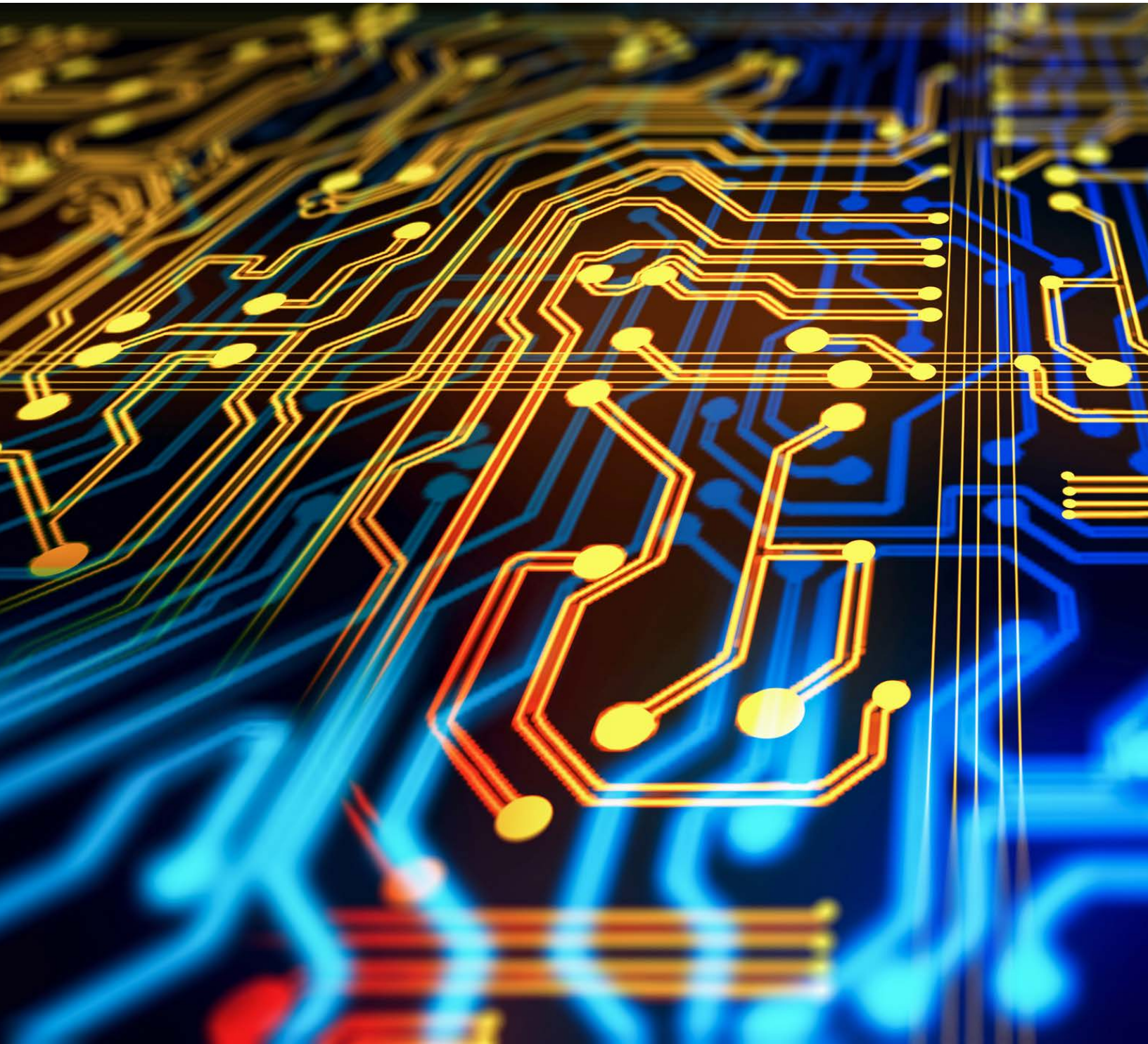


Power Management Solutions



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 VOUT is very close to VIN.

Load Switches

Semtech's new Load Switch products focus on lowest RDS(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.

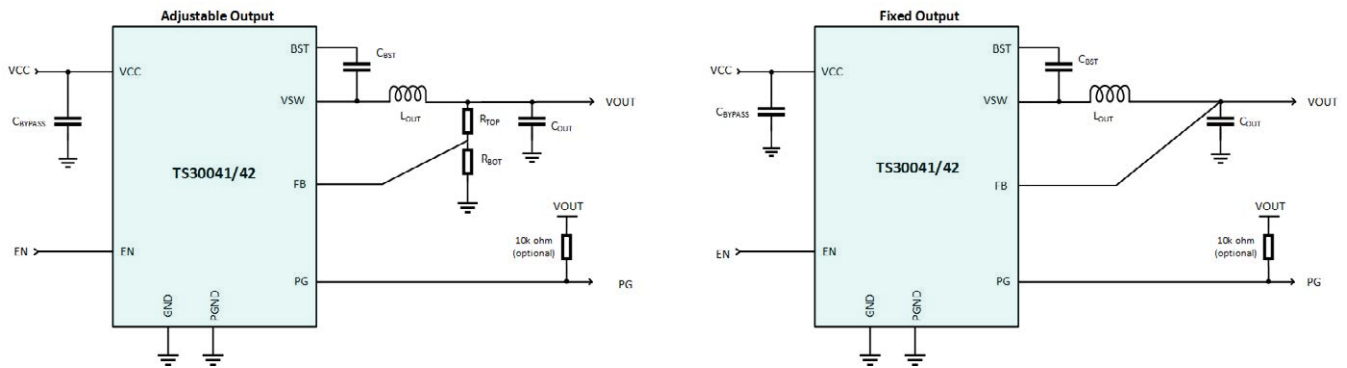
HotSwitch

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.

Neo-Iso Solid State Relay

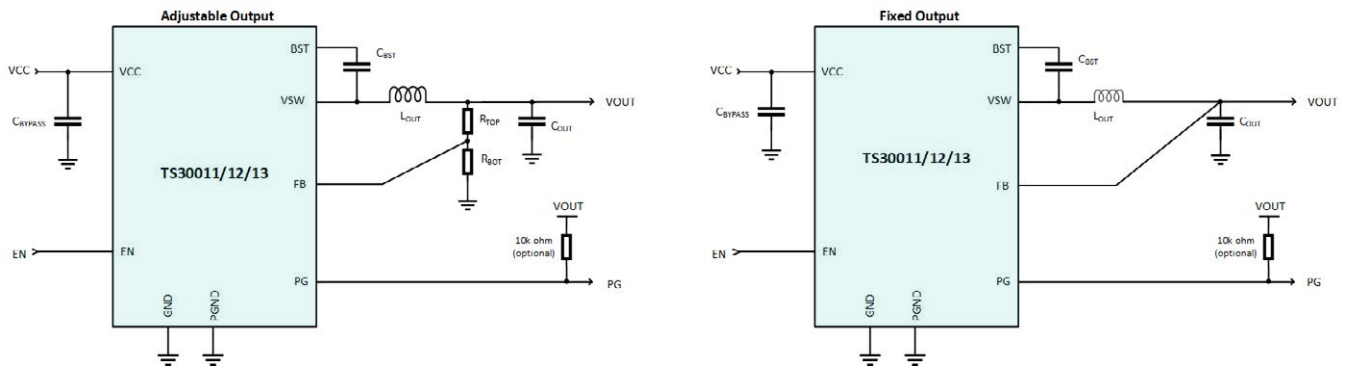
Semtech's Neo-Iso is an energy harvesting platform for self-powered control systems in IoT applications. These compact switches enable low-power microcontrollers to control high voltage loads while reporting fault conditions for safer, more efficient operation. By harvesting power from the load itself, Neo-Iso switches eliminate the need for additional supplies and operate silently with minimal current draw.

DC-DC Buck Converter



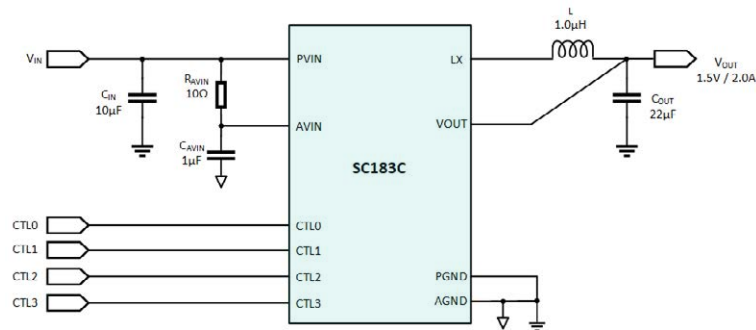
Wide VIN (4.5V to 40 V) DC-DC Buck Converters									
Part Number	MOSFET	VIN Range	Number of Outputs	Output Type	VOUT Range (Adjustable)	VOUT (Fixed)	Output Current	Frequency Switching	Package (mm)
TS30042	Integrated	4.5V to 40V	1	Fixed/Adjustable	0.9 – 38V	3.3V	2A	1MHz	QFN-16 3.0 x 3.0 x 0.92
TS30041	Integrated	4.5V to 40V	1	Fixed/Adjustable	0.9 – 38V	3.3V, 5V	1A	1MHz	QFN-16 3.0 x 3.0 x 0.92
SC508*	External	4.5V to 46V	1	Adjustable	0.6 – 39.1V	–	8A	1MHz	MLPQ-20 3.0 x 3.0 x 0.65

* Controller Only



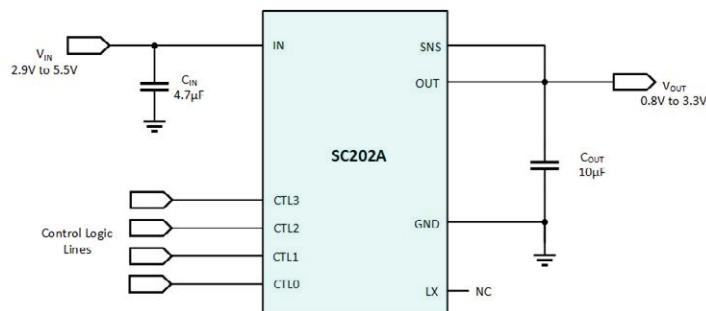
Wide VIN (4.5V to 18/24V) DC-DC Buck Converters								
Part Number	VIN Range	Number of Outputs	Output Type	VOUT Range (Adjustable)	VOUT (Fixed)	Output Current	Frequency Switching	Package (mm)
TS30011	4.5V to 24V	1	Fixed/Adjustable	0.9 – 23V	3.3V, 5V	1A	1MHz	QFN-16 3.0 x 3.0 x 0.9
TS30012	4.5V to 24V	1	Fixed/Adjustable	0.9 – 23V	3.3V, 5V	2A	1MHz	QFN-16 3.0 x 3.0 x 0.9
TS30013	4.5V to 18V	1	Fixed/Adjustable	0.9 – 17.8V	3.3V, 5V	3A	1MHz	QFN-16 3.0 x 3.0 x 0.9

Low Voltage Buck Converter



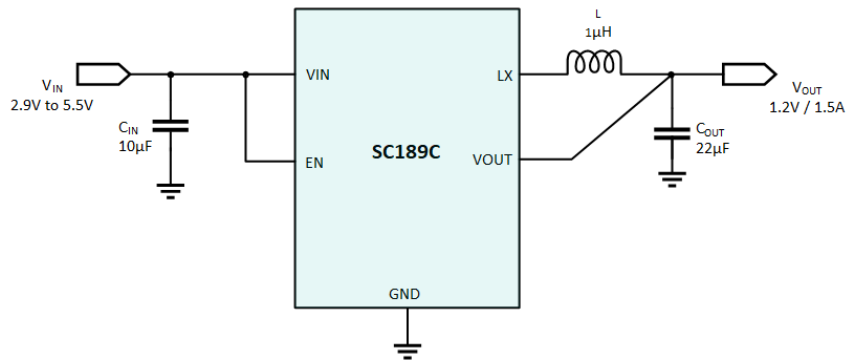
SC18x/ SC28x Family of DC-DC Buck Converters

Part Number	VIN Range	Number of Outputs	Output Type	VOUT Range (Min)	VOUT (Max)	Output Current	Frequency Switching	Package (mm)
SC183C	2.9V to 5.5V	1	Programmable	0.8V	3.3V	2A	2.5MHz	MLPQ-UT16 3.0 x 3.0 x 0.6
SC186	2.9V to 5.5V	1	Programmable	0.8V	3.3V	4A	1.5MHz	MLPQ-UT16 3.0 x 3.0 x 0.6
SC187	2.9V to 5.5V	1	Programmable	0.8V	3.3V	4A	2.2MHz	MLPQ-UT16 3.0 x 3.0 x 0.6
SC283	2.9V to 5.5V	2	Programmable	0.8V	3.3V	1.8A	2.5MHz	MLPQ-W18 2.0 x 3.0 x 0.8
SC286	2.9V to 5.5V	2	Programmable	0.8V	3.3V	4A	1.6MHz	MLPQ-UT28 4.0 x 4.0 x 0.6



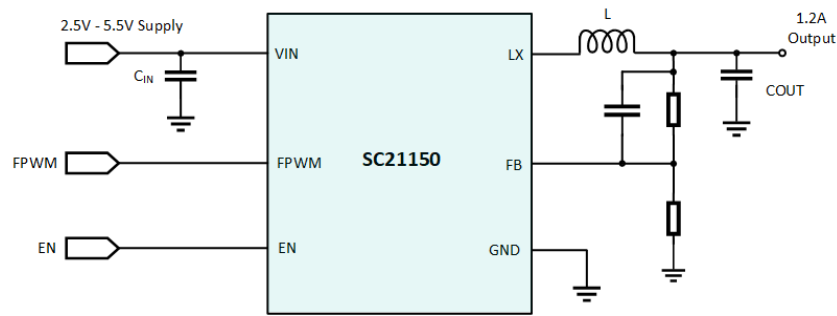
SC19x Family of DC-DC Buck Converters

Part Number	VIN Range	Number of Outputs	Output Type	VOUT Range (Min/Max)	Output Current	Frequency Switching	Package (mm)
SC194A	2.7V to 5.5V	1	Programmable	1.0V – 1.8V	1.0A	1MHz	MLP-10 3.0 x 3.0 x 1.05
SC194B	2.7V to 5.5V	1	Programmable	2.5V – 3.6V	1.0A	1MHz	MLP-10 3.0 x 3.0 x 1.05
SC202A	2.9V to 5.5V	1	Programmable	0.8V – 3.3V	0.5A	3.5MHz	MLPQ-13 2.5 x 3.0 x 1.0



SC189 Family of DC-DC Buck Converters

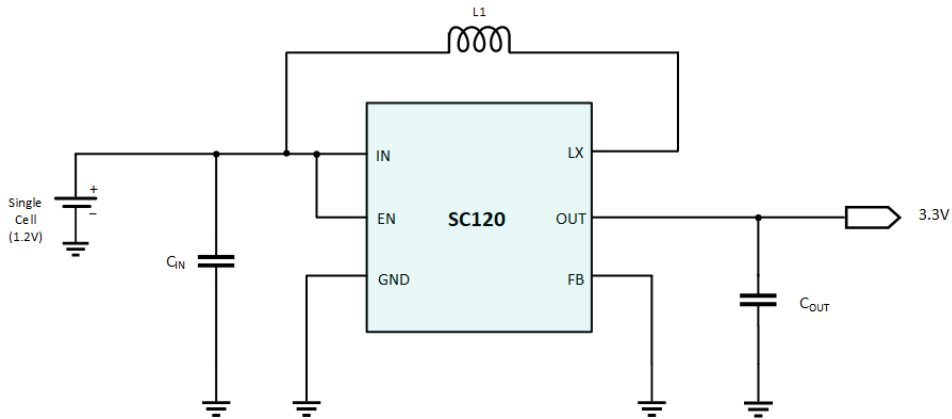
Part Number	VIN Range	Number of Outputs	Output Type	Output Voltage	Output Current	Frequency Switching	Package (mm)
SC189A	2.9V to 5.5V	1	Fixed	1.0V	1.5A	2.5MHz	SOT-23 2.9x2.8x1.2
SC189B	2.9V to 5.5V	1	Fixed	1.1V	1.5A	2.5MHz	SOT-23 2.9x2.8x1.2
SC189C	2.9V to 5.5V	1	Fixed	1.2V	1.5A	2.5MHz	SOT-23 2.9x2.8x1.2
SC189H	2.9V to 5.5V	1	Fixed	1.5V	1.5A	2.5MHz	SOT-23 2.9x2.8x1.2
SC189L	2.9V to 5.5V	1	Fixed	1.8V	1.5A	2.5MHz	SOT-23 2.9x2.8x1.2
SC189Y	2.9V to 5.5V	1	Fixed	2.5V	1.5A	2.5MHz	SOT-23 2.9x2.8x1.2
SC189Z	2.9V to 5.5V	1	Fixed	3.3V	1.5A	2.5MHz	SOT-23-5 2.9x2.8x1.2



SC2115x Family of DC-DC Buck Converters

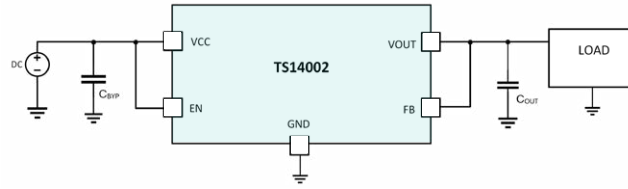
Part Number	VIN Range	Number of Outputs	Output Type	VOUT Range (Min/Fixed)	VOUT (Max)	Output Current	Frequency Switching	Package (mm)
SC21150AC	2.5V to 5.5V	1	Adjustable	0.8V	5.5V	1.2A	4MHz	WLCSP-6 0.75 x 1.11 x 0.62
SC21150AVC	2.5V to 5.5V	1	Adjustable	0.8V	5.5V	1.2A	2.2MHz	WLCSP-6 0.75 x 1.11 x 0.62
SC21152	2.3V to 5.5V	1	Adjustable	0.8V	5.5V	1.2A	4MHz	MLPD-6 1.5 x 2.0 x 0.6
SC21154	2.3V to 5.5V	1	Adjustable	0.8V	5.5V	1.2A	4MHz	MLPD-6 1.5 x 2.0 x 0.6
SC21156A	2.3V to 5.5V	1	Adjustable	0.8V	5.5V	1.2A	4MHz	MLPD-6 1.5 x 2.0 x 0.6

Boost Converter

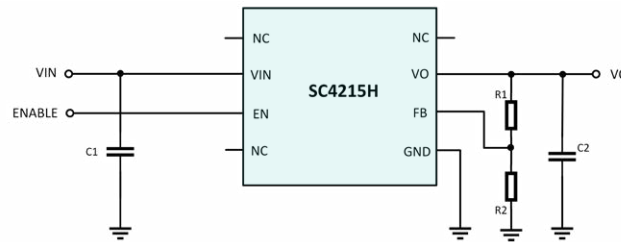


SC120/SC121 Boost Converter								
Part Number	Input Voltage Range (V)	Minimum Start Up Voltage (V)	Output Voltage (V)	Peak Input Current Limit (A)	Switching Frequency (MHZ)	Efficiency	Shutdown Current (μ A)	Package (mm)
SC120	0.7 to 4.5	0.865	3.3	1.2	1.2	94	0.1	SOT-23 2.9 x 2.8 x 1.2
SC121	0.7 to 4.5	0.85	3.3	1.2	1.2	94	0.1	MLPD-UT-6 (1.5 x 2.0 x 0.6) & SOT-23 2.9 x 2.8 x 1.2

LDO

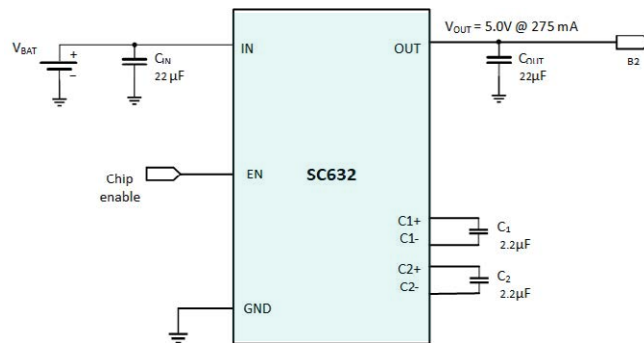


Family of LDOs									
Part Number	Number of Outputs	Output Configuration	Output Type	VIN (Max)	VOUT Range	Voltage Dropout Max	Output Current	Quiescent Current	Package
TS14002-CvvdFNFR	1	Positive	Fixed	5.5V	1.2V ~ 4.2V	2V@150mA	150 mA	20 nA	DFN-8 2.0 x 2.0 x 0.9



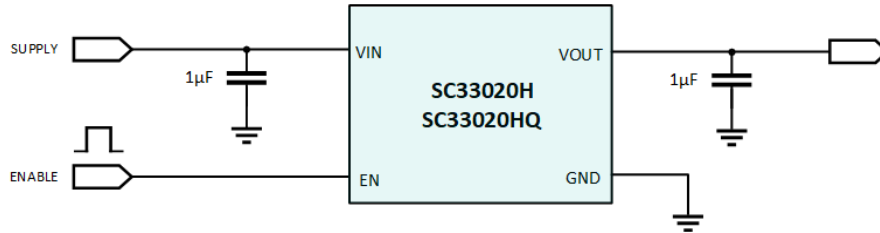
SC421x Family of LDOs										
Part Number	Number of Outputs	Output Configuration	Output Type	VIN (Max)	VOUT Range (Min/Fixed)	VOUT (Max)	Voltage Dropout Max	Output Current	Shutdown Current	Package (mm)
SC4212	1	Positive	Adjustable (Fixed)	6V	0.5V (0.5V)	5V	0.5V @ 1A	1A	15 μ A	MLPD-8 3.0 x 3.0 x 1.0
SC4215H	1	Positive	Adjustable (Fixed)	6V	0.5V (0.5V)	5.6V	0.4V @ 2A	2A	50 μ A	SOIC-8 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	SOIC-8 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	SOIC-8 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	SOIC-8 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	SOIC-8 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	SOIC-8 6.0 x 4.9 x 1.75

Charge Pump



SC63x 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 (Typ) (mV)	Charge Pump Frequency (Typ) (kHz)	Short Circuit Current (mA)	Package (mm)
SC632	2.9 to 5.5	5.0	0.1	275	500	30	200	600	MLPD-UT-8 2.0 x 2.0 x 0.6
SC632A	2.9 to 5.5	5.0	0.1	275	400	50	1000	600	MLPD-UT-8 2.0 x 2.0 x 0.6
SC630	2.9 to 5.5	3.3	0.1	400	500	20	200	600	MLPD-UT-8 2.0 x 2.0 x 0.6
SC630A	2.9 to 5.5	3.3	0.1	300	600	30	1000	600	MLPD-UT-8 2.0 x 2.0 x 0.6

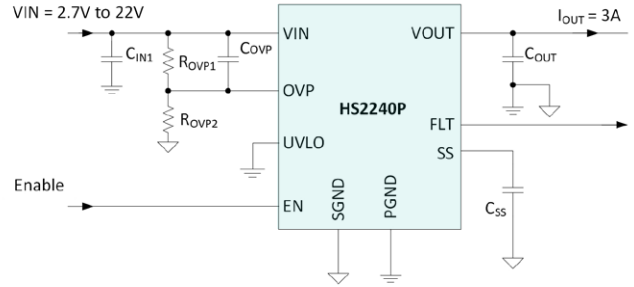
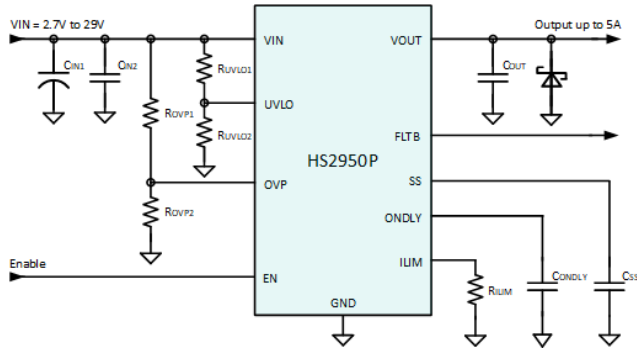
Load Switch



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	CSP-4 0.9 x 0.9 x 0.6
SC33020HQ*	1.6 to 5.5	2	440	640	1 (typical)	4	32	CSP-4 0.9 x 0.9 x 0.6

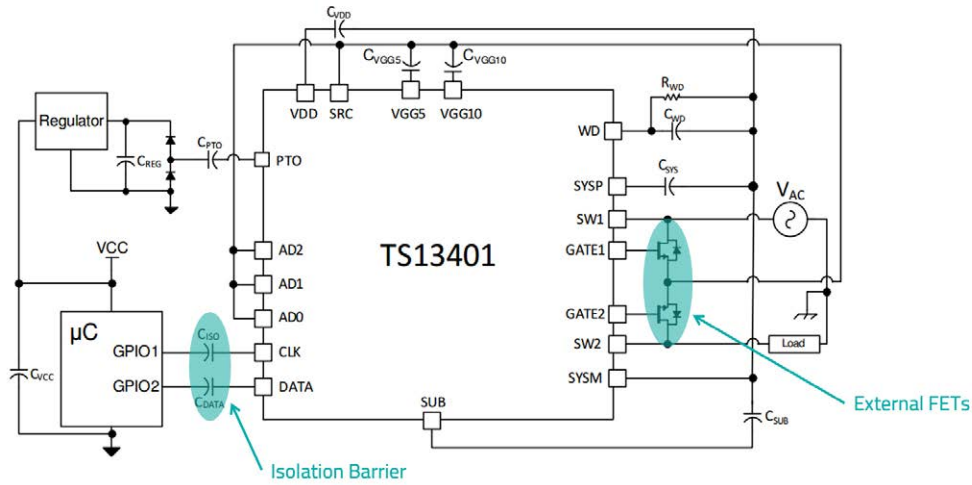
*AEC-Q100 qualified

Hot Switch



Hot Switch Product family							
Part Number	Input Voltage Range (V)	Current Limit (Max) (A)	Quiescent Current (Typ) (μ A)	Shutdown Current Typ (μ A)	ESD protection level HBM (kV)	Rds(on) (m Ω)	Package (mm)
HS2950P	2.7 to 29	5	340	1	2	25	DFN-12 3.0 x 3.0 x 0.55
HS2240P	2.7 to 22	3.1	200	2	2	40	DFN-14 3.5 x 2.0 x 0.57

Neo-Iso Solid State Relays



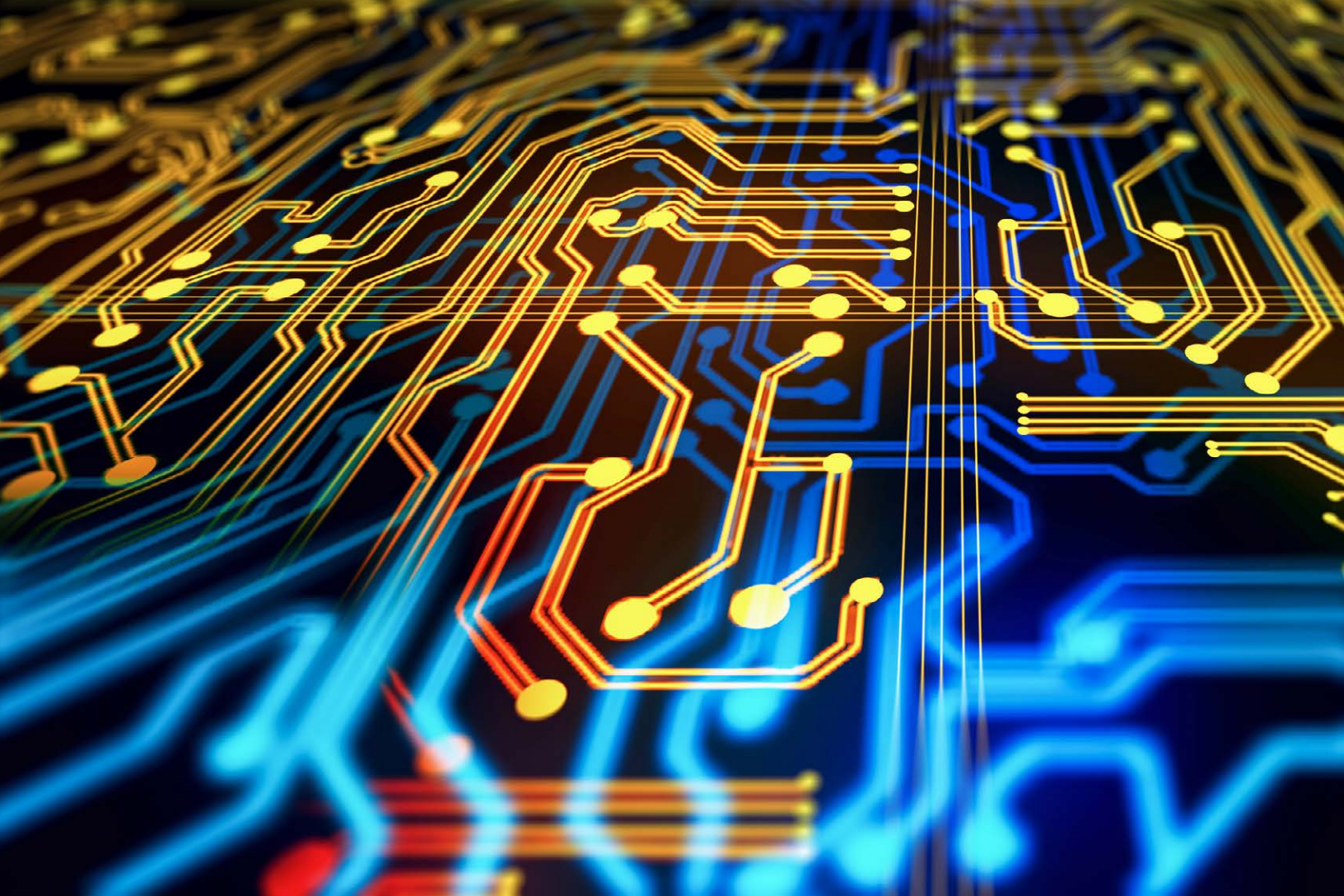
	TS13101	TS13102	TS13401
CURRENT LIMIT	4 A	2.5 A (4A inrush)	> 10 A (FET dependent)
MAX VOLTAGE	60 V	60 V	240 V (FET dependent)
AC APPLICATIONS OR NO-POLARITY DC	✓	✓	✓
FET	Internal FET	Internal FET	External FET
SIMPLE CLK CONTROL	✓	○	○
ADDRESS PINS	○	✓	✓
PACKAGE SIZE	QFN 4x4	QFN 3x3	QFN 3x3 + FET
SWITCH STATUS FEEDBACK	✓	✓	✓
ZERO-CROSS SWITCHING (wait 0v/a turn on/off)	○	✓	✓
LOAD DISCONNECT DETECTION	○	✓	✓
ENERGY HARVESTING	○	○	✓
CURRENT MEASURE	○	○	✓
VOLTAGE MEASURE	○	○	✓
TEMPERATURE MEASURE	○	○	✓

● Product feature ○ N/A

Notes

Notes

Notes



For a detailed list of sales representatives in your area please visit [semtech.com/sales](https://www.semtech.com/sales)



SEMTECH[®]

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Semtech Corporation (Nasdaq: SMTC) is a high-performance semiconductor, IoT systems, and cloud connectivity service provider dedicated to delivering high-quality technology solutions that enable a smarter, more connected, and sustainable planet. Our global teams are committed to empowering solution architects and application developers to develop breakthrough products for the infrastructure, industrial and consumer markets.

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