BSXD	10.5	75	1	2.50V±2%	200V/1.4Ω	-40°C to 125°C	Programmable Switching Frequency Input Under voltage and Over voltage Detectors Internal Cycle by Cycle Current Limit VCC OVP P _{OUT_Max} : 6W	DFN 4*4-8
SY26713AFAP	10.5	75	0.9	2.50V±2%	200V/1.4Ω	-40°C to 125°C	Programmable Switching Frequency Input Under voltage and Over voltage Detectors Internal Cycle by Cycle Current Limit VCC OVP P _{OUT_Max} : 6W	SO8
SY26765IGD	10.5	75	0.4 or 0.8	1.20V±2%	180V/0.65Ω	-40°C to 125°C	Programmable Switching Frequency (PSR/SSR) Input Under voltage Detector Internal Cycle by Cycle Current Limit VCC OVP, OLP, SCP, OTP P _{OUT_Max} : 20W	DFN 5*6-8
SY26625QCC	15	75	1	5V±2%	NA	-40°C to 125°C	Integrated 120V High Voltage Startup Circuit Programmable Oscillator with a 1MHz Maximum Frequency Support Voltage Mode Control and Peak Current Mode Control Cycle by Cycle Peak Current Limiting OCP, SCP, OTP	QFN4x4-24

IEEE 802.3 af/at/bt-Compatible PoE PD Interface with DCDC Converter (Temp Range -40°C to 125°C)

Partnumber	V _{IN} (min) (V)	V _{IN} (max) (V)	f _{SW} (KHz)	V _{REF} Accuracy	MOSFET (BV & Ron)	Temp Range	Feature/ Special Function	Package
SY23216TQQ	10	57	500	1.2V±1.5%	180V/0.65Ω	-40°C to 125°C	Fully Compatible with IEEE 802.3 af Standard Power up to 13W(PoE input) Flexible Topology Design: PSR/SSR Flyback Internal Current Sense and Loop Compensation (PSR) for Simple Peripheral Circuit	QFN4x5-28
SQ33607QYQ	10	57	500	1.2V±1.5%	NA	-40°C to 125°C	Fully Compatible with IEEE 802.3 af/at Standard Power up to 30W(PoE input) Flexible Topology Design: PSR/SSR Flyback Internal Loop Compensation (PSR) for Simple Peripheral Circuit	QFN4x4-20
SQ33608WSQ	15	75	1	5V±2%	NA	-40°C to 125°C	Fully Compatible with IEEE 802.3 af/at/bt Standard Power up to 90W(PoE input) Programmable Oscillator with a 1MHz Maximum Frequency Support Voltage Mode Control and Peak Current Mode Control Cycle by Cycle Peak Current Limiting OCP, SCP, OTP	QFN6x5-44

High Voltage Synchronous Buck Controller (Temp Range -40°C to 125°C)

Partnumber	V _{IN} (min) (V)	V _{IN} (max) (V)	f _{SW} (MHz)	V _{REF} Accuracy	IQ (mA)	Temp Range	Feature/ Special Function	Package
SY26635/8WAQ	6	75	0.1~1	0.8V±1%	/	-40°C to 125°C	±1% Reference Voltage 6V to 75V Input Voltage Range 0.8V to 60V Output Voltage Range Voltage Mode Control with Feedforward Prevent Reverse Charging Protection Cycle-by-Cycle Over Current Protection Thermal Shutdown Protection with Hysteresis	QFN3.5x4.5-20

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Auxiliary Power Supply (Boost/Flyback Controller) (Temp Range-40°C to 105°C)

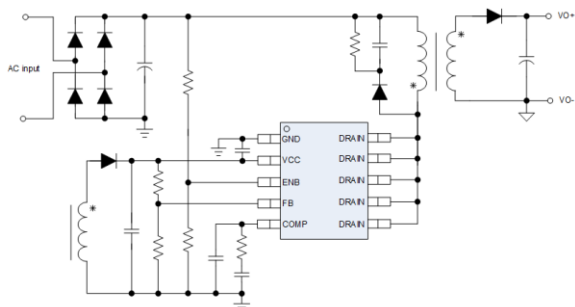
Partnumber	V _{IN} (min) (V)	V _{IN} (max) (V)	f _{SW} (MHz)	V _{REF} Accuracy	Max Duty	Ambient Temp Range	Feature/ Special Function	Package
SQ35702BFAP	10	22	<500KHz	2.5V±2%	96%	-40°Cto 105°C	Peak current mode Boost/flyback Controller	SOP8
SQ35702CFAP	10	22	<250KHz	2.5V±2%	48%	-40°Cto 105°C	Peak current mode Boost/flyback Controller	SOP8
SQ35702EFAP	16	22	<250KHz	2.5V±2%	48%	-40°Cto 105°C	Peak current mode Boost/flyback Controller	SOP8

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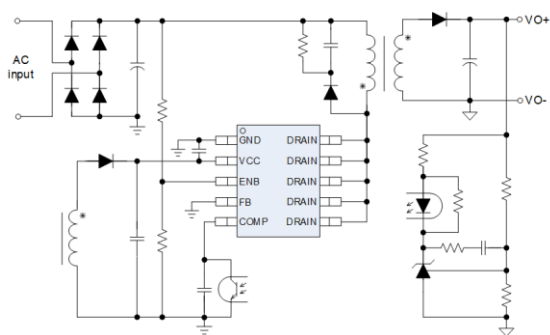
High Voltage AC/DC Auxiliary Power Supply (Buck/Flyback) (Temp Range -40°C to 125°C)

SY26741FHP

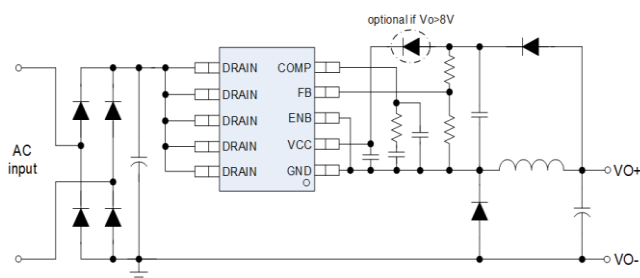
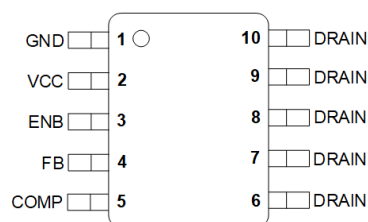
Switcher for Auxiliary Power Supply



PSR Flyback



SSR Flyback



Buck

Features

- 800V Power MOS Integrated
- Pseudo Fixed Frequency Control
- Rated Switching Frequency: 60kHz
- Frequency Fold Back and Burst Mode Control
- FSW Modulation to Reduce EMI Noise
- Support Both Flyback and Buck Topology
- PSR/SSR Optional for Flyback Topology
- HV Start Up from DRAIN
- Peak Current Limit: 345mA
- Wide VCC Operating Range: 4.5V~25.5V
- VCC OVP, OLP, OTP, Input OVP (through ENB pin)
- Internal Soft Start Process
- Compact Package: SSOP10

Applications

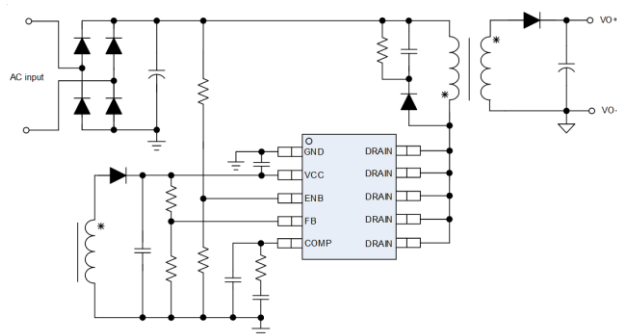
- Auxiliary Power Supply

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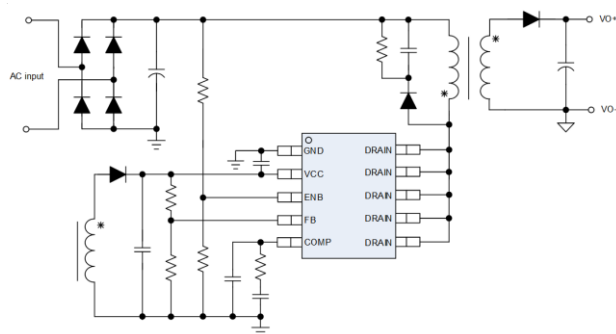
High Voltage AC/DC Auxiliary Power Supply (Buck/Flyback) (Temp Range -40°C to 125°C)

SQ38343FHP

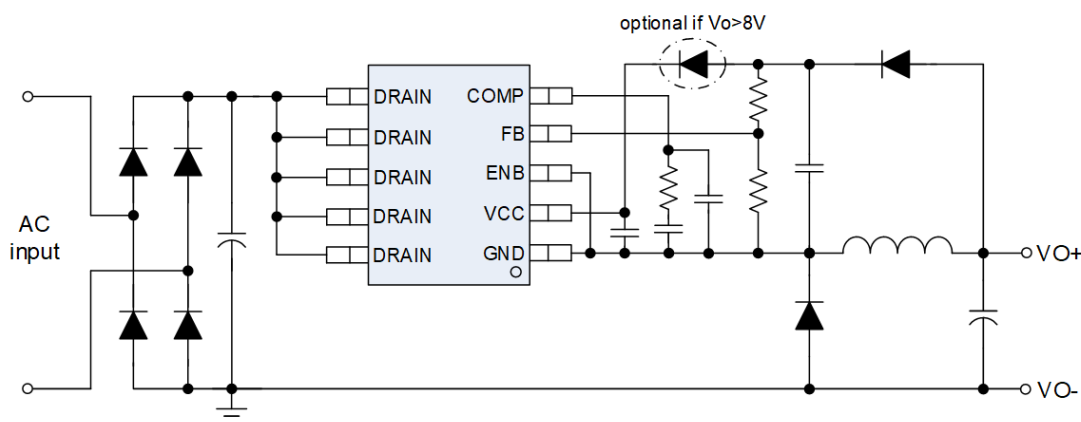
Energy Saving Off-line AC/DC Converter with Integrated 800V MOSFET



PSR Flyback



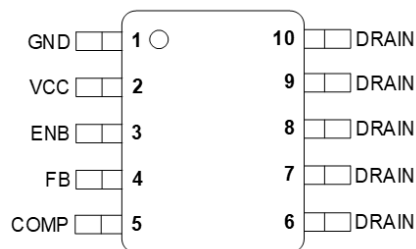
SSR Flyback



Buck

Features

- 800V Integrated Power MOSFET
- Pseudo Fixed Frequency
- Nominal Switching Frequency: 120kHz
- Frequency Fold Back and Burst Mode Control
- FSW Modulation to Reduce EMI Noise
- Supports Flyback and Buck Topologies
- PSR/SSR Optional for Flyback Topology
- HV Start Up from DRAIN
- Peak Current Limit: 590mA
- Wide VCC Operating Range: 4.5V~25.5V
- VCC OVP, OLP, OTP, Input OVP (through ENB pin)
- Internal Soft Start Process
- Compact Package: SSOP10



Applications

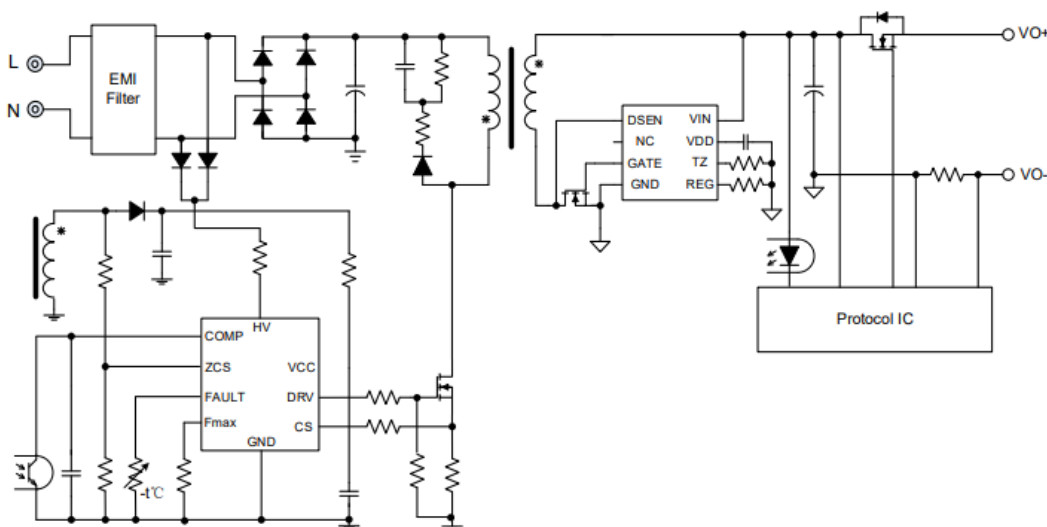
- Auxiliary Power Supplies

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High AC/DC High Frequency QR Flyback Controller for Industrial Auxiliary Power Supply

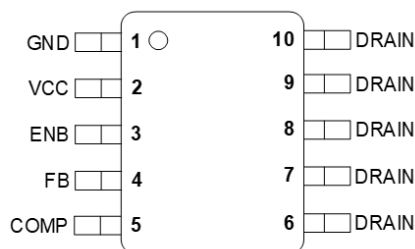
SQ33020FVP

High Frequency QR Flyback Controller with Valley Lockout, Accuracy Output OCP, and X Capacitor Discharge



Features

- DCM+QR Combined Operating Mode
- Programmable Gate Driver Current
- Switching Frequency Range: 25kHz–500kHz
- Automatic Valley Lockout from 1 to 6 cycles
- Accurate Output OCP
- Adaptive OCP (Limited Power Source)
- Low Frequency Burst Operation (1kHz)
- Switching Frequency Modulation to Reduce EMI Noise
- Internal Soft-Start Integrated 700V HV Startup
- Brown-In/Brown-Out Protections
- X Capacitor Discharge Protection (Optional)
- Programmable Output OVP and UVP
- Current Sense Resistor Short Protection
- Internal and External
- Compact Package: SSOP9



Applications

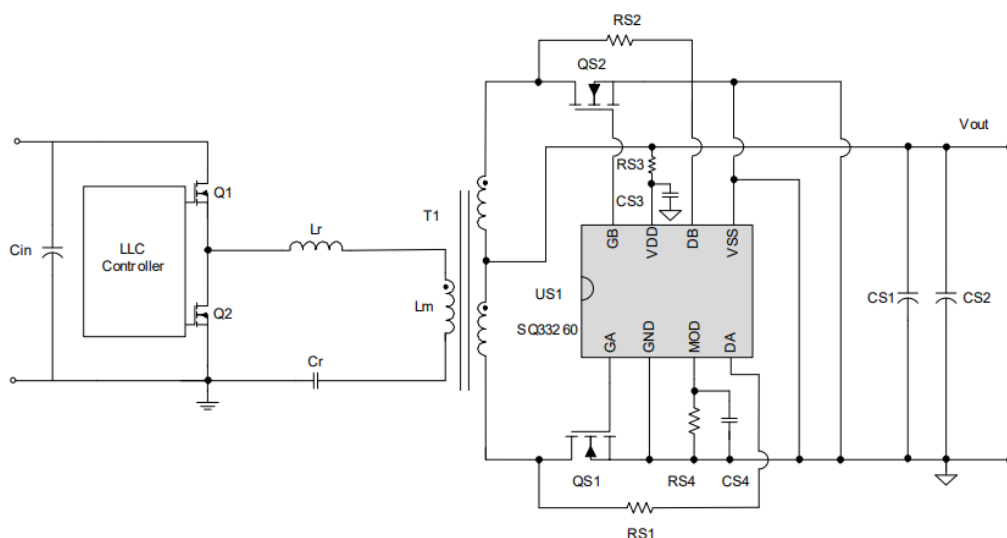
- AC/DC Adapters
- PD Adapters
- Quick Battery Chargers

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AC-DC LLC SR Controller for TV/PC/Gaming Adapter

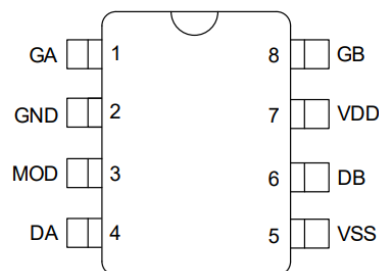
SQ33260FAP

Dual-Channel LLC Synchronous Rectification Controller



Features

- Dual-Channel SR Controller for LLC Resonant Converters
- Supports CCM, DCM Operation
- DA/DB Pins High-voltage Sensing up to 200V
- Wide 4.2V to 38V Power Supply Range
- 130μA Low Quiescent Current in Green Mode
- Dual-Channel Interlock to Prevent Short Circuit between Channels
- 15ns Fast Turn-Off Propagation Delay
- 1.7A Sink, 0.3A Source Gate Driver Capability
- Compact Package: SO8



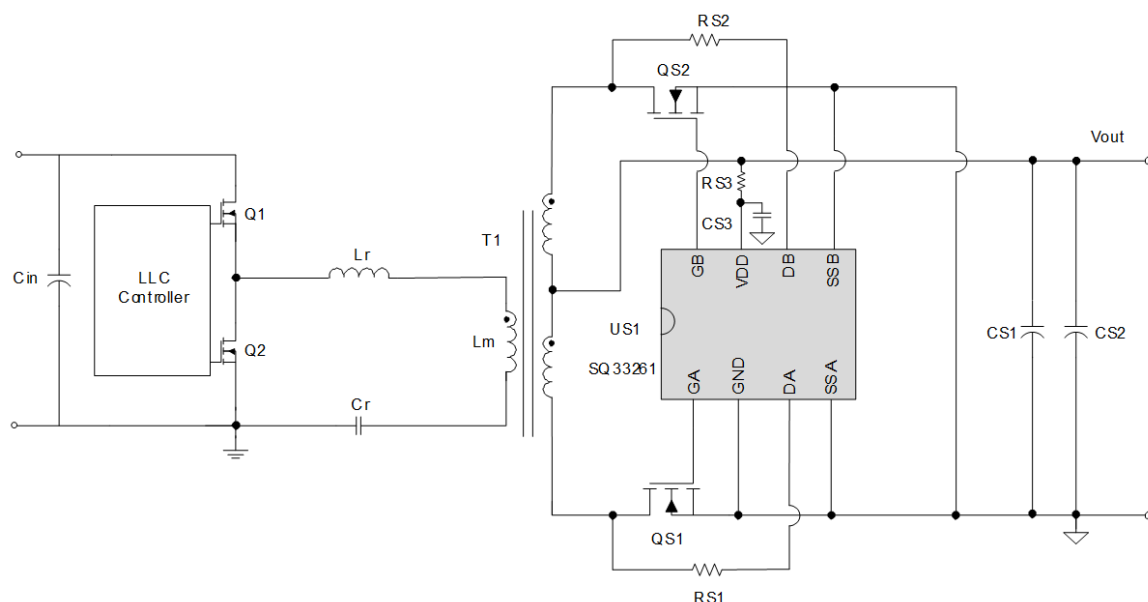
Applications

- Gaming Adapters
- Desktop, All-in-One PCs
- AC/DC Adapters

AC-DC LLC SR Controller for TV/PC/Gaming Adapter

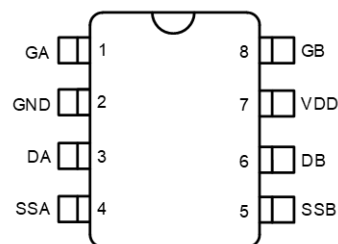
SQ33261FAP

Dual-Channel LLC Synchronous Rectification Controller



Features

- Dual-Channel SR Controller for LLC Resonant Converters
- Supports CCM, DCM Operation
- DA/DB Pins High-voltage Sensing up to 200V
- Wide 4.2V to 38V Power Supply Range
- 110 μ A Low Quiescent Current in Green Mode
- Dual-Channel Interlock to Prevent Short Circuit between Channels
- 15ns Fast Turn-Off Propagation Delay
- 1.7A Sink, 0.3A Source Gate Driver Capability
- Compact Package: SO8



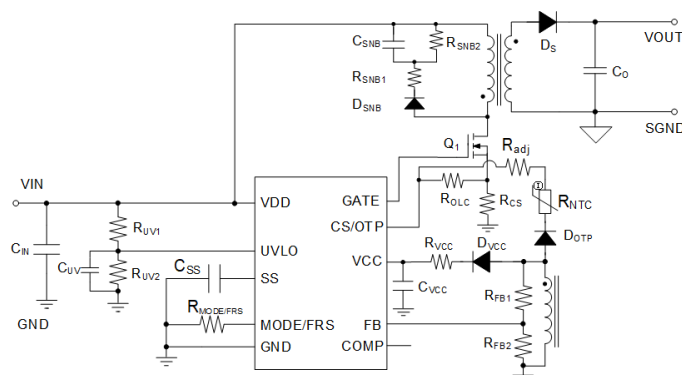
Applications

- Gaming Adapters
- Desktop, All-in-One PCs
- AC/DC Adapters

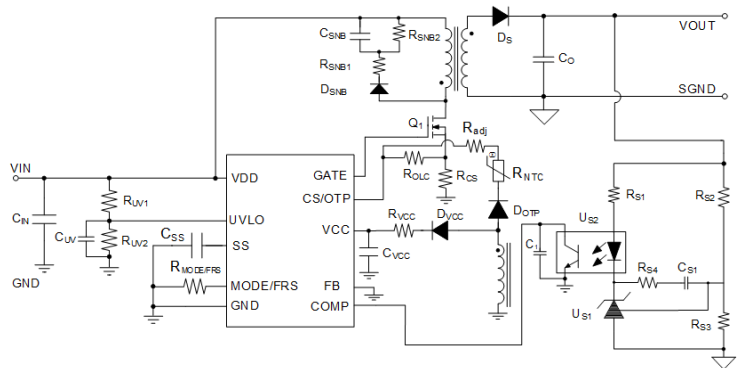
AC-DC LLC SR Controller for Industrial Auxiliary Power Supply

SQ33604AFBP

100V High Efficiency PSR/SSR Flyback Controller



Typical Application-Isolated PSR Flyback Converter



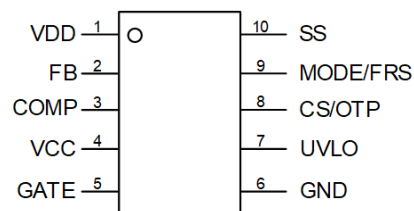
Typical Application-Isolated SSR Flyback Converter

Features

- Integrated 100V HV Start-up circuit
- Flexible Topology:
 - Primary-Side Regulated (PSR) Flyback (250kHz/400kHz Selectable)
 - Secondary-Side Regulated (SSR) Flyback (Programmable Frequency)
- Precision Voltage Reference
- Output Diode Compensation in PSR Mode
- Source/Sink=0.5A/0.9A GATE Drivers
- Programmable Soft-start
- Programmable Line Under Voltage Lockout (UVLO) with Adjustable Hysteresis
- External Programmable Thermal Shutdown
- OLP compensation for wide-input range
- Cycle-by-Cycle Current Sense Limit
- Frequency Modulation for EMI reduction
- Hiccup Protection for OLP, SCP, OVP and Thermal Shutdown

Applications

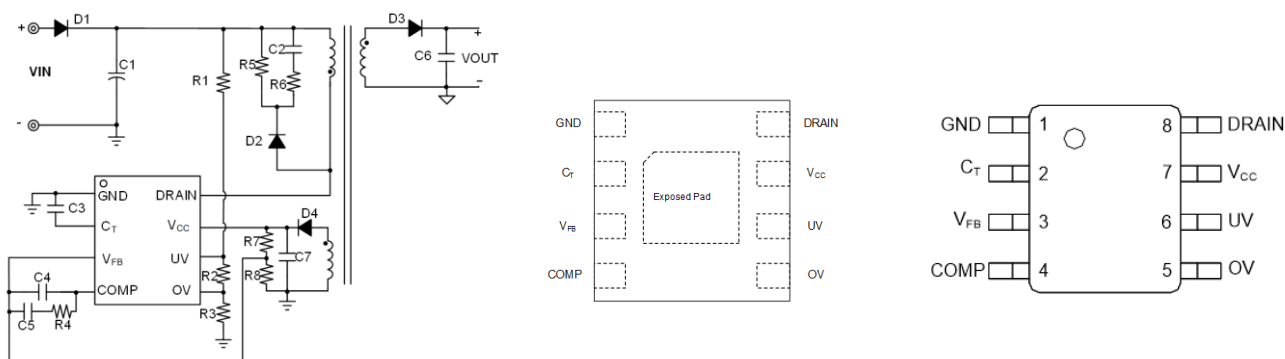
- Telecom Systems Isolated Power Supplies
- Industrial Isolated Power Supplies
- PoE (Power over Ethernet)/PD(Powered Device)



Isolated DC/DC Auxiliary Power Supply (Temp Range -40°C to 125°C)

SY26715BSXD/SY26713AFAP

PWM Convertor with On-Chip Power Switch and Start up Circuits for 48V Telecom Systems Gate Driver



Features

- On Chip 200V Power Switch Circuit and Startup Circuit
- Programmable Switching Frequency
- Input Undervoltage and Overvoltage Detectors
- Internal Cycle by Cycle Current Limit
- Reliable Protections for Safety Requirement
- RoHS Compliant and Halogen Free
- Compact Package: DFN4×4-8 package

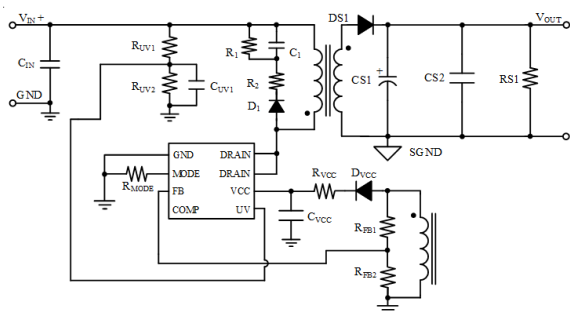
Applications

- Telecom Systems
- Wireless Base Station
- Low Power Bias Supply
- PoE (Power over Ethernet)/PD (Powered Device)

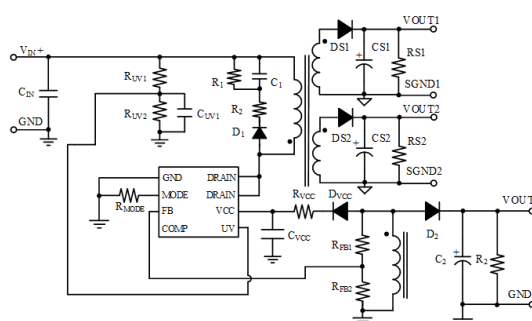
Isolated DC/DC Auxiliary Power Supply (Temp Range -40°C to 125°C)

SY26765IGD

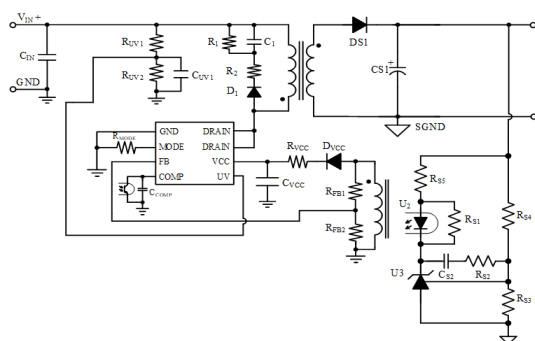
Integrated High Frequency Flyback DC-DC Converter for 48V Telecom Systems



Typical Application Circuit-PSR



Multi-output Voltage Application Circuit (PSR)



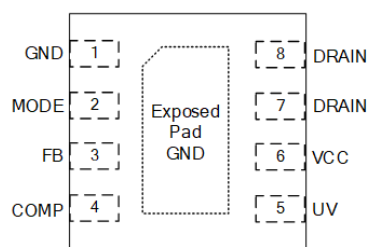
Single-output Voltage Application Circuit (SSR)

Features

- On Chip 180V Power Switch Circuit and Startup Circuit
- 3.2A Switching Current Limit (Typ)
- PSR/SSR Mode can be Selected
 - PSR(QR): 400kHz /800kHz Frequency Limit
 - SSR (fixed frequency): 200kHz≤f_{SW}≤900kHz
- Internal Soft-start
- Frequency Modulation
- Cycle by Cycle Current Limit Using SENSEFET
- Active LEB Circuit
- Line Undervoltage Detectors
- Output Over Load Protection
- Output Over Voltage Protection
- Over Temperature Protection
- Compact Package: DFN5×6-8

Applications

- Telecom Systems
- Wireless Base Station
- PoE (Power over Ethernet)/PD (Powered Device)
- Stand Alone Power DC-DC Converters
- Secondary Side Bias Supply for Isolated DC-DC Converters

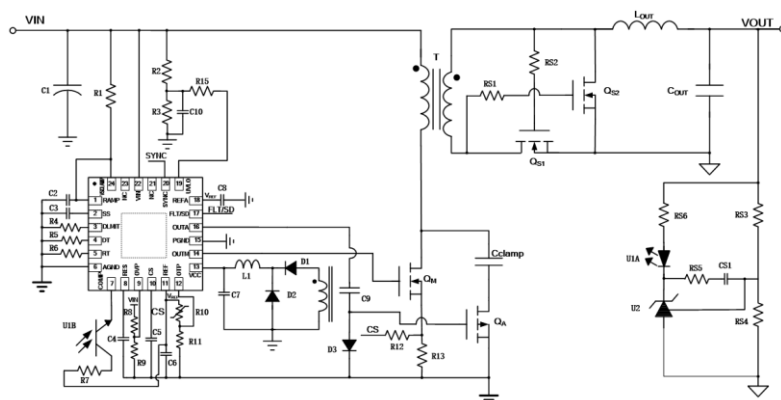


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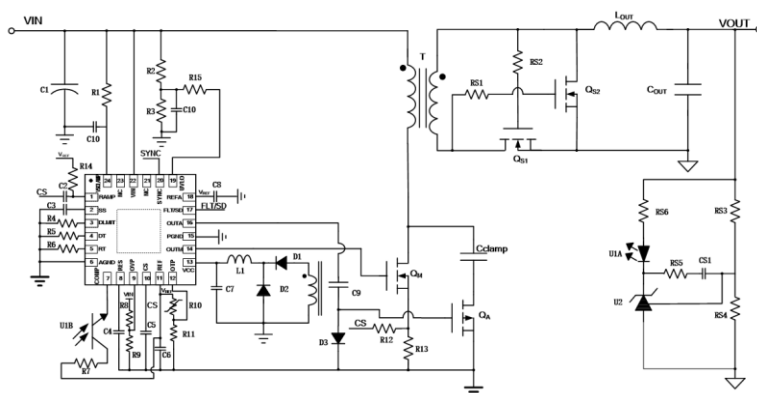
Isolated DC/DC Auxiliary Power Supply (Temp Range -40°C to 125°C)

SY26625QCC

Highly integrated Active Clamp PWM Controller



Voltage mode control



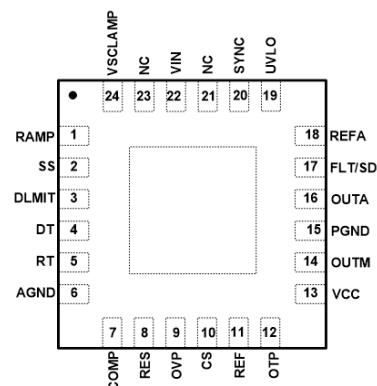
Current mode control

Features

- Support Voltage Mode Control and Peak Current Mode Control
- Integrated 120V High Voltage Startup Circuit
- Programmable Soft Start
- Programmable Oscillator with a 1MHz Maximum Frequency
- Programmable Maximum Duty Ratio Clamp
- Adaptive delay time Control for Improved Efficiency
- Line voltage under voltage protection
- Cycle by Cycle Peak Current Limiting
- Over current Protection
- Short Circuit Protection
- External Over temperature Protection
- Package: QFN4x4-24

Applications

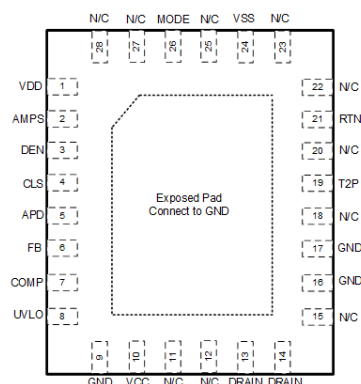
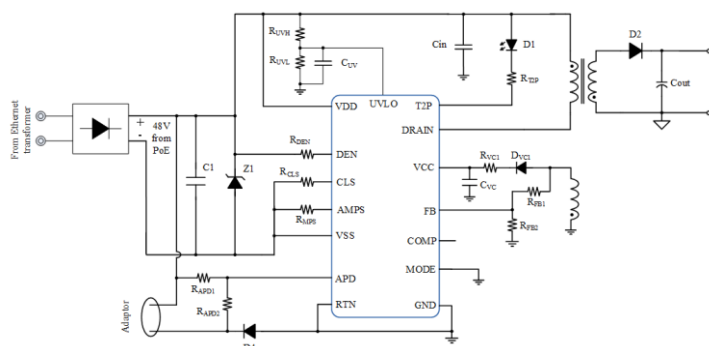
- Telecom Systems
- Server Power Supplies


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IEEE 802.3 af/at/bt-Compatible PoE PD Interface with DCDC Converter (Temp Range -40°C to 125°C)

SY23216TQQ

IEEE 802.3 af/at-Compatible PoE Power Device Interface with 13W High-frequency Flyback



Features

- Supports the IEEE 802.3 af/at Standard
- 100V, 0.45Ω Hot-swap Switch
- Adaptor ORing Support
- Power up to 13W(Input) PDs
- Auto-maintain Power Signature
- Primary Side Regulate Flyback with QR-mode Operation and PWM/PFM Control
- Secondary Side Regulate Flyback with Selectable Frequency and Internal Slope Compensation
- Integrate 180V, 0.65Ω MOSFET for Converter
- RoHS Compliant and Halogen Free
- Compact Package: QFN4×5-28

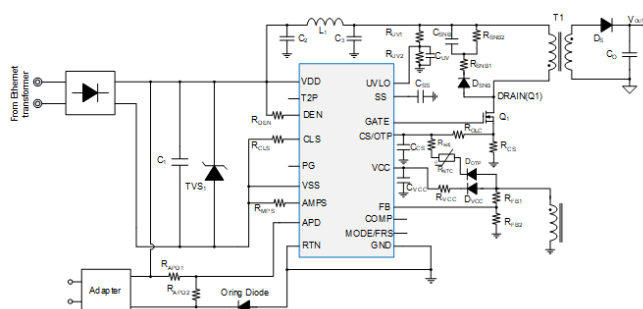
Applications

- IEEE 802.3af/at Complaint Devices
- Video and VoIP Telephones
- RFID Readers
- Multi-band Access Points
- Security Cameras

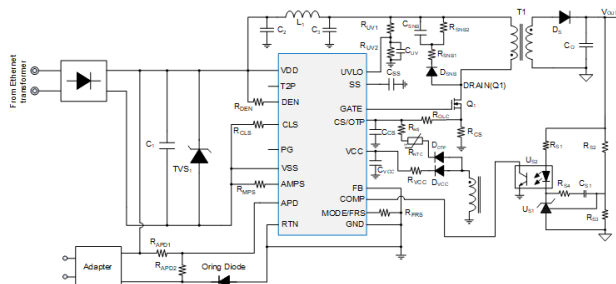
IEEE 802.3 af/at/bt-Compatible PoE PD Interface with DCDC Converter (Temp Range -40°C to 125°C)

SQ33607QYQ

IEEE 802.3af/at Compliant PoE PD Interface with High Efficiency PSR/SSR Flyback Controller



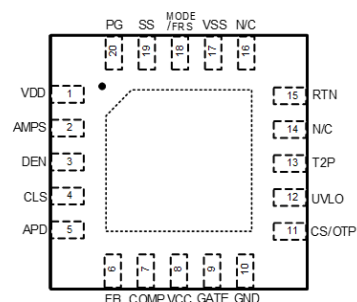
PSR Flyback Converter



SSR Flyback Converter

Features

- Fully Compatible with 802.3af/at Specifications
- 100V 0.45Ω PD Integrated Pass Switch
- 30W maximum power
- 100mA PD Inrush Current limit
- 900mA PD Normal Operation Current Limit
- Auxiliary Adaptor ORing Support
- Flexible Topology:
 - Primary-Side Regulated (PSR) Flyback (250kHz/400kHz Selectable)
 - Secondary-Side Regulated (SSR) Flyback (Programmable Frequency)
- Output Diode Compensation in PSR Mode
- Cycle-by-Cycle Current Sense Limit
- Precision Voltage Reference
- Frequency Modulation for EMI reduction
- Programmable Soft-start
- OLP Compensation for Wide-Input Range
- Externally Programmable Thermal Shutdown
- Programmable Line Under Voltage Lockout (UVLO) with Adjustable Hysteresis
- Hiccup Protection for OLP, SCP, OVP and Thermal Shutdown



Applications

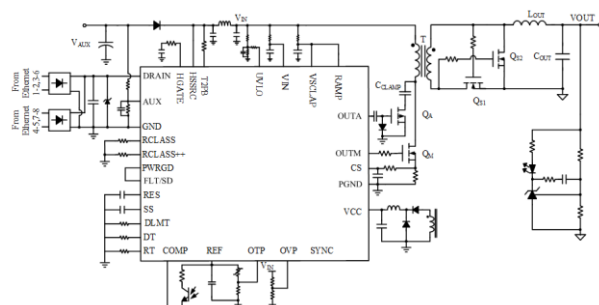
- IEEE 802.3af/at-Compliant Devices
- Security Cameras
- Video Telephones
- WLAN Access Points
- IoT Devices

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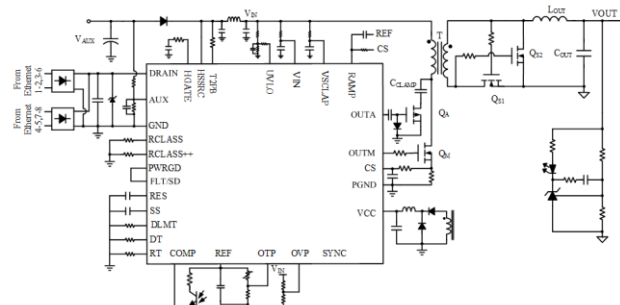
IEEE 802.3 af/at/bt-Compatible PoE PD Interface with DCDC Converter (Temp Range -40°C to 125°C)

SQ33608WSQ

IEEE 802.3bt PD Interface with Highly Integrated Active Clamp PWM Controller



Voltage mode control



Current mode control

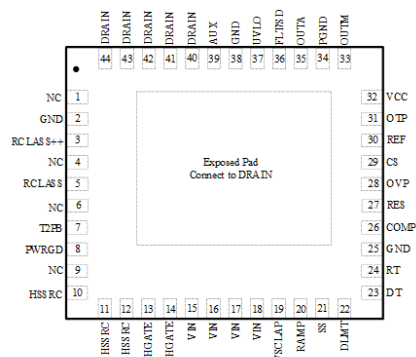
Features

PD Interface Section

- IEEE 802.3af/at/bt-compliant powered device (PD) interface
- Supports Up to 71.3W PDs
- 5-Event Classification Sensing
- Superior Surge Protection (100V Absolute Maximum)
- 100V, 60mΩ, N-channel Hot Swap MOSFET
- Integrated Signature Resistor
- Configurable Aux Power Support as Low as 9V
- Over Temperature Protection

DC-DC Controller Section

- Support Voltage Mode Control and Peak Current Mode Control
- Integrated 120V High Voltage Startup Circuit
- Programmable Soft Start
- Programmable Oscillator with a 1 MHz Maximum Frequency
- Programmable Maximum Duty Ratio Clamp
- Adaptive delay time Control for Improved Efficiency
- Line voltage under voltage protection
- Cycle by Cycle Peak Current Limiting
- Over current Protection
- Short Circuit Protection
- External Over temperature Protection
- Package: QFN6*5-44



Applications

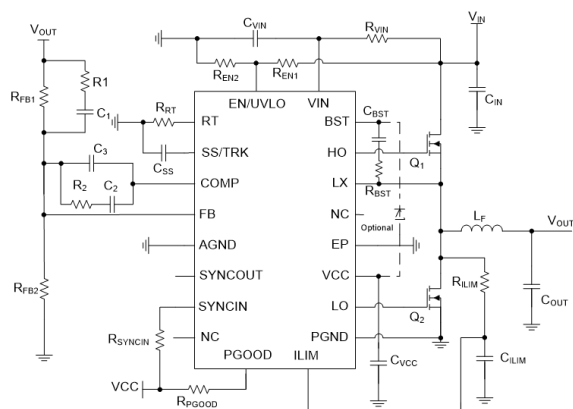
- High Power Wireless Data Systems
- Outdoor Security Camera Equipment
- Commercial and Public Information Displays
- High Temperature Industrial Applications

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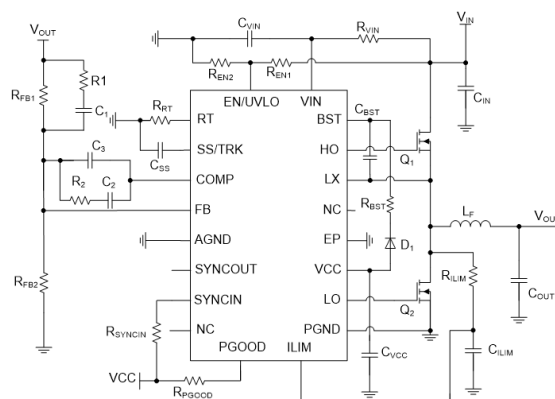
High voltage Synchronous Buck Controller (Temp Range -40°C to 125°C)

SY26635/8WAQ

6V to 75V Synchronous Buck Controller With Wide Duty Cycle Range



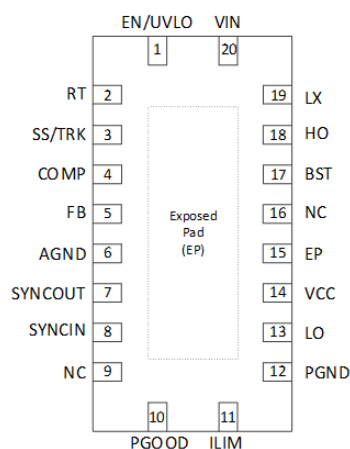
SY26635WAQ



SY26638WAQ

Features

- 6V to 75V Input Voltage Range
- 0.8V to 60V Output Voltage Range
- Switching Frequency: 100kHz~1MHz
- SYNC In/Out Capability
- Soft-Start or Voltage Tracking
- 0.8V \pm 1% Reference Voltage
- Minimum On-time: 60ns Typical
- Minimum Off-time: 240ns Typical
- Type III Voltage-mode Control with Feedforward
- High Gain-bandwidth Error Amplifier
- Open-drain Power Good Indicator
- Protection Features
 - Cycle-by-cycle Over Current Protection
 - Prevent Reverse Charging Protection
 - Input UVLO with Hysteresis
 - VCC and BST UVLO Protection
 - Thermal Shutdown Protection with Hysteresis
- Compact Package: QFN3.5x4.5-20
- External BST diode is required in SY26638WAQ



Applications

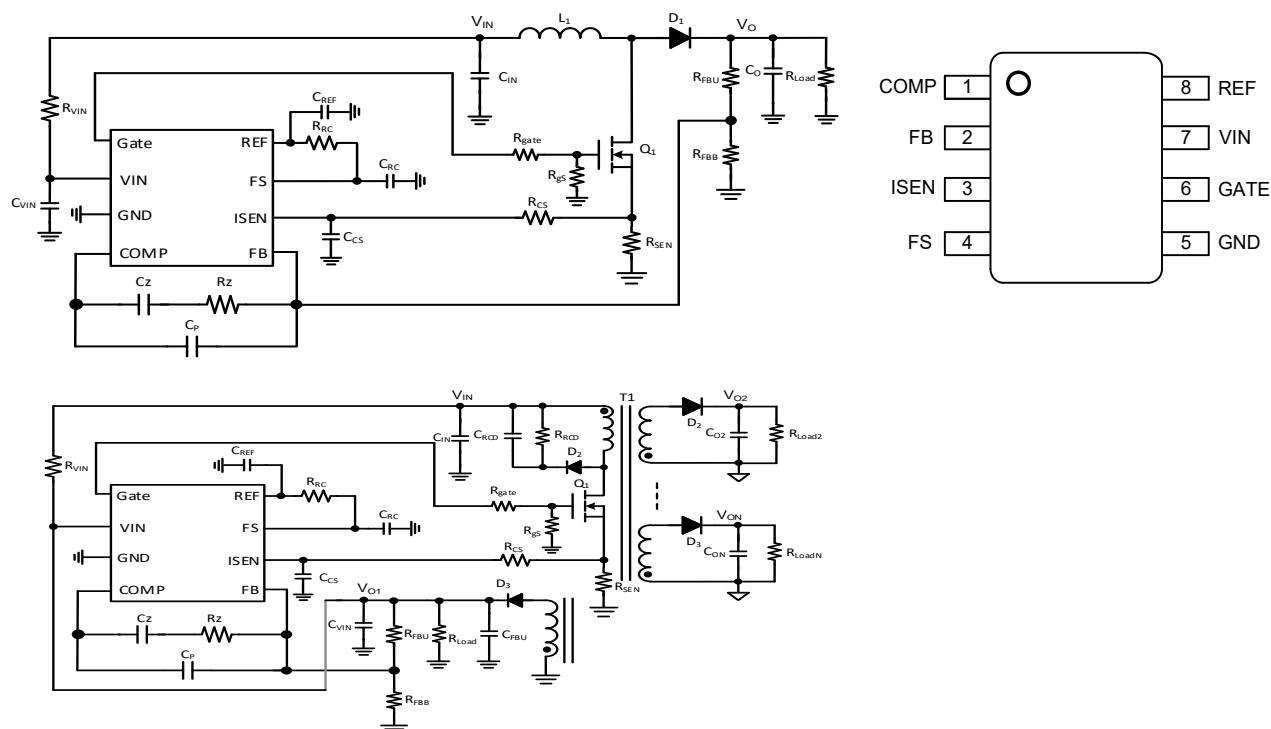
- Telecom Power Application
- RF Power Application
- Commercial Drone Application

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Auxiliary Power Supply (Boost/Flyback Controller) (Temp Range -40°C to 105°C)

SQ35702B/C/EFAP

Boost/Flyback Current Mode Controller



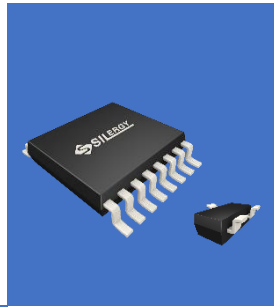
Features

- 10-22V input voltage range
- $\pm 2\%$ accuracy for REF and FB reference
- Flexible frequency and minimum off time set by FS pin and up to 500kHz switching frequency
- Cycle by cycle current limit(1V) and over current limit (1.1V) for ISEN
- Package:SO8

Applications

- Switch mode power supplies (SMPS)
- DC-to-DC converters
- Power modules
- Battery-operated Power Supply Unit

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Signal Chain

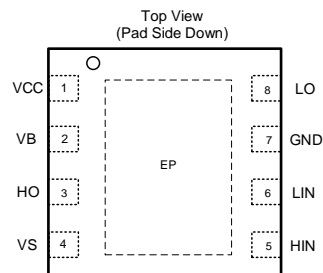
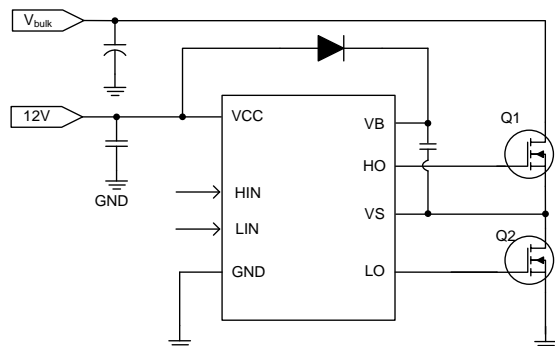
Gate Driver (Temp Range: -40°C to 125°C)

Part Number	Recommended Operating Voltage Min(V) Max(V)		Maximum Driver Current	Fast Propagation Delay Time Turn On Turn off		Bootstrap Diode Integrated	Typical Application	Package
SY21664BSXD	8	17	4A	25ns	30ns	No	Telecom/Datacom/Half-bridge and Full-bridge Converters	DFN4×4-8
SQ37509VAQ	7.5	150	3A	28ns	25ns	No	Renewable Energy Designs	QFN5×5-24
SQ33080FAP	4.5	26	5A/5A	13ns	13ns	No	Telecom/EV Chargers Solar Inverters/Server	SOP8
NEW SQ33080ACBP	4.5	26	5A/5A	13ns	13ns	No	Telecom/EV Chargers Solar Inverters/Server	MSOP8E
NEW SQ33080BDAD	4.5	26	5A/5A	13ns	13ns	No	Telecom/EV Chargers Solar Inverters/Server	DFN3*3-8
SQ55800AHWP	Pri: 3 Sec: 9.2	Pri: 18 Sec: 25	5A/8A	32ns	32ns	No	EV Chargers Server Power Supplies Solar Inverters	SOP14W

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SY21664BSXD

120V High-side and Low-side Gate Driver

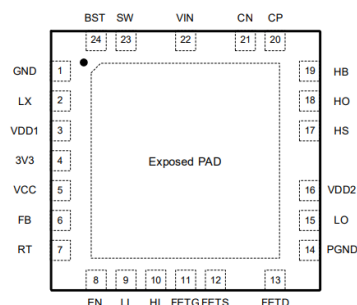
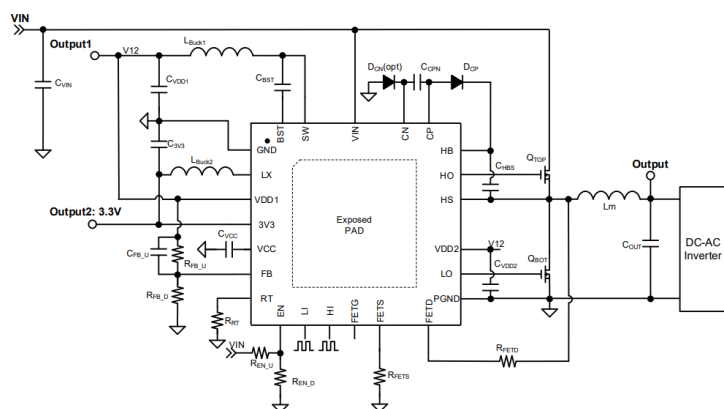


Features

- High Voltage Range up to 120 V
- 4A Sink and 4A Source Current
- VCC Operation Range from 8 V to 17 V
- CMOS/TTL Compatible
- 7.2ns Rise and 5.5ns Fall Time with 1000pF Load
- Fast Propagation Delay Time
- 5ns Delay Matching
- DFN4×4-8 package
- Industrial Standard

Applications

- Telecom, Datacom
- Half-bridge and Full-bridge Converters

SQ37509VAQ**120V150V, Dual Output Step-down Converter, and Half Bridge Driver with Charge Pump****Features**

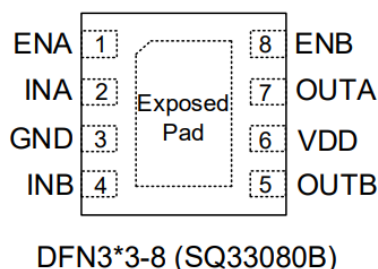
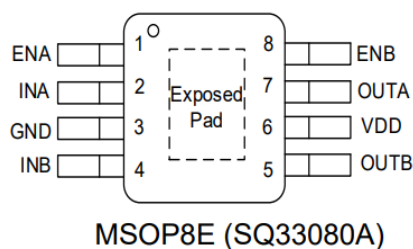
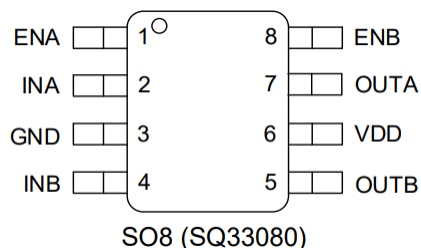
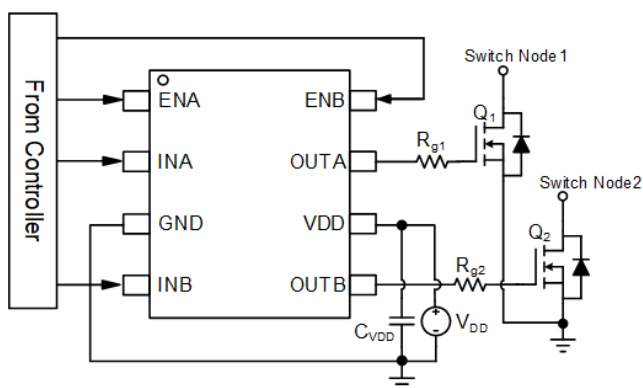
- Wide Input Voltage Range: 7.5V-150V
- Dual Output Current Capability: VDD1 Buck1: Continuous 200mA @VDD1=12.5V 3V3 Buck2: Continuous 400mA / Pulsed 800mA
- Constant On-Time Control
- Switching Frequency VDD1 Buck1: Programmable 350 kHz~650 kHz 3V3 Buck2: Fixed 1MHz
- $\pm 2\%$ 3.3V Output Accuracy Over -40°C to +125°C Temperature Range
- Internal Soft-Start Limits Inrush Current
- High Source/Sink Current: 3A/3A
- CMOS/TTL Compatible Input Versions
- 5.7ns Rise and 4ns Fall Time with 1000pF
- Fast Propagation Delay Times
- 5ns Delay Matching
- Charge Pump Current capability: $\geq 25\text{mA}$
- Compact package: QFN5x5-24

Applications

- Renewable Energy Designs

SQ33080FAP/SQ33080ACBP/SQ33080BDAD

Dual 5A, High Speed, Low-Side Gate Drivers

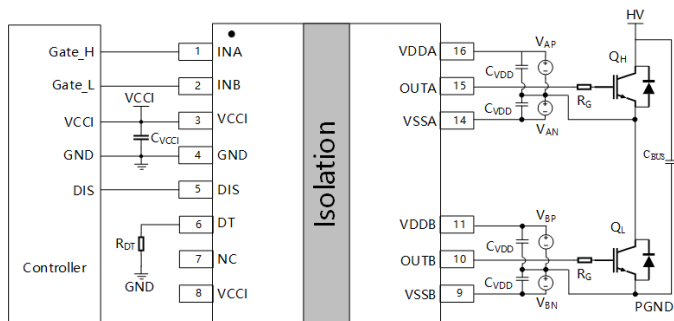
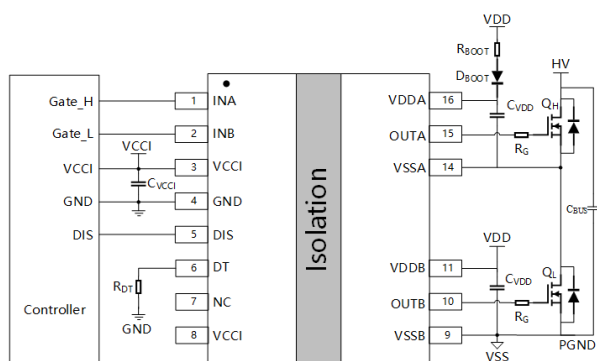


Features

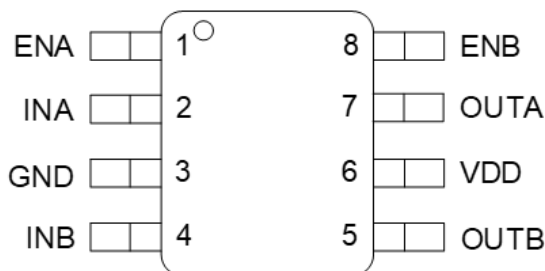
- Two Independent Gate-Driver Channels
- High-Current Drive Capability of $\pm 5A$
- -10V Handling Capability at Inputs
- Independent Enable Functions for Each Driver
- Input Logic Levels Independent of Supply
- Input Voltage Compatible with TTL and CMOS
- Hysteretic-logic Threshold for High Noise Immunity
- Power Supply Voltage Range from 4.5V to 26V
- Fast Rise and Fall Times
- Fast Propagation Delay Time
- 1ns(typical) Delay Matching between Two Channels
- Two Outputs can be Paralleled for Higher Drive Current
- Outputs Stay Low when Inputs Floating
- Operating Temperature Range: -40°C to +125°C
- Package: SQ33080: SO8
SQ33080A: MSOP8E
SQ33080B: DFN3*3-8

Applications

- DC/DC Converters
- Synchronous rectifiers
- Server Power Supplies
- Motor Drivers
- Solar Inverters

SQ55800AHWP**Isolated Dual-channel 5A/8A Gate Driver****Features**

- Insulation voltage:
 - 5700Vrms input-to-output Per UL1577
 - $\pm 1850\text{V}$ channel-to-channel
- CMTI Higher Than $\pm 150\text{V/ns}$
- Switching Parameters:
 - 32ns Typical Propagation Delay
 - 10ns Minimum Pulse Width
 - 5ns Maximum Delay Matching
 - 6ns Maximum Pulse-Width Distortion
- 5A Peak Source, 8A Peak Sink Output
- 3V to 18V Input Power Supply Range
- Up to 25V Output Power Supply
- Programmable Dead Time
- Isolation Barrier Life >40 Years
- Operating Temperature Range: -40°C to $+125^\circ\text{C}$
- Package: SOP14W

**Applications**

- Isolated AC/DC and DC/DC Converters
- EV Chargers
- Server Power Supplies
- Motor Drivers
- Solar Inverters
- UPS and Battery Chargers

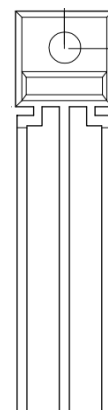
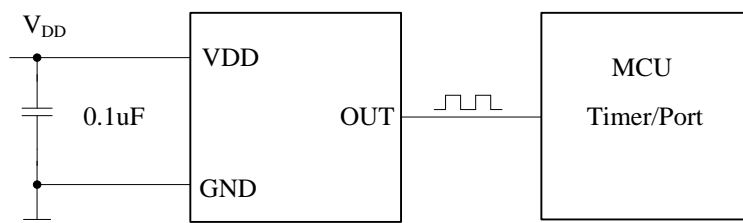
Light Sensor(Temp Range: -40°C to 85°C)

Part Number	Operating Voltage	Function	Typical Current	Resolution	Typical Applications	Package
SY22382-H2	2.7~3.6V	Light Sensor with Frequency Output	1mA	2.95kHz/(μW/cm2)	Pulse Oximeter	DIP4646
SQ81137AS22-J00	2.5-3.6V	Ambient Light Sensor	150μA	0.0002lux	CMS	SMD2020-6

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SY22382-H2

Light Sensor with Frequency Output



Features

- High-resolution Conversion of Light Intensity to Frequency without External Components
- Low Dark Frequency <1Hz at 50°C
- Single-supply Operation 2.7V to 3.6V
- Interfaces Directly to a Microcontroller
- RoHS Compliant

Applications

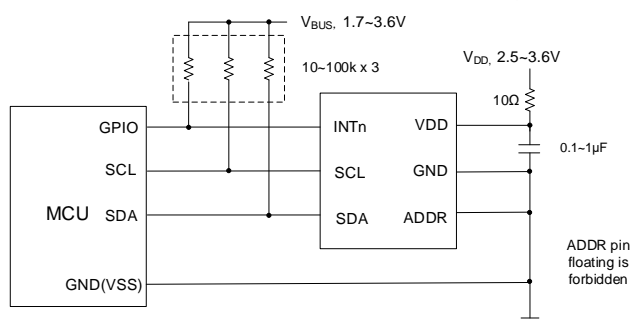
- Pulse Oximeter

SQ81137AS22-J00

Light Sensor

Features

- Electrical Operation Performance:
 - Power Supply Voltage: 2.5V~3.6V
 - Operation Current: 150μA
 - Shutdown Current: Less Than 10μA
 - Operation Temperature: -40°C to +85°C
- Ambient Light Sensing:
 - ALS Channel with Photopic Coating and CLEAR Channel Without Coating
 - Programmable Gain Settings from 256x to 1x
 - Programmable Integration Time Settings Ranging from 25ms to 800ms
- Programmable Sleep Time Between Two Sequential ADC Cycles for Power-Saving
- High Sensitivity 0.0002 Lux/Count at IT=800ms and Gain=256x
- Measurement Range: 0.0002~107k Lux for ALS Channel
- Hardware Interrupt Pin with Programmable Configuration
- BT Substrate with Transparent Molding Compound
- Package Size: 2.0×2.0×0.6mm³



Applications

- CMS

Current Sense Amplifier (Temp Range: -40°C to 125°C)

Part Number	Description	Supply Voltage (V)	CM Sense Range(V)	DM Sense Range (mV)	I _Q (Typ) (uA)	Gain (V/V)	Gain Error (Max)	Offset (Max) (uV)	Output Mode	Alert	Feature/ Special Function	Package
SY24641AHT	Current-sense Amplifier	3-5.5	-0.3-26	±90	80	50	±0.5%	±100	Analog	No	High- or low side bidirectional	SOT363
SY24642AHT	Current-sense Amplifier	3-5.5	-0.3-26	±45	78	100	±0.5%	±50	Analog	No	High- or low side bidirectional	SOT363
SY24647AHT	Current-sense Amplifier	3-5.5	-0.1-26	±24	78	200	±0.5%	±35	Analog	No	High- or low side bidirectional	SOT363
SY24644WMS	Current-sense Amplifier	1.8-5.5	1.8-5.5	52	18	100	±0.18%	±45	Analog	No	Small Size, low power, Unidirectional	CSP0.76×0.76-4
NEW SQ52131CHMP	High-accuracy Current-sense Amplifier	2.7-5.5	-4-80	±98	1800	50	±0.15%	±22	Analog	No	-4-80V wide VCM range & Enhanced PWM Rejection	TSSOP8
NEW SQ52131FAP	High-accuracy Current-sense Amplifier	2.7-5.5	-4-80	±98	1800	50	±0.15%	±22	Analog	No	-4-80V wide VCM range & Enhanced PWM Rejection	SOP8
SQ52132AAT	High-speed Current-sense Amplifier	2.7-5.5	-4-80	48	1300	100	±0.2%	±65	Analog	No	-4-80V wide VCM range & 1M High Bandwidth	SOT23-5
SQ52132DAAT	High-speed Current-sense Amplifier	2.7-20	-4-80	198	1300	100	±0.2%	±65	Analog	No	-4-80V wide VCM range & 1M High Bandwidth	SOT23-5
SY24640FBP	Current-sense Comparator	2.7-5.5	0-36	250	135	/	/	-500	CMP	Yes	3 Delay time Programmable Alert Threshold	MSOP10
SY24640TDD	Current-sense Comparator	2.7-5.5	0-36	250	135	/	/	-500	CMP	Yes	3 Delay time Programmable Alert Threshold	DFN2x2-10
SY24631CAP	Current-sense Amplifier & Comparator	2.7-5.5	0-36	250	300	20	±0.1%	±125	AMP+CMP	Yes	Programmable Alert Threshold	MSOP8
SY24632CAP	Current-sense Amplifier & Comparator	2.7-5.5	0-36	100	300	50	±0.15%	±50	AMP+CMP	Yes	Programmable Alert Threshold	MSOP8
SY24633CAP	Current-sense Amplifier & Comparator	2.7-5.5	0-36	50	300	100	±0.2%	±35	AMP+CMP	Yes	Programmable Alert Threshold	MSOP8
SY24634CAP	Current-sense Amplifier & Comparator	2.7-5.5	0-36	50	300	100	±0.2%	±35	AMP+CMP	Yes	Programmable Alert Threshold	MSOP8

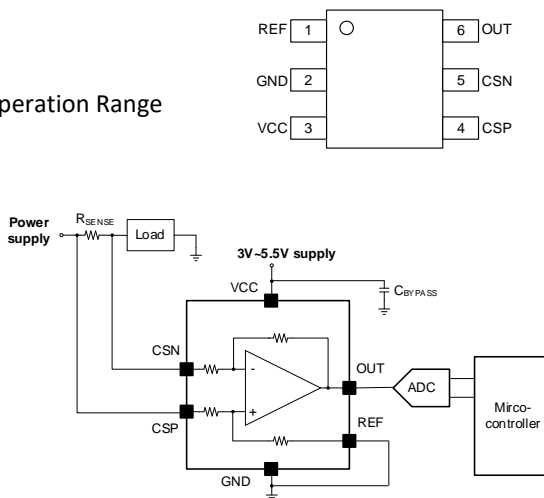
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Current Sense Amplifier (Temp Range: -40°C to 125°C)

SY24641/SY24642/SY24647AHT

High-Side or Low-Side Bidirectional, High-Accuracy, Current-Sense Amplifier

- 4 to 36V Input Voltage Range
- Voltage-Output, Current-sense Monitor
- -0.3V–26V (SY24641/2) -0.3V–26V (SY24647) Common-Mode Operation Range
- 100μA (Maximum) Quiescent Current
- High Accuracy: $\pm 0.5\%$ Gain Error (Maximum)
- Gain: 50V/V (SY24641), 100V/V (SY24642), 200V/V (SY24642)
- Amplifier Output Referenced to VREF input
- Shunt Maximum Input Voltage Range:
 - SY24641:
 - -40mV to 40mV (VCC=5V, REF=2.5V)
 - 1mV to 90mV (VCC=5V, REF=0V)
 - SY24642:
 - -20mV to 20mV (VCC=5V, REF=2.5V)
 - 1mV to 45mV (VCC=5V, REF=0V)
 - SY24647:
 - 10mV to 10mV (VCC=5V, REF=2.5V)
 - 1mV to 24mV (VCC=5V, REF=0V)
- Low Offset Voltage(Maximum):
 - $\pm 100\mu\text{V}$ (SY24641),
 - $\pm 50\mu\text{V}$ (SY24642)
 - $\pm 35\mu\text{V}$ (SY24647)
- 0.5μV/°C Offset Drift (Maximum)
- 10ppm/°C Gain Drift (Maximum)
- Package: SOT363



Applications

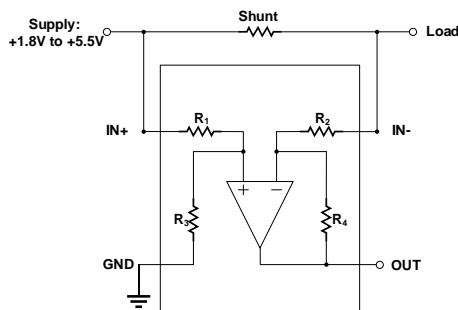
- Notebook PCs
- Smartphones
- Micro-inverters
- Battery Chargers
- Power Management
- Telecom Equipment

SY24644WMS

Small Size, Low-Power, Unidirectional, Zero-Drift Current-sense Amplifier

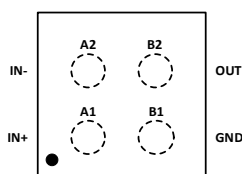
Features

- Voltage-output, Current-sense Amplifier
- Common-mode Range: +1.8V to +5.5V
- Gain=100V/V
- Low offset Voltage: $\pm 7\mu\text{V}$ (typical)
- Offset Drift: 0.2 μV/°C (maximum)
- Gain Error: 0.06% (typical)
- Gain Drift: 1 ppm/°C (maximum)
- Quiescent Current: 18μA (typical)
- Buffered Voltage Output: No Additional OP Amp Needed
- Compact Package: CSP0.76×0.76-4



Applications

- Notebook Computers
- Cell Phones
- Telecom Equipment
- Power Management
- Battery Chargers

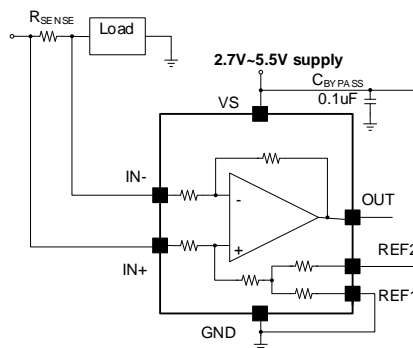

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SQ52131CHMP/SQ52131FAP

-4V to 80V, High- and Low-Side, Bidirectional, Zero-Drift, Current-Sense Amplifier with Enhanced PWM Rejection

Features

- -4V to 80V Wide Common-Mode Operation Range
- Voltage-Output, Current-Sense Amplifier
- Enhanced PWM Rejection
- Excellent CMRR:
 - 132dB DC CMRR
 - 93dB AC CMRR at 50kHz
- High Accuracy:
 - Gain Error: 0.15% (Max)
 - Gain Drift: 2.5ppm/°C (Max)
- Low Offset Voltage:
 - Offset Voltage: $\pm 22\mu\text{V}$ (Max)
 - Offset Drift: 250nV/°C (Max)
- High Bandwidth: 550kHz
- Fixed Gain: 50V/V
- Quiescent Current: 2.4mA (Max)
- Package: TSSOP8/ SOP8
- MSL Rating: MSL3(TSSOP8/ SOP8)



Applications

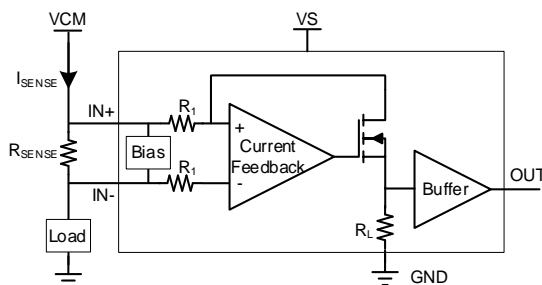
- Motor Controls
- DC/DC Converters
- Power Management
- Battery Management Systems (BMS)
- Pressure Regulators
- Telecom Equipment

SQ52132AAT/SQ52132DAAT

-4V to 80V, 1MHz, High-Precision, High-side or Low-side Current-Sense Amplifier

Features

- Supply Voltage Range: 2.7V to 5.5V(SQ52132) 2.7V to 20V(SQ52132D)
- Wide Common-mode Range:
- Operational Voltage: -4V to 80V
- Survival Voltage: -6V to +90V
- Excellent CMRR:
 - 126dB (Minimum) DC CMRR
 - 80dB (Typical) AC CMRR@50kHz
- High-Accuracy:
 - Offset Voltage: $\pm 65\mu\text{V}$ (Maximum)
 - Offset Voltage Drift: $\pm 0.5\mu\text{V}/^\circ\text{C}$ (Maximum)
 - Gain Error: $\pm 0.2\%$ (Maximum)
 - Gain Error Drift: $\pm 10\text{ppm}/^\circ\text{C}$ (Maximum)
- Fixed Gain: 100V/V
- High Bandwidth: 1MHz
- Slew Rate: 10V/ μs
- Quiescent Current: 1.3mA (Typical)



Applications

- Over-current Protection
- Servers
- Power Supplies
- Telecom Equipment
- Battery Management Systems (BMS)

SY24640FBP/SY24640TDD

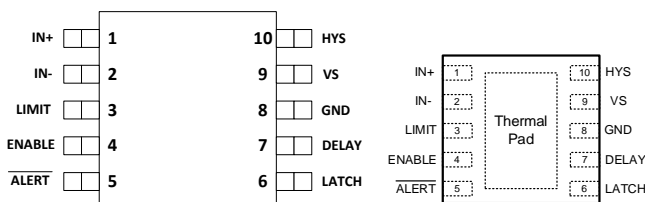
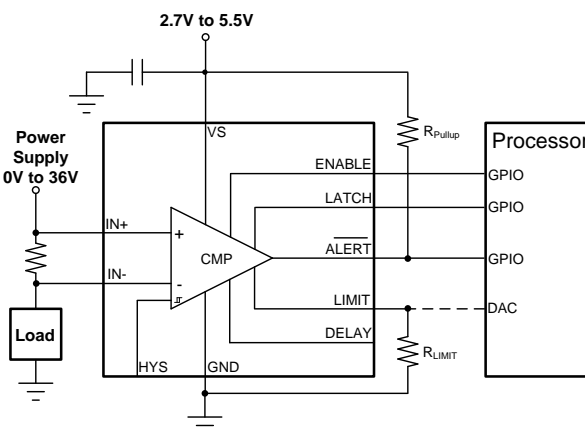
Current Sense Comparator with Overcurrent Protection

Features

- High-resolution Conversion of Light Intensity to Frequency without External Components
- Low Dark Frequency <1Hz at 50°C
- Single-supply Operation 2.7V to 3.6V
- Interfaces Directly to a Microcontroller
- RoHS Compliant
- Wide Common Mode Range: 0V ~ 36V
- Accuracy:
 - Offset Voltage: $\pm 500\mu\text{V}$ (Max)
 - Offset Voltage Drift: $0.5\mu\text{V}/^\circ\text{C}$ (Max)
- Programmable Threshold:
 - Adjust Using Single Resistor
 - Programmable from 0 mV to 250 mV
- Active Quiescent Current: 135 μA (Typ)
- Selectable Disable Mode
 - Disabled Quiescent Current: 1.2 μA (Max)
 - Disabled Input Bias Current: 500nA (Max)
- Three Selectable Response Times: 10 μs , 50 μs , 100 μs
- Three Selectable Hysteresis: 2 mV, 4 mV, 8 mV
- Open Drain Output with Latch Mode Available
- Packages: DFN2 \times 2-10 and MSOP10

Applications

- Over-current Protection
- Computers
- Servers
- Telecom Equipment
- Power Supplies
- Battery Chargers



SY24631/SY24632/SY24633CAP

36V High-Speed Zero-Drift Voltage Output

Current-Shunt Monitor with High-Speed Overcurrent Comparator

Features

- Wide Common-mode Range: 0V to 36V
- Dual Output: Amplifier and Comparator Output
- High-Accuracy Amplifier:

SY24631

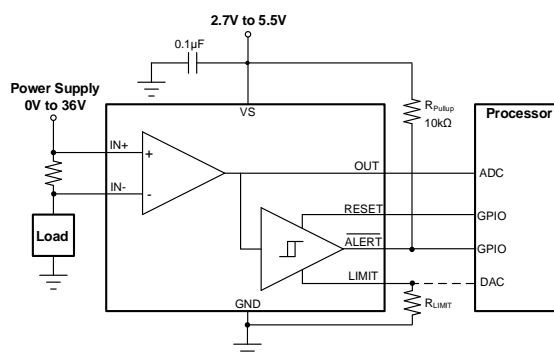
- Offset Voltage: 125 μ V (Max)
- Offset Voltage Drift: 0.5 μ V/°C (Max)
- Gain Error: 0.1% (Max)
- Gain Error Drift: 10ppm/°C (Max)

SY24632

- Offset Voltage: 50 μ V (Max)
- Offset Voltage Drift: 0.5 μ V/°C (Max)
- Gain Error: 0.15% (Max)
- Gain Error Drift: 10ppm/°C (Max)

SY24633

- Offset Voltage: 35 μ V (Max)
- Offset Voltage Drift: 0.5 μ V/°C (Max)
- Gain Error: 0.2% (Max)
- Gain Error Drift: 10ppm/°C (Max)
- Available Amplifier Gain: 20V/V(SY24631) 50V/V(SY24632) 100V/V(SY24633)
- Programmable Alert Threshold Setting through a Single Resistor
- Total Alert Response Time: 0.75 μ s
- Open-drain Output with Latching Mode
- Package: MSOP8



Applications

- Over-current Protection
- Power-Supply Protection
- Circuit Breakers
- Computers and Servers
- Telecom Equipment
- Battery Management

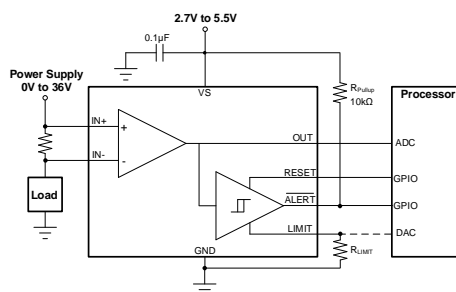
SY24634CAP

36V High-Speed Zero-Drift Voltage Output

Current-Shunt Monitor with High-Speed Under-current Comparator

Features

- Wide Common-mode Range: 0V to 36V
 - Dual Output: Amplifier and Comparator Output
 - High-Accuracy Amplifier:
- Offset Voltage: 35 μ V (Max)
 - Offset Voltage Drift: 0.5 μ V/°C (Max)
 - Gain Error: 0.2% (Max)
 - Gain Error Drift: 10ppm/°C (Max)
- Available Amplifier Gain: 100V/V
 - Programmable Alert Threshold Setting through a Single Resistor
 - Total Alert Response Time: 3 μ s
 - Open-drain Output with Latching Mode
 - Package: MSOP8



Applications

- Under-current Protection
- Power-Supply Protection
- Circuit Breakers
- Computers and Servers
- Telecom Equipment
- Battery Management

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Power Monitor (Temp Range: -40°C to 125°C)

Part Number	Description	Supply Voltage (V)	CM Sense Range(V)	DM Sense Range (mV)	I _a (Typ) (uA)	Gain Error (Max)	Offset (Max) (uV)	Output Mode	Alert	Feature/ Special Function	Package
SY24656FBC	High-accuracy Power Monitor	2.7-5.5	0-36	±80	396	±0.15%	±10	I ² C/SMBus	Yes	16-bit ADC for BUS &Shunt Voltage	MSOP10
SY24657VSS	High-accuracy Power Monitor	2.7-5.5	0-36	±80	320	±0.45%	±10	I ² C/SMBus	Yes	16-bit ADC for BUS &Shunt Voltage	CSP1.39x1.68-12
SY24657BVSS	High-accuracy Power Monitor	2.7-5.5	0-36	±80	320	±0.45%	±10	I ² C/SMBus	Yes	16-bit ADC for BUS &Shunt Voltage	CSP1.39x1.68-12
SY24655FBP	High-accuracy Power Monitor	2.7-5.5	0-36	±80	320	±0.15%	±10	I ² C/SMBus	Yes	16-bit ADC for BUS &Shunt Voltage	MSOP10
SY24655QDQ	High-accuracy Power Monitor	2.7-5.5	0-36	±80	320	±0.25%	±10	I ² C/SMBus	Yes	16-bit ADC for BUS &Shunt Voltage	QFN3x3-16
<div>NEW</div>										16bit ADC suited for both high- and low-side Bidirectional current measurements	
SQ52206FBP	Power/Energy/ Charge Monitor	2.7-5.5	0-120	±163.84 ±81.92 ±40.96	1050	±0.14%	±5	I2C/SMBus	Yes		MSOP10

Temperature Sensor (Temp Range: -40°C to 125°C)

Part Number	Temperature Sensor Accuracy (Max) (°C)	Supply Voltage (V)	Supply Current (Max) (uA)	Interface	Address	Temperature Resolution (Max) (bits)	Type	Remote Channel	Features	Package
SY24696ART	3	1.62-3.6	7.5	I ² C	4	12	local	0	ALERT	SOT563
SY24697ART	1	1.62-3.6	7.5	I ² C	4	12	local	0	ALERT	SOT563
<div>NEW</div>										
SQ52911EART	1	1.45-3.6	7.5	I ² C	4	12	local	0	ALERT	SOT563
SQ52912WBS	±0.8	1.7-1.98	55	I ² C/I3C	2	11	local	0	IBI, Parity Check, Packet Check	CSP1.338x0.838-6

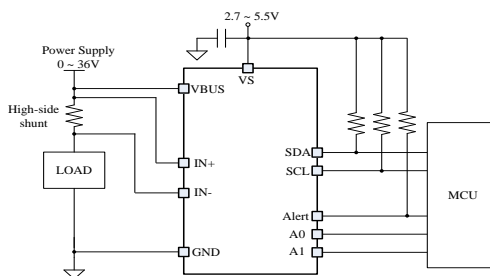
[Back](#)

SY24656FBC

36V High-accuracy Current/Power Monitor with Programmable Alert Function

Features

- Senses Bus Voltages from 0 V to 36 V
- High-Side or Low-Side Sensing
- Bi-directional Current Sensing
- Reports Current, Voltage, and Power
- High Accuracy:
 - 0.02% Gain Error (Typ) for Shunt Voltage
 - 0.02% Gain Error (Typ) for Bus Voltage
 - 2.5μV Offset (Typ) for Shunt Voltage
 - 1.25mV Offset (Typ) for Bus Voltage
- Configurable Averaging Options
- Configurable Conversion Time
- Abundant Alert Sources Setting
- 16 Programmable Addresses
- High Speed I2C Mode Compatible
- Operates from 2.7V to 5.5V Power Supply



Applications

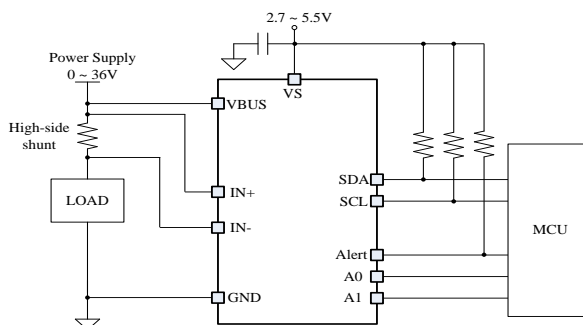
- Servers
- Telecom Equipment
- Computing
- Power Management
- Battery Chargers
- Power Supplies
- Test Equipment

SY24657VSS/SY24657BVSS

High-Side and Low-Side, Bidirectional, Zero-Drift, High-accuracy Current/Power Monitor with Accumulator and Programmable Alert

Features

- Senses Bus Voltages from 0V to 36V
- High-Side or Low-Side Sensing
- Embedded 16bit ADC
- Reports Current, Voltage, and Power
- Integrated Power Accumulator
- Configurable Averaging Options
- High Accuracy:
 - 0.45% Gain Error (Max)
 - ±10μV Shunt Offset (Max)
- Low IB: 1nA (Max)
- Flexible Interrupt Generation
- 1.8V I2C, SMBus Compliant Interface
- 16 Programmable Addresses
- Operates from 2.7V to 5.5V Power Supply
- Operating Current: 320μA (typ)
- Start-Up Mode Options:
 - SY24657: Active Conversion
 - SY24657B: Low-current Power down
- Industrial Temperature: -40°C~125°C
- Package: CSP1.39mm×1.68mm-12



Applications

- Servers
- Telecom Equipment
- Computing
- Power Management
- Battery Chargers
- Power Supplies
- Test Equipment

SY24655FBP/SY24655QDQ

High- and Low-Side, Bidirectional, Zero-Drift, High-accuracy Current/Power Monitor with Accumulator and Programmable Alert

Features

- Senses Bus Voltages from 0V to 36V
- High-Side or Low-Side Sensing
- Embedded 16bit ADC
- Reports Current, Voltage, and Power
- Integrated Power Accumulator for Average Power Monitoring

High Accuracy:

SY24655FBP

- 0.15% Gain Error (Max)
- $\pm 10\mu\text{V}$ Shunt Offset (Max)

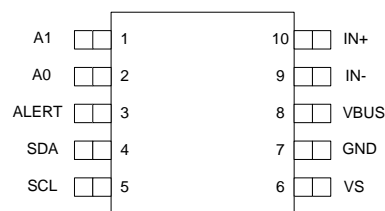
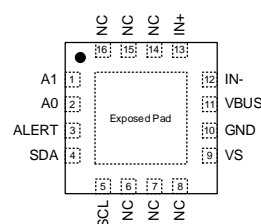
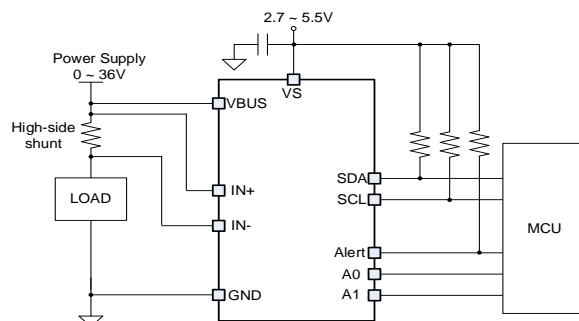
SY24655QDQ

- 0.25% Gain Error (Max)
- $\pm 10\mu\text{V}$ Shunt Offset (Max)

- Low IB: 1nA (Max)
- Configurable Averaging Options
- Abundant Alert Sources Setting
- 1.8V I2C, SMBus Compliant Interface
- 16 Programmable Addresses
- Operates from 2.7V to 5.5V Power Supply
- Industrial Temperature: -40°C~125°C
- Package: MSOP10/QFN3×3-16

Applications

- Servers
- Telecom Equipment
- Computing
- Power Management
- Battery Chargers
- Power Supplies
- Test Equipment



SQ52206FBP

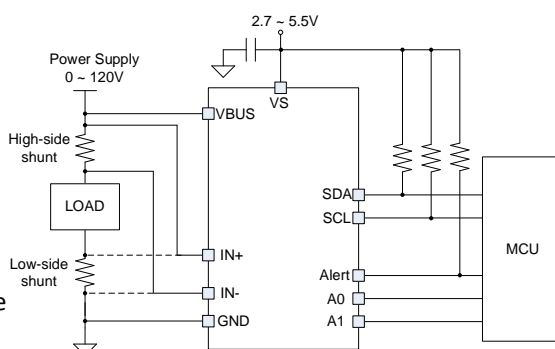
120V 16bit High-Precision Power/Energy/Charge Monitor with I²C Interface

Features

- High-Resolution, 16-bit Delta-Sigma ADC
- Current monitoring accuracy:
 - Offset voltage: $\pm 5\mu\text{V}$ (maximum)
 - Gain error: $\pm 0.14\%$ (maximum)
 - Common mode rejection: 144 dB (minimum)
- Power monitoring accuracy:
 - 0.8% full scale, -40°C to +125°C (maximum)
- Wide Common-Mode Range: -0.3V to +120V
- Shunt Full-Scale Differential Range Options: $\pm 163.84\text{mV}$, $\pm 81.92\text{mV}$, $\pm 40.96\text{mV}$
- Bus Voltage Sense Input Range: 0V to 120V
- Selectable ADC Conversion Time and Sample Averaging
- Programmable Resistor Temperature Compensation
- Low Input Bias Current: 0.1nA (Typical)
- Operates on a 2.7V to 5.5V Power Supply
 - Operational Current: 1050 μA (Typical)
 - Shutdown Current: 4.5 μA (Typical)
- 2.94 MHz High-Speed I2C Interface with 16 Pin-Selectable Addresses
- MSL Rating: MSL3
- Package: MSOP10

Applications

- Servers
- Telecom Equipment
- Computing
- Power Management
- Battery Chargers
- Power Supplies
- Test Equipment

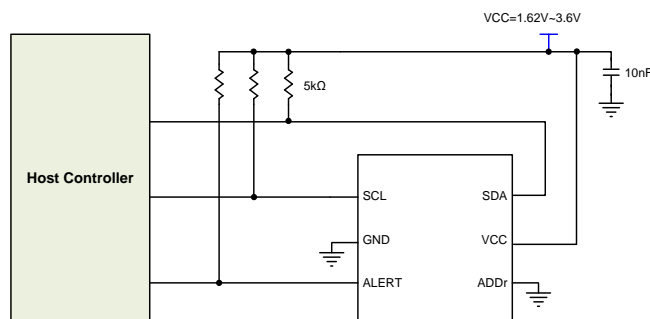

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SY24696ART

Low-Power Digital Temperature Sensor with SMBus and Two-Wire Serial Interface

Features

- Accuracy without Calibration:
 - 3°C (max) from -40°C to 125°C
- Low Quiescent Current:
 - 7.5µA Active (max)
 - 0.8µA Shutdown (max)
- Supply Range: 1.62 to 3.6V
- Resolution: 12 Bits
- Digital Output: SMBus, and I2C Interface Compatibility
- SOT563 Package (1.6-mm x 1.6-mm) is a 68% Smaller Footprint than SOT-23



SY24697ART/SQ52911EART

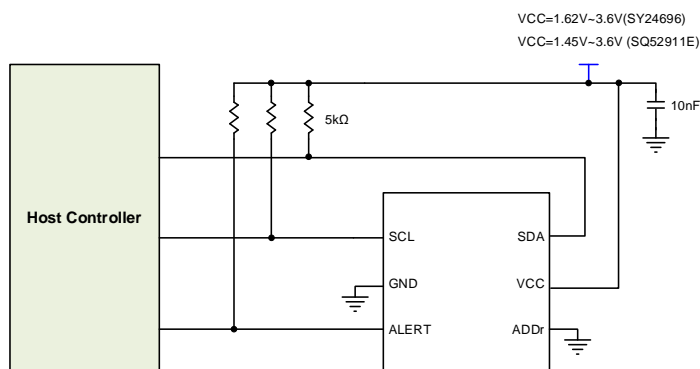
Low-Power Digital Temperature Sensor with SMBus and Two-Wire Serial Interface

Features

- Accuracy without Calibration:
 - 0.5°C (max) from 0°C to 65°C
 - 1°C (max) from -40°C to 125°C
- Low Quiescent Current:
 - 7.5µA Active (max)
 - 0.8µA Shutdown (max)
- Supply Range: 1.62 to 3.6V (SY24697), 1.45 to 3.6V (SQ52911E)
- Resolution: 12 Bits
- Digital Output: SMBus, and I2C Interface Compatibility
- SOT563 Package (1.6-mm x 1.6-mm) is a 68% Smaller Footprint than SOT-23
- MSL Rating: MSL1

Applications

- Portable and Battery-Powered Applications
- Power-supply Temperature Monitoring
- Computer Peripheral Thermal Protection
- Notebook Computers
- Battery Management
- Office Machines
- Thermostat Controls
- Electromechanical Device Temperatures
- General Temperature Measurements:
 - Industrial Controls
 - Test Equipment
 - Medical Instrumentations



SQ52912WBS

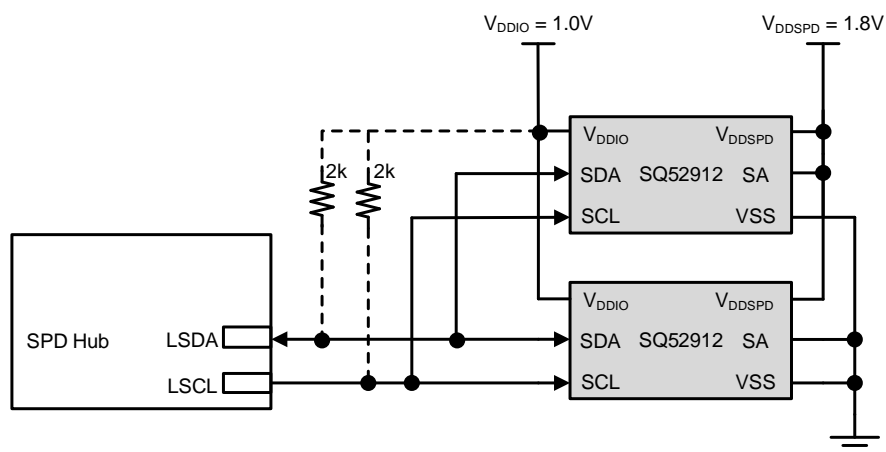
**0.5°C Accuracy, JEDEC DDR5 Grade B,
I3C/I²C Interface Digital Temperature Sensor in DSBGA Package**

Features

- JEDEC JESD302-1 DDR5 Grade B Support
- Exceeds JEDEC Temperature Accuracy Standards:
 - $\pm 0.3^{\circ}\text{C}$ Typical from -40°C to $+125^{\circ}\text{C}$
 - $\pm 0.5^{\circ}\text{C}$ Max from $+75^{\circ}\text{C}$ to $+95^{\circ}\text{C}$
 - $\pm 0.8^{\circ}\text{C}$ Max from -40°C to $+125^{\circ}\text{C}$
- Low Quiescent and Stand by Currents:
 - 5.7 μA Average Quiescent Current (typ.)
 - 3.8 μA Standby Current (typ.)
- Power Supplies:
 - 1V I/O Power Supply
 - 1.8V Core Power Supply
- Two-Wire Serial Bus Interfaces (I²C and I3C Basic Operation Modes)
- Data Transfer Rate: Up to 12.5MHz in I3C Basic Mode
- In-Band Interrupt (IBI) for Alerting Host
- Error Detection Functions:
 - Parity Check for Host Writes
 - Packet Check for Host Reads and Writes
- 11-bit Resolution with 0.25°C per LSB
- Standard 6-Ball DSBGA (WCSP) Package With 0.5mm Pitch

Applications

- Servers, Laptops, Workstations
- DDR5 DIMM Modules
- SSDs



DAC (Temp Range: -40°C to 125°C)

Part Number	Description	VDD(V)	Resolution (bit)	Channel	INL(Max)(LSB)	Offset Error (Max) (mV)	Gain Error (Max) (%)	with internal ref	Power on Reset to code	Package
SQ82948GGF	48 Channel 12 Bit DAC	4.5-5.5, ±11V	12	48	±3	±25	±0.5	Yes (2.5V)	/	TQFP10×10-64E
SQ82968VZS	16 Bit 8 Channel DAC	2.7-5.5	16	8	±13.8	±12.5	±0.15	Yes (1.25V)	Zero	CSP2.605×2.605-16
SQ82968CVZS	16 Bit 8 Channel DAC	2.7-5.5	16	8	±13.8	±12.5	±0.15	Yes (2.5V)	Zero	CSP2.605×2.605-16
SQ82958QIQ	16 Bit 8 Channel DAC	2.7-5.5	16	8	±3.5	±7.9	±0.29	Yes (1.25V)	Zero	QFN4×4-16
SQ82958BQIQ	16 Bit 8 Channel DAC	2.7-5.5	16	8	±3.5	±7.9	±0.29	Yes (1.25V)	Midscale	QFN4×4-16
SQ82928VZS	12 Bit 8 Channel DAC	2.7-5.5	12	8	±1.0	±13.9	±0.29	Yes (1.25V)	Zero	CSP2.605×2.605-16
SQ82918QIQ	12 Bit 8 Channel DAC	2.7-5.5	12	8	±1.0	±7.9	±0.28	Yes (1.25V)	Zero	QFN4×4-16

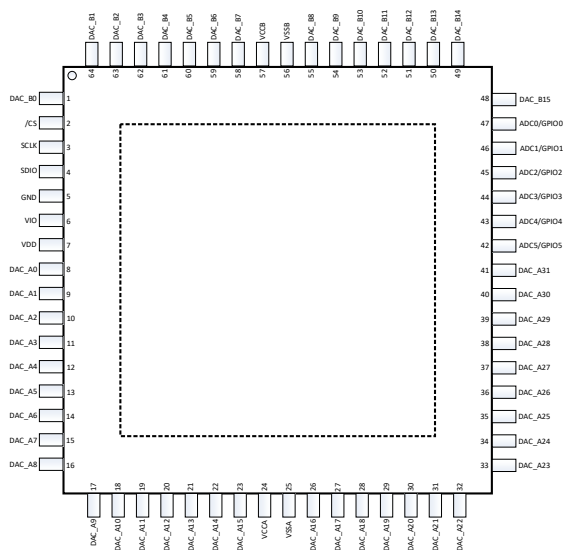
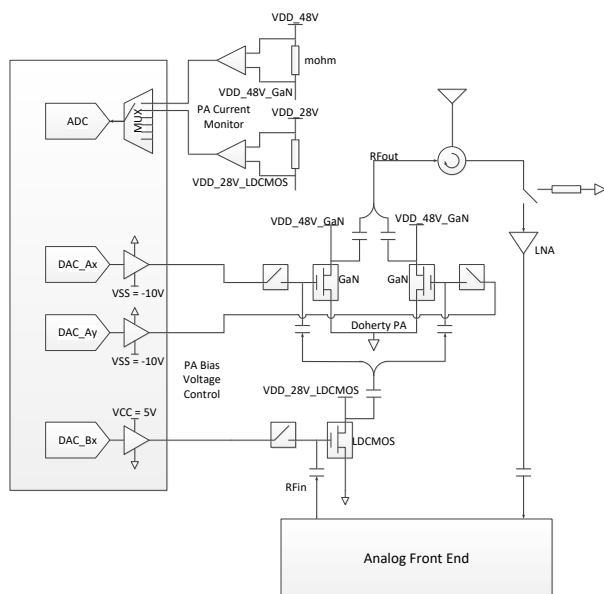
ADC (Temp Range: -40°C to 125°C)

Part Number	Resolution (bit)	input channels	Architecture	Interface type	Input type	Analog Supply Voltage(V)	Digital Supply Voltage(V)	Input voltage range(V)	Gain Error (max)(LSB)	Offset (Max)(LSB)	Sample Rate(sps)	Reference mode	Package
NEW SQ82806GDF	16	8	SAR	Byte-Wide, Parallel, SPI	Single-ended	4.75-5.25	1.8-5	-10~10 -5~5	±45	±4.8	200k	External, Internal	LQFP10×10-64

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SQ82948GGF

48 Channel 12bit DAC with Integrated Analog Monitor, Temperature Sensor and GPIOs



Features

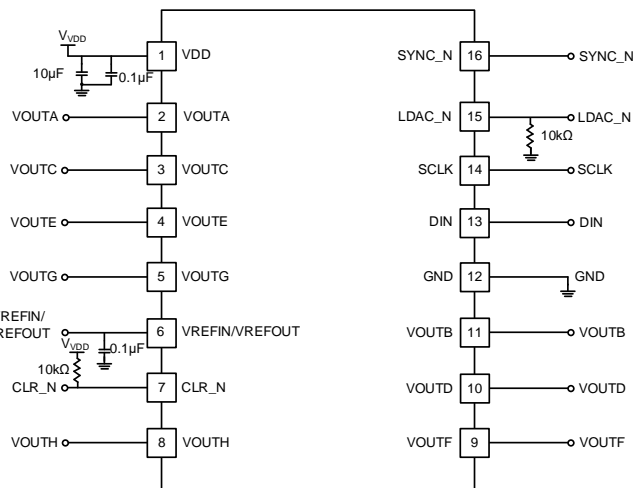
- 48 Monotonic 12-bit DACs
 - Programmable Ranges: -10V to 0V , -5V to 0V , 0V to 5V , and 0V to 10V
 - High Current Drive Capability: $\pm 20\text{ mA}$
 - Auto Range Detector
- 12-bit, 250kSPS SAR ADC
 - Input Ranges: 0V to 5V and 0V to 2.5V
 - Programmable out-of-range Alarms
- Built-in Sequencing Features
- Internal 2.5-V Reference
- Internal Temperature Sensor
 - Accuracy: $\pm 2.5^{\circ}\text{C}$ (Maximum)
 - Resolution: 0.0625°C
- SPI-compatible Interface: 1.65 to 5.5V Operation
- Specified Junction Temperature Range: -40°C to $+125^{\circ}\text{C}$
- Operating Junction Temperature Range: -40°C to $+150^{\circ}\text{C}$

Applications

- Active Antenna Radio Unit (AAU)
- Radar

DAC (Temp Range: -40°C to 125°C)**SQ82958/BQIQ****Octal, 16-Bit, SPI, Voltage Output DAC with Internal Reference****Features**

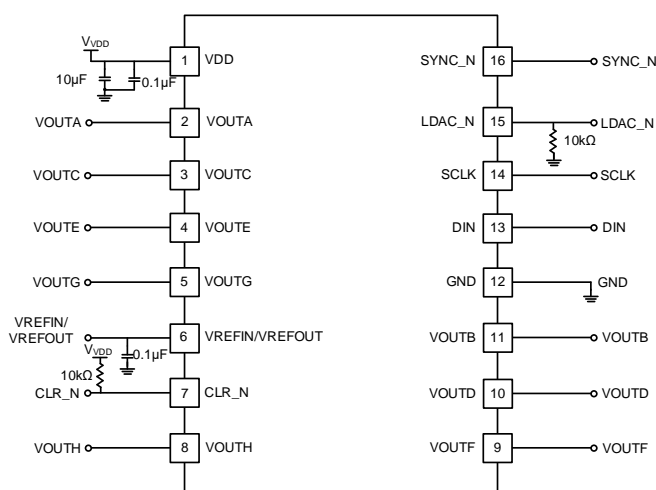
- Low Power, Small Footprint, Octal, 16-bit DAC
- 2.7V to 5.5V Power Supply
- Power-down Capability
- Shutdown Current: 0.1μA at 3V and 0.2μA at 5V(typ.)
- On-chip 1.25V/2.5V, 11 ppm/°C Reference
- Power-on Reset to 0V or Midscale
- Configurable Power-down DAC Outputs
- Hardware/Software LDAC_N and LDAC_N Controls
- Software Configurable DAC Output Reset to 0V, Mid-Scale or Full Scale
- Rail-to-rail Operation
- Available in 16-lead QFN Package

**Applications**

- Optical Networking
- Battery Test Equipment
- Industrial Automation
- Data Acquisition Systems

SQ82918QIQ**Octal, 12-Bit, SPI, Voltage Output DAC with Internal Reference****Features**

- Low Power, Small Footprint, Octal, 12-bit DAC
- 2.7V to 5.5V Power Supply
- Power-down Capability
- Shutdown Current: 0.1μA at 3V and 0.2μA at 5V(typ.)
- On-chip 1.25V, 8 ppm/°C Reference
- Power-on Reset to 0V or Midscale
- Configurable Power-down DAC Outputs
- Hardware/Software LDAC_N and LDAC_N Controls
- Software Configurable DAC Output Reset to 0V, Mid-Scale or Full Scale
- Rail-to-rail Operation
- Available in 16-ball CSP Package

**Applications**

- Optical Networking
- Battery Test Equipment
- Industrial Automation
- Data Acquisition Systems

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SQ82806GDF

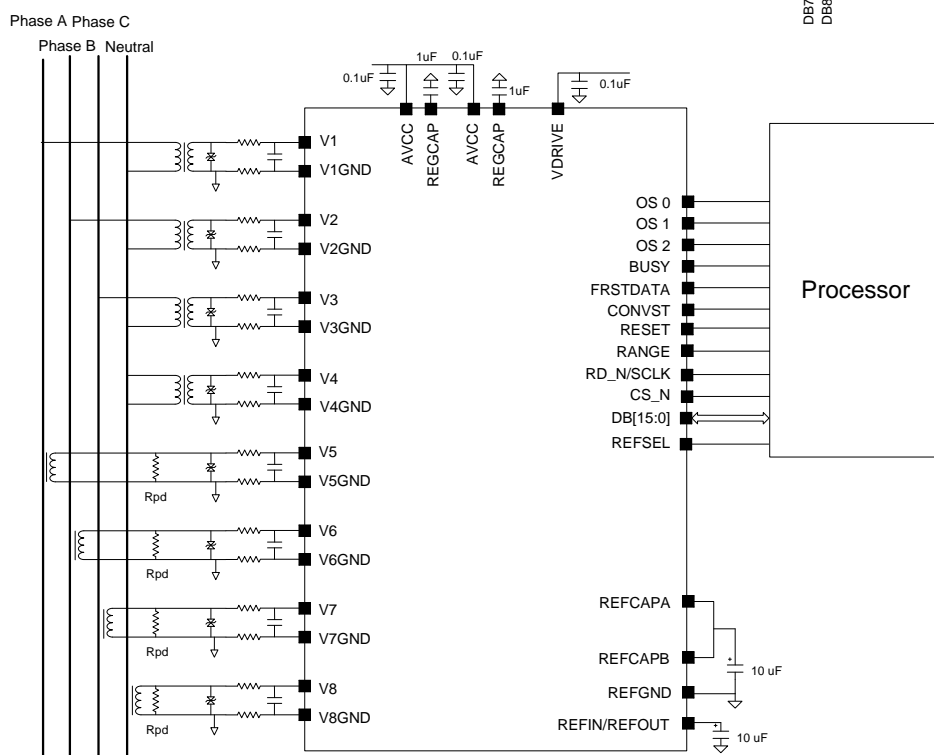
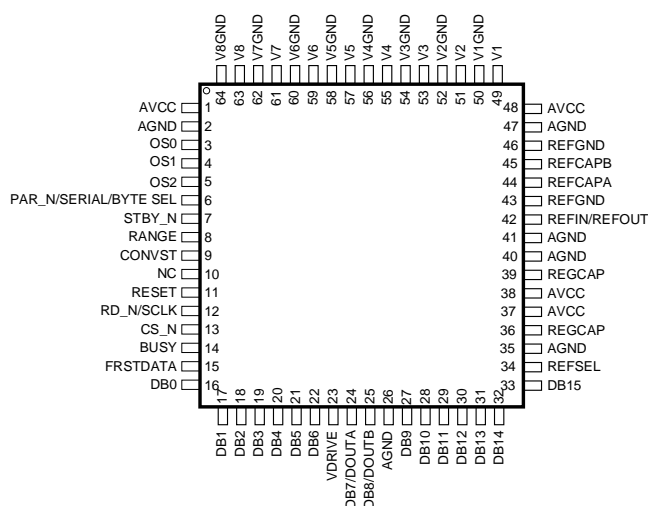
16bit, 8-Channel, Simultaneous Sampling ADC with Bipolar Inputs

Features

- 16-bit ADC with 200kSPS on All Channels
- Configurable Input Ranges: $\pm 10\text{V}$ and $\pm 5\text{V}$
- Input Buffer with $1\text{M}\Omega$ Analog Input Impedance
- Overvoltage Input Clamp Protection with 8kV ESD
- Single 5V Analog Supply and 1.8V to 5V Digital Power Supply
- -40°C to $+125^{\circ}\text{C}$ Operating Temperature Range
- Excellent Performance:
 - SNR: 95.7dB THD: -112.4dB
 - INL: $\pm 0.7\text{LSB}$ DNL: $\pm 0.4\text{LSB}$
 - TUE: $\pm 1.8\text{LSB}$
- Low Temperature Drift:
 - 2.5V Reference drift: $2.2\text{ppm}/^{\circ}\text{C}$
 - Bipolar Zero Code Error Drift: $0.9\mu\text{V}/^{\circ}\text{C}$
 - Positive Full Scale Error Drift: $1.3\text{ppm}/^{\circ}\text{C}$
 - Negative Full Scale Error Drift: $1.8\text{ppm}/^{\circ}\text{C}$
- Oversampling Capability with Digital Filter
- Package: 64-Pin LQFP
- MSL Rating: MSL3 (LQFP10x10-64)

Applications

- Power Line Monitoring
- Protection Relays
- Multiphase Motor Control
- Instrumentation and Control Systems
- Data Acquisition Systems

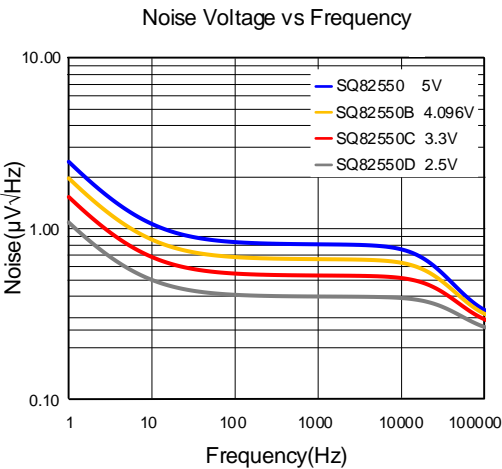
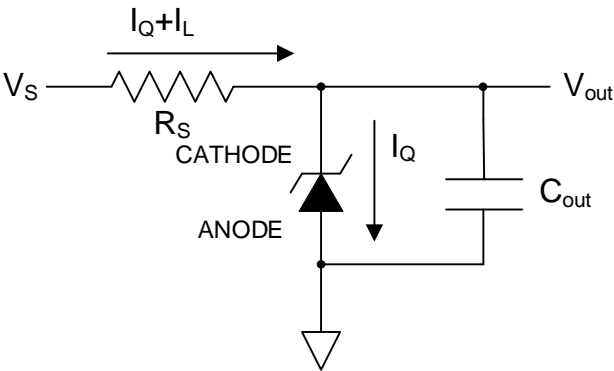


Shunt Voltage Reference (Temp Range: -40°C to 125°C)

Part Number	Output Voltage (V)	Initial Accuracy (max)(%)	Operation Current (max)(mA)	Temp Coeff (max)(ppm/°C)	Wideband Noise (μVrms)	Package
SQ82550AOT	5	0.1	15	47	80	SOT-23
SQ82550BAOT	4.096	0.1	15	46	65	SOT-23
SQ82550CAOT	3.3	0.1	15	39	51	SOT-23
SQ82550DAOT	2.5	0.1	15	40	38	SOT-23

SQ82550/B/C/DAOT

Precision Micropower Shunt Voltage Reference



Features

- Fixed Reverse Breakdown Voltage of 2.5V, 3.3V, 4.096V and 5V.
- Output Voltage Tolerance $\pm 0.1\%$ (Maximum)
- Low output noise (10Hz to 10kHz) 38μVrms (Typical)
- No output Capacitor Required
- Tolerates Capacitive Loads
- Wide Operating Current Range 15mA
- Industrial Temperature Range -40°C to 125°C
- Low Temperature Coefficient ± 40 ppm/°C(max)
- Small Package: SOT-23

Applications

- Power Line Monitoring
- Portable, Battery-Powered Equipment
- Data Acquisition Systems
- Instrumentation
- Process Control
- Energy Management
- Product Testing
- Precision Audio Components

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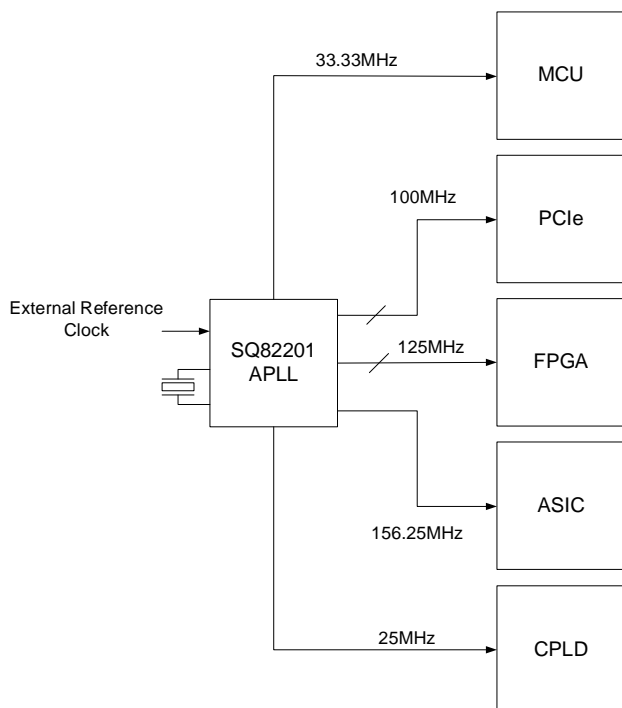
Clock Generator (Temp Range: -40°C to 85°C)

Part Number	Description	Outputs	Output Type	Output Freq Range (MHz)	Input Freq (MHz)	Inputs	Input Type	Output Banks	Core Voltage (V)	Integrated RMS Jitter (12KHz to 20MHz) (fs)	Package
SQ82201QHQ	Clock Generator	3 differential + 7 Single End	LVPECL/LVCMOS	25/33.33/100/125/156.25	25	2	Crystal/LVCMOS	5	3.3	<150	QFN6x6-40

Clock Buffer (Temp Range: -40°C to 85°C)

Part Number	Description	Outputs	Output Type	Output Freq Range (MHz)	Input Freq (MHz)	Inputs	Input Type	Core Voltage (V)	Additional Phase Jitter Typ RMS (fs)	Package
SQ82100EDQ	PCIe 1-6 Clock Buffer	20 differential	LP-HCSL	1~400	1~400	1	HCSL	3.3	PCIe Gen5 <16fs RMS DB2000QL <20fs RMS	AQFN6x6-80

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SQ82201QH**High Performance APLL with Multiple Output****Features**

- 7 Single-ended LVCMOS Outputs:
 - One Single-ended LVCMOS 33.33MHz CPU Clock
 - Six Single-ended LVCMOS Outputs from the Reference Clock
- 3 LVPECL Differential Output Pairs, 1 pair 156.25MHz, 2 pairs selectable 100MHz and 125MHz
- Selectable Input Source: External Crystal or external Single-ended Input Source
- 25MHz Crystal Oscillator Reference
- RMS Phase Jitter 0.127ps(Typical)@ 156.25MHz, Reference 25MHz Crystal (12kHz~20MHz)
- Power Supply Noise Rejection PSRR: -90dBc
- 3.3V Power Supply Voltage
- Ambient Operating Temperature: -40°C to 85°C
- Package: QFN6x6-40

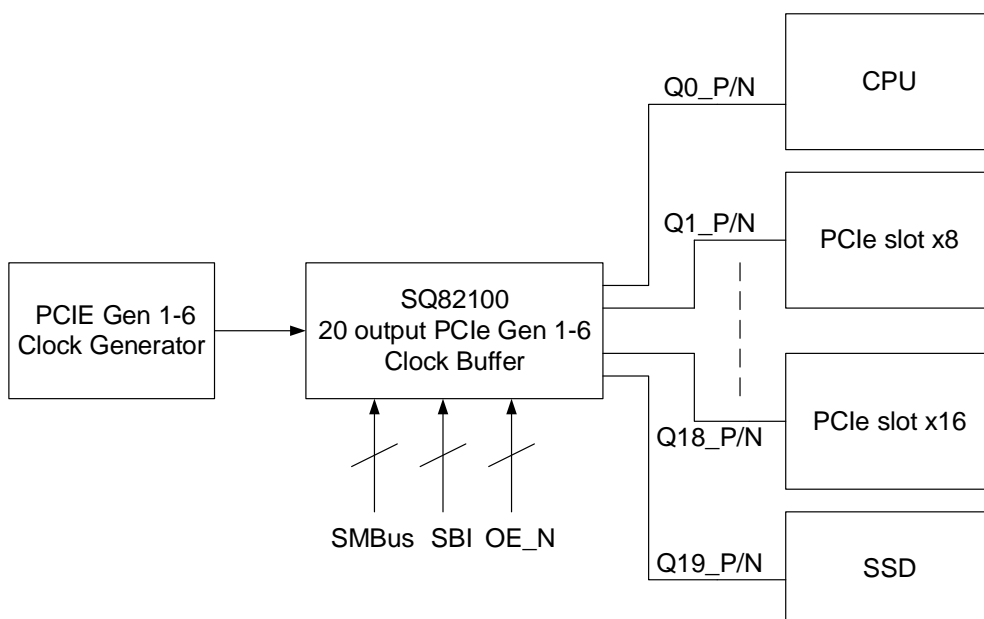
Applications

- Wireless and Wired Infrastructure
- Server, Storage and PC
- Medical Imaging
- Portable Test and Measurement

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SQ82100EDQ

20-Output PCIe Gen1 to Gen6 Clock Buffer



Features

- Supports 3.3V Power Supplies
- Differential Additive Phase Jitter: PCIe Gen6 <10fs RMS
- Differential Additive Phase Jitter: PCIe Gen5 <20fs RMS
- Differential Additive Phase Jitter: DB2000QL <30fs RMS
- Differential Additive Phase Jitter: PCIe Gen4 <30fs RMS
- Fully Compliant with Intel DB2000QL Specifications
- 20 Low-Power Push-Pull LP-HCSL PCIe Outputs
- Supports Clock Frequencies from 1MHz to 400MHz
- Maximum Output-to-Output Skew: 50ps
- Embedded Low Dropout (LDO) Voltage Regulator
- Embedded Series Termination Resistors for 85Ω Differential Transmission Line
- Power Down Tolerant (PDT) On Digital Input Pins
- Transparent for Spread Spectrum Clock
- Eight OE Pins
- SMBus Interface
- Side-Band Interface (SBI)
- Package: AQFN6×6-80

Applications

- Servers
- Computing
- PCI Express (PCIe 1.0 ~ 6.0)

Digital Power Controller (Temp Range: -40°C to 125°C)

Part Number	Core	Supply Range(V)	Frequency (MHz)	Flash(kB)	RAM(kB)	Communication	Feature	Package
SQ51103QHQ	Cortex-M4F	3-3.6	62.5	64+64	16	I2C X1, UART X1	digital power controller, integrated AFE, Digital PID, HRPWM	QFN6x6-40
SQ51102QHQ	Cortex-M4F	3-3.6	62.5	64+64	16	I2C X1, UART X1	digital power controller, integrated AFE, Digital PID, HRPWM, Integrated OPAMP	QFN6x6-40
<div>NEW</div> SQ51100QCQ	Cortex-M4F	3-3.6	62.5	64+64	16	I2C X1, UART X1	digital power controller, integrated AFE, Digital PID, HRPWM	QFN4x4-24

SQ51103QH1

Highly Integrated Digital Controller

Features

Front End

- Error Analog to Digital Converter (EADC)
 - 15.625Msps Sample Rate
 - 1mV/LSB Resolution
 - Adaptive Sample Trigger Positioning
 - Flexible Sample Trigger (Single, Multi-sample, Oversample)
 - Hardware-Based Averaging (up to 8x)
- 11bit High Accuracy and High Speed Digital-to-Analog Converter(DAC)

Digital Filter

- Digital PID-Based Hardware (2-Pole/2-Zero)
- Non-Linear Control
- Support Anti-saturation by Hardware
- Input Voltage Feed Forward Control

DPWM Module

- 4x DPWM Modules, 8x Outputs
 - Up to 8 High Resolution Outputs
 - 250ps Pulse Width Resolution
 - 4ns Frequency Resolution
- Configurable Modulation Methods
 - Pulse Width Modulation
 - Frequency Modulation
 - Phase Shift Modulation
- Automatic Mode Switching by Hardware
- Independent or Synchronization Mode
 - Independent Mode
 - Synchronized: Between DPWM Module or Other Devices
- Multi Counter Reset Sources
- Synchronous Rectification (SR) Soft ON/OFF
- Multi Burst Mode Based Hardware
- DPWM Output Synchronous ON/OFF Control
- Flexible Sample Trigger for Front End
- Multi Preload and Shadow Registers for Firmware Synchronous Control
- Up to 2MHz Switching Frequency

Fault Protection

- 7x Analog and 3x Digital Comparators
- Flexible Programmable Blanking Time
- Cycle-by-Cycle Current Limiting with Duty Match
- External Fault Inputs

12 bit, 1Msps General Purpose ADC

- 7x External Channels
- Internal Temperature Sensor
- Integration 10uA PMBus Address Current Source
- Integration 10/20/30/40uA NTC Current Source
- 62.5MHz, 32-Bit Cortex-M4F Processor
- Integrated FPU
- Memories

- 64KB Program Flash
- 64KB Data Flash with ECC
- 8KB Boot Flash
- 16KB RAM with ECC
- 4KB Instruction & Data SRAM

- SWD Debug Support

Communication Peripherals

- I2C/PMBUS with Master or Slave Mode
- UART with Auto Baud Rate Adjustment

Timer

- 4x 32bit General Purpose Timers
- 1x Capture
- 2x General Purpose PWM Outputs

Power Control Features

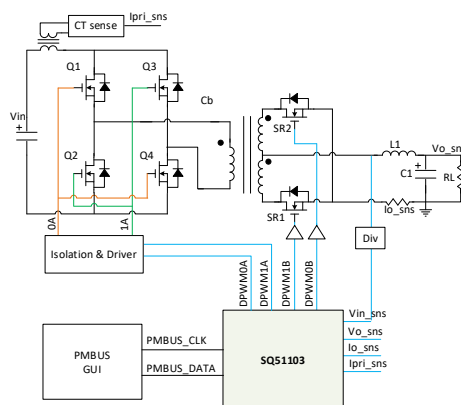
- Voltage Control, Average Current Control and Peak Current Mode Control
- High Efficiency and Light Load Management
- Constant Voltage Constant Current
- Support Compensator Output (Vc) Soft Start
- Primary Side Voltage Sensing
- Pre-bias Load Soft Start

40-PIN QFN Packages

Operating Temperature: -40°C to 125°C

Applications

- Digital Controller for PFC, LLC, HSFB and PSFB Topology



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Digital Power Controller (Temp Range: -40°C to 125°C)

SQ51102QH1

Highly Integrated Digital Controller

Features

Front End

- Error Analog to Digital Converter (EADC)
 - 15.625Msps Sample Rate
 - 1mV/LSB Resolution
 - Adaptive Sample Trigger Positioning
 - Flexible Sample Trigger (Single, Multi-sample, Oversample)
 - Hardware-Based Averaging (up to 8x)
- 11bit High Accuracy and High Speed Digital-to-Analog Converter(DAC)

Digital Filter

- Digital PID-Based Hardware (2-Pole/2-Zero)
- Non-Linear Control
- Hardware Support for Anti-Saturation
- Input Voltage Feed Forward Control

DPWM Module

- 4x DPWM Modules, 8x Outputs
 - Up to 8 High Resolution Outputs
 - 250ps Pulse Width Resolution
 - 4ns Frequency Resolution
- Configurable Modulation Methods
 - Pulse Width Modulation
 - Frequency Modulation
 - Phase Shift Modulation
- Automatic Mode Switching via Hardware
- Independent or Synchronization Mode
 - Independent Mode
 - Synchronized: Between DPWM Module or Other Devices
- Multi Counter Reset Sources
- Synchronous Rectification (SR) Soft ON/OFF
- Multi Burst Mode Based Hardware
- DPWM Output Synchronous ON/OFF Control
- Flexible Sample Trigger for Front End
- Multi Preload and Shadow Registers for Firmware Synchronous Control
- Up to 2MHz Switching Frequency

Fault Protection

- 8x Analog and 3x Digital Comparators
- Flexible Programmable Blanking Time
- Cycle-by-Cycle Current Limiting with Duty Match
- External Fault Inputs

12 bit, 1Msps General Purpose ADC

- 9x External Channels
- Internal Temperature Sensor
- Integration 10uA PMBus Address Current Source
- Integration 10/20/30/40uA NTC Current Source

62.5MHz, 32-Bit Cortex-M4F Processor

- Integrated FPU
- Memories
 - 64KB Program Flash
 - 64KB Data Flash with ECC
 - 8KB Boot Flash
 - 16KB RAM with ECC
 - 4KB Instruction & Data SRAM
- SWD Debug Support

Communication Peripherals

- I2C/PMBUS with Master or Target Mode
- UART with Auto Baud Rate Adjustment

Timer

- 4x 32bit General Purpose Timers
- 2x Capture
- 2x General Purpose PWM Outputs

Power Control Features

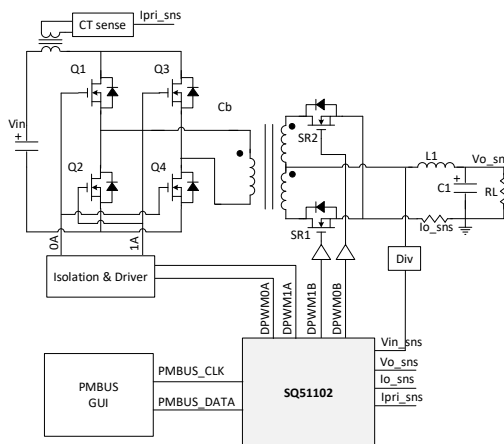
- Voltage Control, Average Current Control and Peak Current Mode Control
- High Efficiency and Light Load Management
- Constant Voltage Constant Current
- Support Compensator Output (Vc) Soft Start
- Primary Side Voltage Sensing
- Pre-bias Load Soft Start

40-PIN QFN Packages

Operating Temperature: -40°C to 125°C

Applications

- Digital Controller for PFC, LLC, HSFB and PSFB Topology



Digital Power Controller (Temp Range: -40°C to 125°C)

SQ51100QCQ

Highly Integrated Digital Controller

Features

Front End

- Error Analog to Digital Converter (EADC)
 - 15.625Mps Sample Rate
 - 1mV/LSB Resolution
 - Adaptive Sample Trigger Positioning
 - Flexible Sample Trigger (Single, Multi-Sample, Oversample)
 - Hardware-Based Averaging (up to 8x)
- 11bit High Accuracy and High Speed Digital-to-Analog Converter(DAC)

Digital Filter

- Digital PID-Based Hardware (2-Pole/2-Zero)
- Non-Linear Control
- Hardware Support for Anti-Saturation
- Input Voltage Feed-Forward Control

DPWM Module

- 3x DPWM Modules, 6x Outputs
- Up to Eight High Resolution Outputs
 - 250ps Pulse Width Resolution
 - 4ns Frequency Resolution
- Configurable Modulation Methods Pulse Width Modulation
 - Pulse Width Modulation
 - Frequency Modulation
 - Phase Shift Modulation
- Automatic Mode Switching via Hardware
- Independent or Synchronization Mode
 - Independent Mode
 - Synchronized: Between DPWM Modules or Other Devices
- Multi-Counter Reset Sources
- Synchronous Rectification (SR) Soft ON/OFF
- Multi-Burst Mode via Hardware
- DPWM Output Synchronous ON/OFF Control
- Flexible Sample Trigger for Front End
- Multiple Preload and Shadow Registers for Firmware Synchronous Control
- Up to 2MHz Switching Frequency

Fault Protection

- 8x Analog and 3x Digital Comparators
- Flexible Programmable Blanking Time
- Cycle-by-Cycle Current Limiting with Duty Match
- External Fault Inputs

12 bit, 1Mps General Purpose ADC

- 5x External Channels
- Internal Temperature Sensor
- Integrated 10μA PMBus Address Current Source
- Integrated 10/20/30/40μA NTC Current Source

62.5MHz, 32-Bit Cortex-M4F Processor

- Integrated FPU
- Memories
 - 64KB Program Flash
 - 64KB Data Flash with ECC
 - 8KB Boot Flash
 - 16KB RAM with ECC
 - 4KB Instruction and Data SRAM
- SWD Debug Support

Communication Peripherals

- I2C/PMBUS with Peripheral or Target Mode
- UART with Auto Baud Rate Adjustment

Timer

- 4x 32-bit General Purpose Timers
- 1x Capture
- 2x General Purpose PWM Outputs

Power Control Features

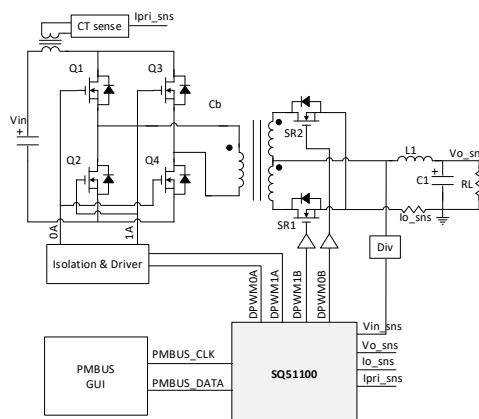
- Voltage Control, Average Current Control, and Peak Current Mode Control
- High Efficiency and Light Load Management
- Constant Voltage Constant Current (CVCC)
- Support for Compensator Output (Vc) Soft-Start
- Primary Side Voltage Sensing
- Pre-Bias Load Soft-Start

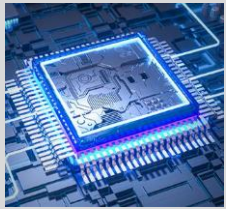
24-PIN QFN Packages

Operating Temperature: -40°C to 125°C

Applications

- Digital Controller for PFC, LLC, HSFB and PSFB Topologies





Metering

Energy Measurement

Part Number	User MPU Core	Signal Processing Core	Vsupply (V)	Total Sensor Inputs	Internal Flash (KBytes)	Internal RAM (KBytes)	Slave Host Interface(s)	Package/Pins	Notes
MAX71071	None	None	See Datasheet	2	None	None	Proprietary	μSOP/10	ADC to be used with MAX78615+PPM or MAX78615+LMU
MAX78700*	None	None	See Datasheet	2	None	None	Proprietary	μSOP/10	ADC to be used with MAX78615+PPM or MAX78615+LMU
MAX71020A	None	CE	3.3	1V, 1I	OTP	1	SPI	TQFN/28 ,TSSOP/28	Single Phase
MAX78615+LMU	None	EMP	3.3	2V, 2I	8	1.5	I2C ,SPI ,UART	TQFN/24	Galvanic Isolation (Magnetic) Single Phase Chipset
MAX78615+PPM	None	EMP	3.3	3V, 3I	8	1.5	I2C ,SPI ,UART	TQFN/24	Galvanic Isolation (Magnetic), Polyphase Chipset
MAX78630+PPM	None	EMP	3.3	3V, 3I	8	1.5	I2C ,SPI ,UART	TQFN/32	Polyphase
78M6610+LMU	None	EMP	3.3	2V, 2I	8	1.5	I2C ,SPI ,UART	TQFN/24	Single Phase
78M6610+PSD	None	EMP	3.3	1V, 1I, 1T	8	1.5	I2C ,SPI ,UART	TQFN/24 ,TSSOP/16	Single Phase
78M6618	80515	CE	3.3	10 (Configurable)	128	4	SPI ,UART	SQFN/68	Single Phase, Polyphase Multi-Branch
78M6631*	80515	CE	3.3	3V, 3I	128	4	SPI ,UART	TQFN/56	Polyphase
78M6612*	80515	CE	3.3	2V, 2I	32	2	UART	LQFP/64 ,SQFN/68	Single Phase
78M6613*	80515	CE	3.3	2V, 2I	32	2	UART	SQFN/32	Single Phase
SY7T501FAC	None	None	3.3	2	None	None	UART	SOP8	Single Phase, Hard-coded IC
SY7T502FBC	None	None	3.3	2	None	None	UART	MSOP10	Single Phase, Hard-coded IC
SY7T609+R1	None	EMP	3.3	1V, 1I	8	1.5	SPI, UART	TSSOP/14	Single Phase
SY7T609+S1	None	EMP	3.3	1V, 1I	8	1.5	SPI, UART	TSSOP/14	Single Phase
SY7T609ET+R1	None	EMP	3.3	1V, 1I	8	1.5	SPI, UART	TSSOP/14	Single Phase
SY7T609EB+R1	None	EMP	3.3	1V, 1I	8	1.5	SPI, UART	TSSOP/14	Single Phase
SY7T610E+PSD/CK6T	None	EMP	3.3	1V, 1I	8	1.5	I2C,SPI, UART	TSSOP/16	Single Phase
SY7T611+U2	None	EMP	3.3	1V, 2I	8	1.5	UART/SPI	TQFN/24	Single Phase
SY7T611+I2	None	EMP	3.3	1V, 2I	8	1.5	I2C/SPI	TQFN/24	Single Phase

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Energy Measurement

Part Number	User MPU Core	Signal Processing Core	Vsupply (V)	Total Sensor Inputs	Internal Flash (KBytes)	Internal RAM (KBytes)	Slave Host Interface(s)	Package/Pins	Notes
SY7T612+U3	None	EMP	3.3	1V, 3I	8	1.5	UART/SPI	TQFN/32	Single Phase
SY7T612+I3	None	EMP	3.3	1V, 3I	8	1.5	I2C/SPI	TQFN/32	Single Phase
SY7T612+U4	None	EMP	3.3	1V, 4I	8	1.5	UART/SPI	TQFN/32	Single Phase
SY7T612+I4	None	EMP	3.3	1V, 4I	8	1.5	I2C/SPI	TQFN/32	Single Phase
SY7T612E+PPM/D05T	None	EMP	3.3	1V, 4I	8	1.5	I2C,SPI, UART	TQFN/32	Single Phase

* Not recommended for new design

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Part Number	Phase	Internal Flash (KBytes)	Internal RAM (KBytes)	Analog Input	Sensor Inputs (Current+Voltage)**	MCU MIPS	RTC	LCD Driver Pixels (Max)	GPIO	UARTs	SPI Port	Package/ Pins
71M6103	3P			Differential	1I	-	No	No	No	No	No	SO-8
71M6201	1P	-	-	Differential	1I	-	No	No	No	No	No	SO-8
71M6203	3P	-	-	Differential	1I	-	No	No	No	No	No	SO-8
71M6601	1P	-	-	Differential	1I	-	No	No	No	No	No	SO-8
71M6113	3P	-	-	Differential	1I	-	No	No	No	No	No	SO-8
71M6511*	1P	64	7	Single-end	2SE + 1	5	Yes	128 (32x4)	12	2	-	LQFP-64
71M6511H*	1P	64	7	Single-end	2SE + 1	5	Yes	128 (32x4)	12	2	-	LQFP-64
71M6513*	3P	64	7	Single-end	4SE + 3	5	Yes	168 (42x4)	22	2	-	LQFP-100
71M6513H *	3P	64	7	Single-end	4SE + 3	5	Yes	168 (42x4)	22	2	-	LQFP-100
71M6515H *	3P	64	7	Single-end	4SE + 3	5	Yes	-	8	1	-	LQFP-64
71M6521DE*	1P/2P	16	2	Single-end	2SE + 2	5	Yes	152(38x4)(41*4)	13(17)	2	-	LQFP-64 or QFN-68
71M6521FE*	1P/2P	32	2	Single-end	2SE + 2	5	Yes	152(38x4)(41*4)	13(17)	2	-	LQFP-64 or QFN-68
71M6531D	1P/2P	128	4	Single-end	2SE + 2	10	Yes	156 (39x4)	22	2	Yes	QFN-68
71M6531F	1P/2P	256	4	Single-end	2SE + 2	10	Yes	156 (39x4)	22	2	Yes	QFN-68
71M6532D	1P/2P	128	4	Differential	2D + 2	10	Yes	268 (67x4)	43	2	Yes	LQFP-100
71M6532F	1P/2P	256	4	Differential	2D + 2	10	Yes	268 (67x4)	43	2	Yes	LQFP-100
71M6533	3P	128	4	Differential	4D + 3	10	Yes	228 (57x4)	39	2	Yes	LQFP-100
71M6533H	3P	128	4	Differential	4D + 3	10	Yes	228 (57x4)	39	2	Yes	LQFP-100
71M6534	3P	128	4	Differential	4D + 3	10	Yes	300 (75x4)	52	2	Yes	LQFP-120
71M6534H	3P	256	4	Differential	4D + 3	10	Yes	300 (75x4)	52	2	Yes	LQFP-120
71M6541D	1P	32	3	Differential	2D + 1	5	Yes	222 (37x6)	32	2	Yes	LQFP-64

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Electricity Metering

Part Number	Phase	Internal Flash (KBytes)	Internal RAM (KBytes)	Analog Input	Sensor Inputs (Current+ Voltage)**	MCU MIPS	RTC	LCD Driver Pixels (Max)	GPIO	UARTs	SPI Port	Package/Pins
71M6541F	1P	64	5	Differential	2D + 1	5	Yes	222 (37x6)	32	2	Yes	LQFP-64
71M6541G	1P	128	5	Differential	2D + 1	5	Yes	222 (37x6)	32	2	Yes	LQFP-64
71M6541DT	1P	32	3	Differential	2D + 1	5	Yes	222 (37x6)	32	2	Yes	LQFP-64
71M6541FT	1P	64	5	Differential	2D + 1	5	Yes	222 (37x6)	32	2	Yes	LQFP-64
71M6541GT	1P	128	5	Differential	2D + 1	5	Yes	222 (37x6)	32	2	Yes	LQFP-64
71M6542F	1P/2P	64	5	Differential	2D + 2	5	Yes	336 (56x6)	51	2	Yes	LQFP-100
71M6542G	1P/2P	128	5	Differential	2D + 2	5	Yes	336 (56x6)	51	2	Yes	LQFP-100
71M6542FT	1P/2P	64	5	Differential	2D + 2	5	Yes	336 (56x6)	51	2	Yes	LQFP-100
71M6542GT	1P/2P	128	5	Differential	2D + 2	5	Yes	336 (56x6)	51	2	Yes	LQFP-100
71M6543F	3P	64	5	Differential	4D + 3	5	Yes	336 (56x6)	51	2	Yes	LQFP-100
71M6543G	3P	128	5	Differential	4D + 3	5	Yes	336 (56x6)	51	2	Yes	LQFP-100
71M6543FT	3P	64	5	Differential	4D + 3	5	Yes	336 (56x6)	51	2	Yes	LQFP-100
71M6543GT	3P	128	5	Differential	4D + 3	5	Yes	336 (56x6)	51	2	Yes	LQFP-100
71M6543HT	3P	64	5	Differential	4D + 3	5	Yes	336 (56x6)	51	2	Yes	LQFP-100
71M6543GHT	3P	128	5	Differential	4D + 3	5	Yes	336 (56x6)	51	2	Yes	LQFP-100
71M6545	3P	64	5	Differential	4D + 3	5	Yes	-	29	1	Yes	LQFP-64
71M6545H	3P	64	5	Differential	4D + 3	5	Yes	-	29	1	Yes	LQFP-64
71M6545T	3P	64	5	Differential	4D + 3	5	Yes	-	29	1	Yes	LQFP-64
71M6545HT	3P	64	5	Differential	4D + 3	5	Yes	-	29	1	Yes	LQFP-64
MAX71313L	1P/2P	64	8	Differential	2D + 2	10	Yes	156 (39x4) ,190 (38X5) ,222 (37x6)	39	3	Yes	LQFP-64
MAX71314L	1P/2P	128	8	Differential	2D + 2	10	Yes	156 (39x4) ,190 (38X5) ,222 (37x6)	39	3	Yes	LQFP-64

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Electricity Metering

Part Number	Phase	Internal Flash (KBytes)	Internal RAM (KBytes)	Analog Input	Sensor Inputs (Current+Voltage)**	MCU MIPS	RTC	LCD Driver Pixels (Max)	GPIO	UARTs	SPI Port	Package/ Pins
MAX71314C	1P	128	21	Differential	2D + 2	20	Yes	160 (40x4), 228 (6x38), 288 (8x36)	54	4	Yes	LQFP-100
MAX71315C	1P	256	21	Differential	2D + 2	20	Yes	160 (40x4), 228 (6x38), 288 (8x36)	54	4	Yes	LQFP-100
MAX71315S	1P	256	48	Differential	2D + 2	20	Yes	160 (40x4), 228 (38x6), 288 (36x8)	88	5	Yes	LQFP-128
MAX71316S	1P	512	48	Differential	2D + 2	20	Yes	160 (40x4), 228 (38x6), 288 (36x8)	88	5	Yes	LQFP-128
MAX71334C	3P	128	21	Differential	3D/1SE + 3SE	20	Yes	160 (40x4), 228 (6x38), 288 (8x36)	52	4	Yes	LQFP-100
MAX71335C	3P	256	21	Differential	3D/1SE + 3SE	20	Yes	160 (40x4), 228 (6x38), 288 (8x36)	52	4	Yes	LQFP-100
MAX71335S	3P	256	48	Differential	4D + 3	20	Yes	160 (40x4), 228 (38x6), 288 (36x8)	88	5	Yes	LQFP-128
MAX71336S	3P	512	48	Differential	4D + 3	20	Yes	160 (40x4), 228 (38x6), 288 (36x8)	88	5	Yes	LQFP-128
SY7M163G	1P	128	21	Differential	2D + 2	20	Yes	-	38	2	Yes	QFN-68
SY7M166H	3P	256	21	Differential	3D/1S+ 3	20	Yes	-	38	2	Yes	QFN-68
SY7T166G	3P	128	21	Differential	3D/1S + 3	20	Yes	-	38	2	Yes	QFN-68
SY7T166GH	3P	256	21	Differential	3D/1S + 3	20	Yes	-	38	2	Yes	QFN-68
SY7T108E	1P	32	8	Differential	2D +1SE	10	Yes	160 (40x4), 228 (38x6), 288 (36x8)	45	3	Yes	LQFP-64
SY7T108F	1P	64	8	Differential	2D +1SE	10	Yes	160 (40x4), 228 (38x6), 288 (36x8)	45	3	Yes	LQFP-64
SY7M007	3P	-	-	Differential	1U+1I	-	-	-	-	-	-	TQFN-16
SY7T625	3P	-	-	-	-	20	No	-	16	-	Yes	TQFN-32
SY7M213H	3P	256	24+4	Differential	3D/1SE+3SE	10	Yes	384(64x6), 496 (62x8)	73	6	Yes	LQFP-100
SY7T213H	3P	256	24+4	Differential	3D/1SE+3SE	10	Yes	384(64x6), 496 (62x8)	73	6	Yes	LQFP-100

* Not recommended for new design.

** D = Differential input, SE = Single End input, U = Voltage, I = Current

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Contact Us

Silergy Corp. was founded by a group of technology innovators and business leaders with an average 30 years' experience. We design innovative mixed-signal and analog ICs that utilize our industry-leading process technologies. Widely used in automotive, industrial, consumer, computing and communication devices, our products are designed to improve efficiency and to conserve or measure energy use.

Silergy Corp is a Cayman Island company with its operations headquarters in Hangzhou, China. The company stock is traded on Taiwan Stock Exchange (TWSE: 6415).

We are committed to providing industry-leading performance at an affordable solution cost.

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