

Power Management Solutions



A pioneer in power management ICs, Semtech leads the quest to enable a new class of greener, smarter and smaller end products.



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High Performance

Power Management

Our impressive selection of power management integrated circuits are used in telecommunications and industrial equipment, portable devices, computers, and networks. These products include feature rich, highly integrated products for the telecom industry, and low power, small-package, high-efficiency products for cell phones, handsets, notebook PCs and other portable devices. We also supply power products that enable the latest architectures from industry leaders.

Buck Convertors

With a broad selection of buck converters, Semtech offers some of the world's smallest, high-performance point-of-load (POL) regulators. These include our family of converters that set a new standard for efficiency, speed, size and simplicity in emerging green energy applications

LDOs

A wide range of ultra-low dropout regulators offers ideal solutions for systems where V_{OUT} is very close to V_{IN} .

Load Switches

Semtech's new Load Switch products focus on lowest $R_{DS(ON)}$ in class for highest system efficiency and extremely robust protection to withstand the harshest circuit conditions.

Boost Convertors

Semtech's expanded line of boost converters now includes the world's smallest low-voltage regulators, as well as a growing line of single- and multi-string boost LED drivers for demanding, rugged backlighting applications.

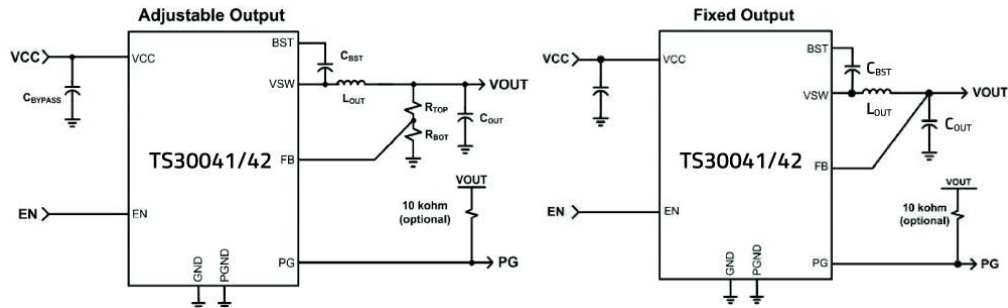
Charge Pumps

Semtech's high-performance, charge pump-based converters and LED backlight drivers build on a strong history of charge pump experience providing very high efficiency in the smallest footprint with accurate current regulation, low noise, and a wide dimming range.

HotSwitch

Semtech's new HotSwitch products offer integrated protection circuitry that can replace conventional fuses & other protection devices. They can deliver higher system reliability with features like overcurrent, overvoltage, over-temperature & reverse current blocking.

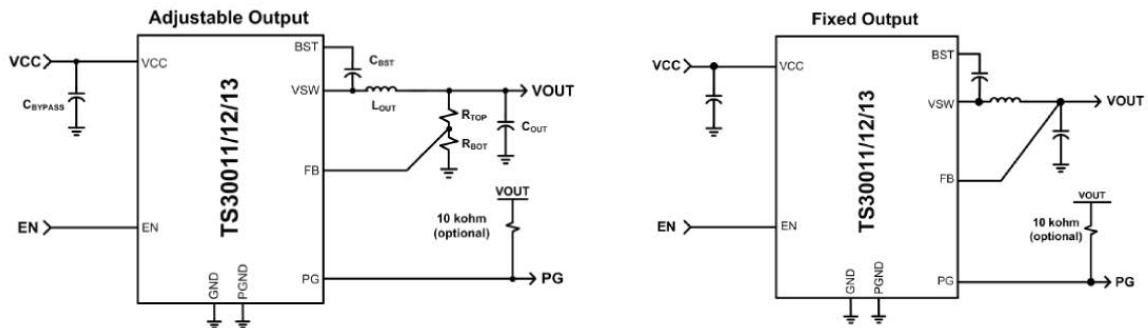
DC-DC Buck Converter



Wide VIN (4.5V to 40 V) DC-DC Buck Converters

Part Number	VIN Range	Number of Outputs	Output Type	VOUT Range (Min/Fixed)	VOUT (Max)	Output Current	Frequency Switching	Package (mm)
TS30042	4.5V to 40V	1	varies	1.5 - 5V	varies	2A	1MHz	3.0 x 3.0 x 0.92
TS30041	4.5V to 40V	1	varies	0.9 - 5V	varies	1A	1MHz	3.0 x 3.0 x 0.92
SC508	4.5V to 46V	1	Adjustable	0.6V	39.1V	8A	1MHz	3.0 x 3.0 x 0.65

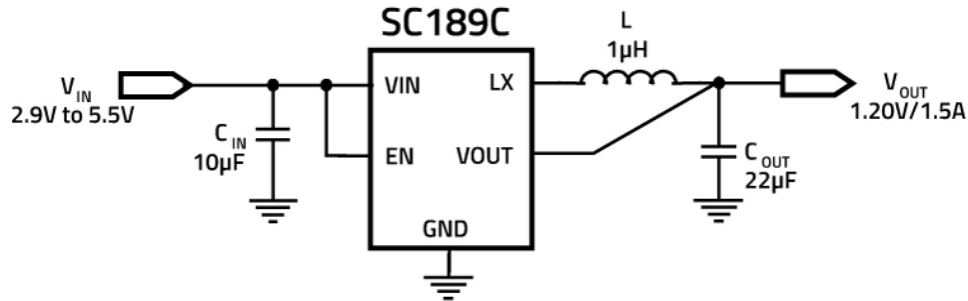
*AEC-Q100 qualified



Wide VIN (4.5V to 18/24V) DC-DC Buck Converters

Part Number	VIN Range	Number of Outputs	Output Type	VOUT Range (Min/Fixed)	VOUT (Max)	Output Current	Frequency Switching	Package (mm)
TS30011	4.5V to 24V	1	varies	0.9 - 5V	23V	1A	1MHz	3.0 x 3.0 x 0.9
TS30012	4.5V to 24V	1	varies	0.9 - 5V	23V	2A	1MHz	3.0 x 3.0 x 0.9
TS30013	4.5V to 18V	1	varies	0.9V	17.82V	3A	1MHz	3.0 x 3.0 x 0.9

Low Voltage Buck Converter



Family of DC-DC Buck Converters								
Part Number	VIN Range	Number of Outputs	Output Type	VOUT Range (Min/Fixed)	VOUT (Max)	Output Current	Frequency Switching	Package (mm)
SC183C	2.9V to 5.5V	1	Programmable	0.8V	3.3V	2A	2.5MHz	3.0 x 3.0 x 0.6
SC183CQ*	2.9V to 5.5V	1	Programmable	0.8V	3.3V	2A	2.5MHz	3.0 x 3.0 x 0.6
SC186	2.9V to 5.5V	1	Adjustable	0.8V	3.3V	4A	1.5MHz	3.0 x 3.0 x 0.6
SC187	2.9V to 5.5V	1	Adjustable	0.8V	3.3V	4A	1.8MHz	3.0 x 3.0 x 0.6
SC283	2.9V to 5.5V	2	Programmable	0.8V	3.3V	1.8A	2.5MHz	2.0 x 3.0 x 0.8
SC286	2.9V to 5.5V	2	Adjustable	0.8V	3.3V	4A	1.6MHz	4.0 x 4.0 x 0.6
SC3303	5.5V to 28V	1	Adjustable	0.75V	7.5V	3A	1MHz	3.0 x 3.0 x 1.05

*AEC-Q100 qualified

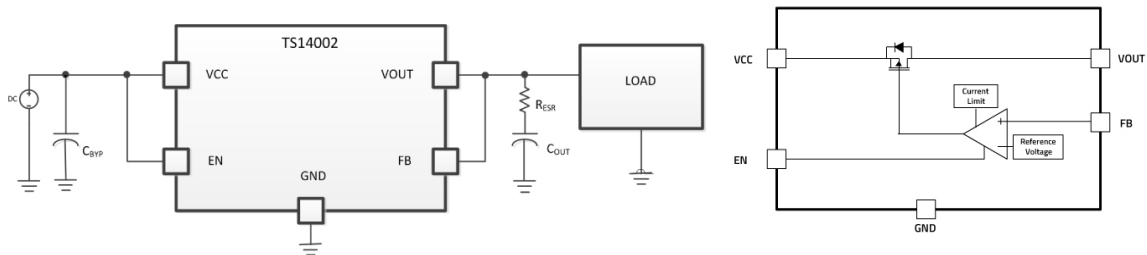
FemtoBuck Family of DC-DC Buck Converters								
Part Number	VIN Range	Number of Outputs	Output Type	VOUT Range (Min/Fixed)	VOUT (Max)	Output Current	Frequency Switching	Package (mm)
SC21150AC	2.5V to 5.5V	1	Adjustable	0.8V	5.5V	1.2A	4MHz	0.75 x 1.11 x 0.62
SC21150BC	2.5V to 5.5V	1	1.2V	0.8V	5.5V	1.2A	4MHz	0.75 x 1.11 x 0.62
SC21150AVC	2.5V to 5.5V	1	Adjustable	0.8V	5.5V	1.2A	2.2MHz	0.75 x 1.11 x 0.62
SC21150CVC	2.5V to 5.5V	1	1.8V	0.8V	5.5V	1.2A	2.2MHz	0.75 x 1.11 x 0.62
SC21152	2.3V to 5.5V	1	Adjustable	0.8V	5.5V	1.2A	4MHz	1.5 x 2.0 x 0.65
SC21154	2.3V to 5.5V	1	Adjustable	0.8V	5.5V	1.2A	4MHz	1.5 x 2.0 x 0.65
SC21156A	2.9V to 5.5V	2	Adjustable	0.8V	3.3V	4A	4MHz	1.5 x 2.0 x 0.65

Family of DC-DC Buck Converters								
Part Number	VIN Range	Number of Outputs	Output Type	VOUT Range (Min/Fixed)	VOUT (Max)	Output Current	Frequency Switching	Package (mm)
SC194A	2.7V to 5.5V	1	Programmable	1, 1.2, 1.5, 1.8V	-	1.0A	1MHz	3.0 x 3.0 x 1.05
SC194B	2.7V to 5.5V	1	Programmable	2.5, 3, 3.3, 3.6V	-	1.0A	1MHz	3.0 x 3.0 x 1.05
SC202A	2.9V to 5.5V	1	Programmable	2.9V	5.5V	0.5A	3.5MHz	2.5 x 3.0 x 1.0

SC189 Family of DC-DC Buck Converters

Part Number	VIN Range	Number of Outputs	Output Type	VOUT Range (Min/Fixed)	VOUT (Max)	Output Current	Frequency Switching	Package (mm)
SC189A	2.9V to 5.5V	1	Fixed	1.0V	-	1.5A	2.5MHz	DFN-2.0 x 2.0 x 0.6 & SOT-23
SC189B	2.9V to 5.5V	1	Fixed	1.1V	-	1.5A	2.5MHz	DFN-2.0 x 2.0 x 0.6 & SOT-23
SC189C	2.9V to 5.5V	1	Fixed	1.2V	-	1.5A	2.5MHz	DFN-2.0 x 2.0 x 0.6 & SOT-23
SC189H	2.9V to 5.5V	1	Fixed	1.5V	-	1.5A	2.5MHz	DFN-2.0 x 2.0 x 0.6 & SOT-23
SC189L	2.9V to 5.5V	1	Fixed	1.8V	-	1.5A	2.5MHz	DFN-2.0 x 2.0 x 0.6 & SOT-23
SC189N	2.9V to 5.5V	1	Fixed	2.0V	-	1.5A	2.5MHz	DFN-2.0 x 2.0 x 0.6
SC189T	2.9V to 5.5V	1	Fixed	2.5V	-	1.5A	2.5MHz	DFN-2.0 x 2.0 x 0.6 & SOT-23
SC189Y	2.9V to 5.5V	1	Fixed	2.5V	-	1.5A	2.5MHz	DFN-2.0 x 2.0 x 0.6 & SOT-23
SC189Z	2.9V to 5.5V	1	Fixed	3.3V	-	1.5A	2.5MHz	DFN-2.0 x 2.0 x 0.6 & SOT-23

LDO

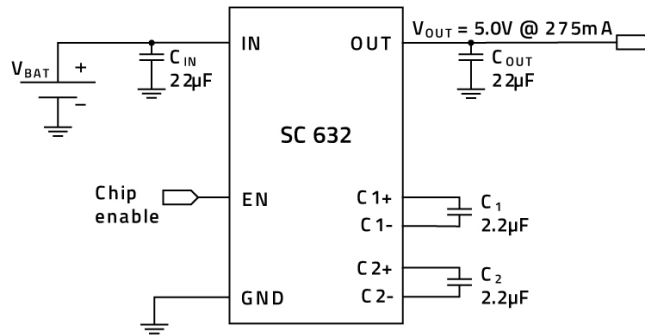


Family of LDOs

Part Number	Number of Outputs	Output Configuration	Output Type	VIN (Max)	VOUT Range (Min/Fixed)	VOUT (Max)	Voltage Dropout Max	Output Current	Quiescent Current	Package (mm)
TS14002-CvvDFNR*	1	Positive	Fixed	5.5V	-	1.2V ~ 4.2V	2V@150mA	150 mA	20 nA	2.0 x 2.0 x 0.9
SC4212	1	Positive	Adjustable (Fixed)	6V	0.5V (0.5V)	5V	0.5V @ 1A	1A	15 μ A	3.0 x 3.0 x 1.0
SC4215H	1	Positive	Adjustable (Fixed)	6V	0.5V (0.5V)	5.5V	0.4V @ 2A	2A	50 μ A	6.0 x 4.9 x 1.75
SC4215A	1	Positive	Adjustable (Fixed)	6V	0.5V (0.5V, 1.2V)	3.8V	0.4V @ 2A	2A	50 μ A	6.0 x 4.9 x 1.75
SC4215	1	Positive	Adjustable (Fixed)	5.5V	0.8V (0.8V, 2.5V)	5V	0.6V @ 2A	2A	50 μ A	6.0 x 4.9 x 1.75
SC4215J	1	Positive	Adjustable (Fixed)	6V	0.5V (0.5V)	5.6V	0.4V @ 2A	2A	50 μ A	6.0 x 4.9 x 1.75
SC4216	1	Positive	Adjustable (Fixed)	5.5V	0.5V (0.5V, 1.2V)	3.8V	0.7V @ 3A	3A	50 μ A	6.0 x 4.9 x 1.75
SC4216H	1	Positive	Adjustable (Fixed)	5.5V	0.5V (0.5V)	4.8V	0.7V @ 3A	3A	50 μ A	6.0 x 4.9 x 1.75

*Output Voltage ranges from 1.2V ~ 4.2V

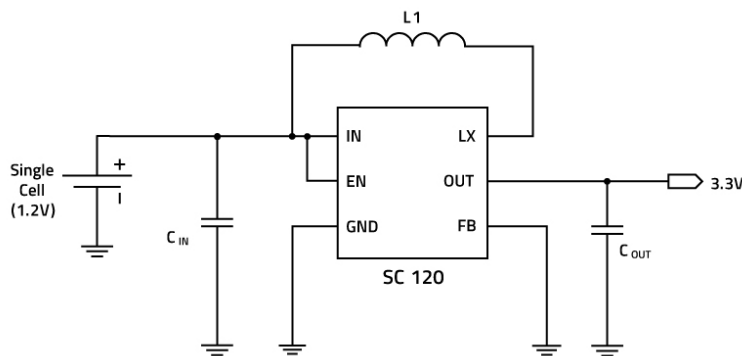
Charge Pump



SC632/SC32A family of Charge Pump

Part Number	Input Voltage Range (V)	Output Voltage (V)	Shut Down Current (μ A)	Continuous Output Current (mA)	Peak Output Current (mA)	Output Voltage Ripple	Charge Pump Frequency	Short Circuit Current (mA)	Package (mm)
SC632	2.9 to 5.5	5.0	0.1	275	500	30	200 kHz	600	2.0 x 2.0 x 0.6
SC632A	2.9 to 5.5	5.0	0.1	275	400	50	1 MHz	600	2.0 x 2.0 x 0.6
SC630	2.9 to 5.5	3.3	0.1	275	500	30	200 kHz	600	2.0 x 2.0 x 0.6
SC630A	2.9 to 5.5	3.3	0.1	275	500	30	1 MHz	600	2.0 x 2.0 x 0.6

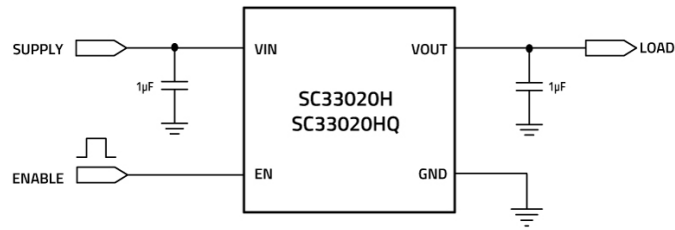
Boost Converter



SC120/SC121 Boost Converter

Part Number	Input Voltage Range (V)	Minimum Start Up Voltage (V)	Output Voltage (V)	Peak Input Current Limit (A)	Switching Frequency (MHZ)	Efficiency	Shutdown Current (μ A)	Package (mm)
SC120	0.7 to 4.5	0.865	3.3	1.2	1.2	94	0.1	SOT-23
SC121	0.7 to 4.5	0.85	3.3	1.2	1.2	94	0.1	DFN (1.5 x 2.0x 0.6) & SOT-23

Load Switch

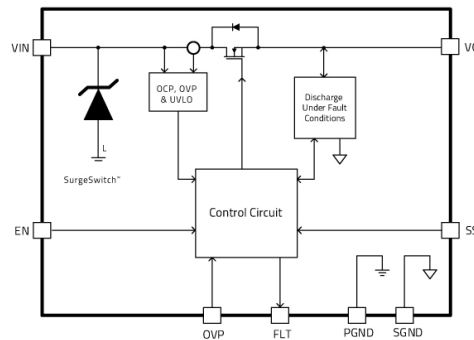
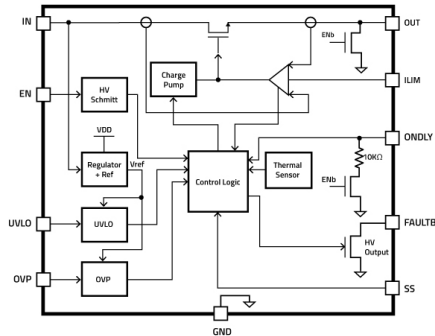


SC33020H/ SC33020HQ Load Switch

Part Number	Input Voltage Range (V)	Maximum Output Current (A)	Turn ON Delay (μ s)	Rising Time (μ s)	Quiescent current (μ A)	ESD protection level HBM (kV)	Ron (m Ω)	Package (mm)
SC33020H	1.6 to 5.5	2	440	640	1 (typical)	4	32	0.9 x 0.9 x 0.65
SC33020HQ*	1.6 to 5.5	2	440	640	1 (typical)	4	32	0.9 x 0.9 x 0.65

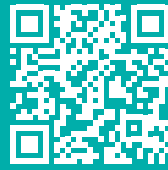
*AEC-Q100 qualified

Hot Switch



Hot Switch Product family

Part Number	Input Voltage Range (V)	Current Limit (Max)(A)	Iq Typ (μ A)	Shutdown Current Typ (μ A)	Quiescent current (μ A)	ESD protection level HBM (kV)	Rds(on) (m Ω)	Package (mm)
HS2950P	2.7 to 29	3.1	340	1	1 (typical)	2	25	3.0 x 3.0 x 0.85
HS2240P	3.0 to 22	5	200	2	1 (typical)	2	40	3.5 x 2.0 x 0.57



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Semtech Corporation is a leading global supplier of high performance analog and mixed-signal semiconductors and advanced algorithms for infrastructure, high-end consumer and industrial equipment. Products are designed to benefit the engineering community as well as the global community. The Company is dedicated to reducing the impact it, and its products, have on the environment. Internal green programs seek to reduce waste through material and manufacturing control, use of green technology and designing for resource reduction. Publicly traded since 1967, Semtech is listed on the NASDAQ Global Select Market under the symbol SMTC. For more information, visit www.semtech.com.

200 Flynn Road, Camarillo, California 93012 | 805-498-2111

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