SEMTECH

Semtech Products Short Form Catalog 2011

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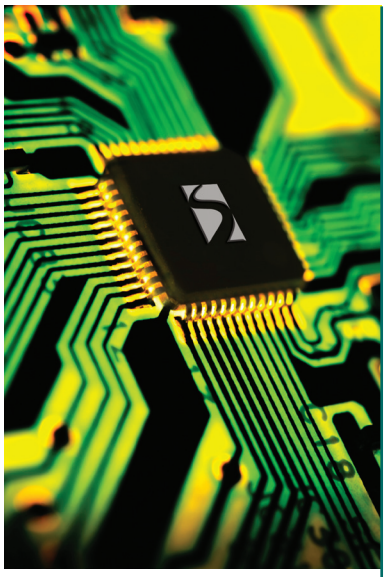
About Semtech



Semtech Corporation

Semtech is a leading supplier of analog and mixed-signal semiconductor platforms for high-end consumer, computing, communications and industrial equipment. The company has more than 20 sales and application support offices in 12 countries, as well as our reps and distribution support locations in more than 30 countries. Publicly traded since 1967, Semtech is listed on the NASDAQ Global Select Market under the symbol SMTC. Our products, differentiated by innovation, size, efficiency and performance, are used in some of the most innovative systems and in some of the fastest growing markets in the industry.

Fast growing markets such as Smart Phones, LCD TVs, Notebook Computers, Wireless LAN Modems, Automatic Meter Reading, Ultra-Low Power Medical, Satellite Communication, Cellular Infrastructure, Optical Transport and Datacenters.

With over 1500 products being sold to over 4500 customers across all geographies and a world class technology roadmap, Semtech is one of the most balanced semiconductor companies in the industry.

CONTENTS

Low Power Consumption, Energy Efficient, Small Package

EcoSpeed®

Semtech's Power Management products include feature rich, highly integrated devices for the telecom industry, and low power, small-package, high-efficiency products for cell phones, handsets, notebook PCs and other portable devices.

- DC-DC PWM Controllers
- Switching and Linear Regulators
- Charge Pumps
- LED & MOSFET Drivers
- Battery Chargers
- Hot-Swap Controllers

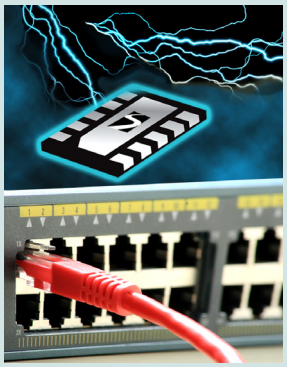
Power Management Product Focus

Input Voltage 2.9 – 5.5V Switching Buck Regulators			
Part Number	Current	Package	Key Features
SC171	1A	MLPD-10, 3x3	EcoSpeed, Fast Transient Response, Ultrasonic PSAVE, Common Package & Pinout for Easy Power Upgrade
SC172	2A	MLPD-10, 3x3	
SC173	3A	MLPD-10, 3x3	
SC174	4A	MLPD-10, 3x3	
SC195	0.5A	MLPQ-8, 1.5x1.5	4-bit VID
SC202A	0.5A	MLPQ-13, 2.5x3	Integrated Inductor, 4-bit VID
SC197	2 x 0.5A	MLPQ-18, 2x3	Dual output, 4-bit VID
SC4626	1A	SOT23-5	
SC189	1.5A	MLPD-6, 2x2, SOT23-5	
SC183C	2A	MLPD-16, 3x3	4-bit VID
SC283	2 x 1.8A	MLPQ-18, 2x3	Dual Output, 4-bit VID, Very Small Footprint
SC185	4A	MLPQ-16, 3x3	Prog SS, Power Good
SC186	4A	MLPQ-16, 3x3	4-bit VID, Prog SS, Power Good
SC286	2 x 4A	MLPQ-28, 4x4	Dual Output, 4-bit VID, Very Small Footprint

Wide Input Switching Buck Regulators				
Part Number	Input Voltage	Current	Package	Key Features
SC410	5.5–24V	3A	MLPD-10, 3x3	EcoSpeed w/LDO, Fast Transient Response, Ultrasonic PSAVE
SC414	3–28V	6A	MLPQ-28, 4x4	
SC403B	3–28V	6A	MLPQ-32, 5x5	EcoSpeed, Fast Transient Response, Prog SS, LDO w/Xover Circuit, Common Package & Pinout for Easy Power Upgrade
SC402B	3–28V	10A	MLPQ-32, 5x5	
SC401B	3–17V	15A	MLPQ-32, 5x5	
SC4524C	3–28V	2A	SO-8	Max Vout 0.96 * V_{IN}, Prog SS
SC4524D	3–18V	2A	SO-8	Max Vout 0.96 * V_{IN}, Prog SS
SC4525C	3–28V	3A	SO-8	Max Vout 0.96 * V_{IN}, Prog SS
SC4525D	3–18V	3A	SO-8	Max Vout 0.93 * V_{IN}, Prog SS

Inductive Boost and Charge Pump Buck-Boost Regulators					
Part Number	Vin	Vout	Peak Current	Package	Key Features
SC120	0.7–4.5V	1.8 to 5V, 3.3V	1.2A	MLPD-6, 1.5x2 SOT23-6	Low Iq, PSAVE
SC121	0.7–4.5V	1.8 to 5, 3.3	1.2A	MLPD-6, 1.5x2	Up to 94% Efficiency
SC122	0.7–1.6V	3.3V	1.2A	MLPD-6, 1.5x2	Low Iq, PSAVE
SC4501	1.4–16V	32V	2A	MSOP-8-EDP MLPD-10, 3x3	Prog SS, Prog f, SEPIC Configuration Possible
SC630A	2.9–5.5V	3.3V	500mA	MLPD-8, 2x2	Charge Pump Buck-Boost, Lowest BOM
SC632A	2.9–5.5V	5.0V	400mA	MLPD-8, 2x2	

Low Clamping Voltage, Low Capacitance, Low Leakage Current



Semtech Transient Voltage Suppressors (TVS) safeguard circuits against damage or latch-up caused by ESD, lightning and other destructive voltage transients. Our protection devices feature low clamping voltage, low capacitance, and low leakage current.

- **ESD Protection**
- **ESD-EMI Filter Protection**
- **High-Current Lightning Protection**
- **Low Capacitance ESD Protection**
- **Low Voltage ESD Protection**

Why choose Semtech TVS solutions?

Superior Clamping Voltage

Clamping voltage, by definition, is the maximum voltage drop across the protection device during a transient event, which is also the stress voltage seen by the protected IC. The clamping voltage is the most critical parameter to consider when choosing a TVS device.

It is important to note that a device rated at IEC 61000-4-2 does not guarantee the system will pass ESD testing. This is because the IEC is a system level standard that was originally intended to be applied as pass/fail criteria for showing system level ESD immunity. The purpose of a protection device is to reduce a transient voltage spike down to a safe voltage for the protected IC. The best way to insure that your TVS protection device adequately protects your interface circuitry is by choosing components that offer the lowest clamping voltage performance.

To illustrate the unique protection benefits of Semtech's proprietary EPD technology, Fig 1.1 on page 5 compares the clamping voltage of an industry standard 5V TVS device with the clamping voltage of the Semtech RClamp2504N device. Built on the EPD platform, the RClamp2504N offers a very low 2.5V working voltage. Notice that the Semtech RClamp2504N provides a nice low, flat clamping voltage over a wide range of peak pulse current values. As a 2.5V working voltage device, the clamping performance of the RClamp2504N is significantly lower than the typical 5V TVS protection device. As the sensitivity on next generation PHYs increases, selecting the TVS devices with a lower clamping voltage, as illustrated in the chart, can be the difference between safeguarding an Ethernet PHY or resulting in catastrophic damage.

Improved Circuit Protection

A good TVS device for protecting dataline communications interfaces must have some key parameters. First, **low working voltage** is a critical TVS parameter for safeguarding submicron integrated circuits. The working voltage, or Vrwm, is the maximum rated DC voltage for the TVS device. At the Vrwm voltage, the TVS is still a non-conducting device. Once the transient voltage rises above the working voltage, the TVS quickly achieves breakdown and presents a low impedance path to divert the transient. Thus, a low working voltage is essential for clamping a transient to a level well below the damage threshold of the IC that the TVS is protecting

The I-V curve illustrates (Fig 1.2) the advantage of a lower working voltage. The green line represents a typical I-V curve for a standard TVS device while the red I-V curve illustrates the Semtech's low working voltage technology. The lower working voltage means the transient voltage is arrested more quickly and thus can be clamped to a lower voltage. Using TVS devices with lower working voltage is critical to reducing the stress energy seen by the communications transceiver. To address this need, Semtech has designed a family of 2.5V working voltage protection devices for safeguarding next generation high-speed transceivers.

Secondly, the TVS should present **low capacitance** to preserve signal integrity on the high-speed interface. If the capacitance of the TVS diodes is too high, adding excessive loading to the circuit, signal distortion and data errors will result.

Finally, the TVS needs to offer **high-surge handling**. For systems in the communications infrastructure, components rated only for ESD transient levels will not provide sufficient protection. The TVS component must also be able to handle the higher energy contained within cable discharges and the variety of lightning threats common to Ethernet interfaces. As a general guideline, the TVS should at least provide 25A of surge handling for an 8x20 microsecond pulse.

Typical Protection Applications

Semtech Device	Application (Port)	# of Lines	Capacitance pF	Protection level (8/20µs)*
RClamp0531T	Single Line High Speed	1	0.8	4A
RClamp0584J	Digital Video (HDMI, DisplayPort, etc)	4	0.25	5A
RClamp0544T	USB	4	0.3	5A
RClamp0542T	USB	2	0.25	5A
µClamp3324P	Low Voltage Flow Through	4	14	5A
µClamp3306P	Keyboard, I/O	6	10	5A
SM712	RS485	2	45	17A
RClamp2504N	Gigabit Ethernet	4	2.0	25A
RClamp2574N	Gigabit Ethernet	4	1.7	40A
TClamp2502N	Gigabit Ethernet	2	12	95A
TClamp0602N	T1/E1	2	12	95A
LC01-6	Outer Building Lightning	2	50	95A

*All devices will protect at a minimum to IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact) and IEC 610000-4-4 (EFT) 40A (5/50ns)

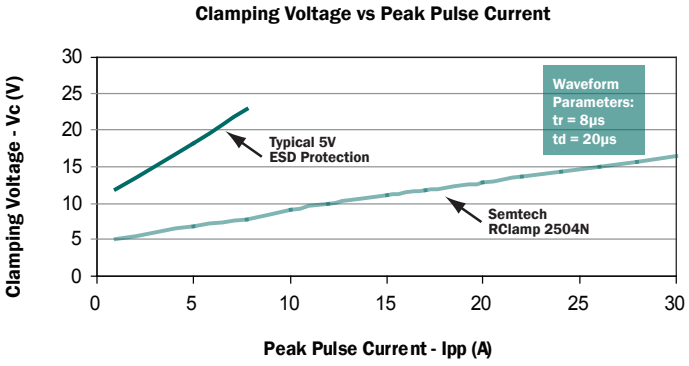


Fig 1.1 Clamping Performance for RClamp 2504N

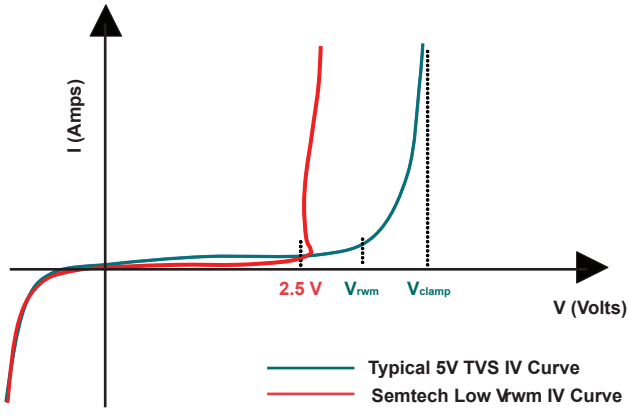


Fig 1.2 IV Curve for Semtech Low Working Voltage Process

Resistive Touch Solutions

Semtech's ultra low power, fully integrated touchscreen controller platform enables multi-touch gestures on regular 4-wire resistive touchscreens and supports proximity on ANY panel. It also features advanced haptics control as well as robust on-chip ESD protection in a small footprint.

Applications:

- Portable Navigation Device
- Automotive Center Console
- Digital Photo Frame
- DSC, Video Camera
- Handheld Games & Mobile
- POS Terminals
- Control Panel

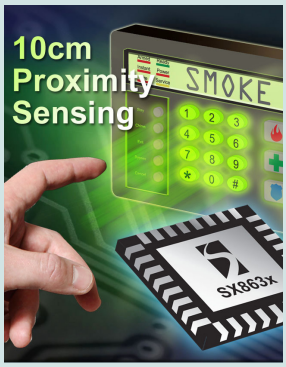
Key Features:

- Low Power (0.4µA)
- Compatible with a wide range of resistive panels
- Enable Multi-touch gestures with 4-wire touch panel
- Built-in Proxmitiy Detection with ANY Panels (>5cm)
- Integrated haptics motor control (LRA&ERM)
- 12-bit Resolution
- ESD Protection (±25kV Air & ±15kV Contact)
- 50kSPS Eq. Throughput
- Digital Filters

Resistive Touch Solution Family

Part Number	Touch Panel	Interface	Programmable Settling Time	Multi-touch	Proximity Sensing	Haptics	Package
SX8650	4-wire	I²C	✓				1.46x1.96mm WLCSP 3.0x3.0mm DFN
SX8651	4-wire	I²C	✓	✓			1.46x1.96mm WLCSP 3.0x3.0mm DFN
SX8652	4/5-wire	SPI	✓				1.46x1.96mm WLCSP 4.0x3.0mm DFN
SX8653	4/5-wire	SPI	✓	✓			1.46x1.96mm WLCSP 4.0x3.0mm DFN
SX8654	4/5-wire	I²C	✓		✓	Generic	2.07x2.07mm WLCSP 4.0x4.0mm QFN
SX8655	4/5-wire	I²C	✓			Generic	2.07x2.07mm WLCSP 4.0x4.0mm QFN
SX8656	4/5-wire	I²C	✓		✓		2.07x2.07mm WLCSP 4.0x4.0mm QFN
SX8657	4/5-wire	I²C	✓		✓	Immersion	2.07x2.07mm WLCSP 4.0x4.0mm QFN
SX8658	4/5-wire	I²C	✓			Immersion	2.07x2.07mm WLCSP 4.0x4.0mm QFN
SX8674	4/5-wire	I²C	✓	✓	✓	Generic	2.07x2.07mm WLCSP 4.0x4.0mm QFN
SX8675	4/5-wire	I²C	✓	✓		Generic	2.07x2.07mm WLCSP 4.0x4.0mm QFN
SX8676	4/5-wire	I²C	✓	✓	✓		2.07x2.07mm WLCSP 4.0x4.0mm QFN
SX8677	4/5-wire	I²C	✓	✓	✓	Immersion	2.07x2.07mm WLCSP 4.0x4.0mm QFN
SX8678	4/5-wire	I²C	✓	✓		Immersion	2.07x2.07mm WLCSP 4.0x4.0mm QFN

Capacitive Touch Solutions



The superior sensitivity of the SX863x/4x touch sensor platform enables sensing through a thick overlay material as well as proximity detection with an extended range (>10cm) all in a tiny footprint with zero components per input.

Applications:

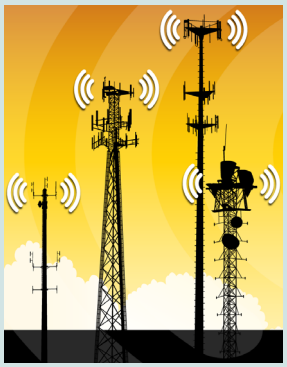
- Flat Panel TV
- LCD Monitors
- White goods & Appliances
- Printers
- Automotive Audio Console
- Personal Media Players
- Set Top Box (STBs)
- Game Consoles
- Industrial Systems

Key Features:

- Extreme low power
- Support button, slider and wheel design
- Proximity Detection (>10cm)
- Built-in LED Drivers (12mA)
- 256-step Intensity Control (Lin/Log)
- Auto Lightening
- Field Programmable
- Min. Scan Time=15ms
- Overlay=>5mm
- Smart auto-offset comp.
- Ultra small footprint

Capacitive Touch Solution Family

Part Number	Sensor Inputs	Interface	Proximity	Button	Slider	Wheel	Power @ 195ms	Package
SX8633	12	I²C	✓	✓			80µA	MLPQ-W32 5x5mm
SX8634	12	I²C	✓	✓	✓		80µA	MLPQ-W32 5x5mm
SX8635	12	I²C	✓	✓		✓	80µA	MLPQ-W32 5x5mm
SX8636	8	I²C	✓	✓			70µA	MLPQ-UT28 4x4mm
SX8638	8	I²C	✓	✓	✓		70µA	MLPQ-UT28 4x4mm
SX8639	8	I²C	✓	✓		✓	70µA	MLPQ-UT28 4x4mm
SX8643	12	I²C		✓			80µA	MLPQ-W32 5x5mm
SX8644	12	I²C		✓	✓		80µA	MLPQ-W32 5x5mm
SX8645	12	I²C		✓		✓	80µA	MLPQ-W32 5x5mm
SX8646	8	I²C		✓			70µA	MLPQ-UT28 4x4mm
SX8647	8	I²C				✓	70µA	MLPQ-UT28 4x4mm
SX8648	8	I²C		✓	✓		70µA	MLPQ-UT28 4x4mm
SX8649	8	I²C		✓		✓	70µA	MLPQ-UT28 4x4mm
SX8660	8	I²C/Analog		✓			70µA	MLPQ-UT28 4x4mm
SX8661	8	I²C/Analog	✓	✓			70µA	MLPQ-UT28 4x4mm



With over 20 years of experience in providing RF communications solutions for Industrial, Scientific, Medical, Commercial and Residential wireless data link applications. Semtech offers the widest range of RF ICs for high performance, unparalleled link robustness as well as low power RF communications requirements.

Applications:

- Automated Meter Reading
- Wireless Sensor Networks
- Home and Building Automation
- Wireless Alarm and Security Systems
- Industrial Monitoring and Control
- One-way and two-way, non-line-of-sight systems
- Garage door openers
- Car alarms and remote starters

Wireless Products for ISM applications

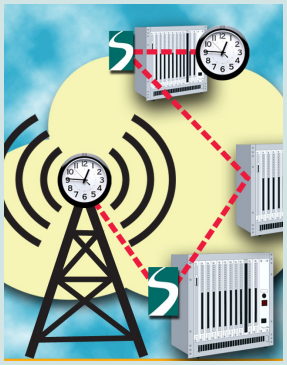
	Part #	Tx/ Rx	Band (MHz)	Tx power (dBm)	Modulation	Max Bit Rate	Rx Sensitivity (dBm)	Link Budget (dB)	Tx Current (mA)	Rx Current (mA)
High Link Budget	SX1230	Tx	290-1000	-18 ~ 17	G/F/MSK & OOK	300 kbps (FSK) 32.7 kbps (OOK)	-	-	33mA 10dBm	-
	SX1239	Rx	290-1000		G/F/MSK & OOK	300 kbps (FSK) 32.7 kbps (OOK)	-120	-	-	16mA
	SX1231	TxRx	290-1000	-18 ~ 17	G/F/MSK & OOK	300 kbps (FSK) 32.7 kbps (OOK)	-120	137	33mA 10dBm	16mA
	SX1233	TxRx	290-1000	-18 ~ 17	G/F/MSK & OOK	600 kbps (FSK) 100 kbps (OOK)	-120	137	33mA 10dBm	16mA
Low Power	SX1211	TxRx	862 - 960	-8.5 ~ 12.5	FSK/OOK / ASK	200kbps (FSK) 32.7 kbps (OOK)	-107	120	25mA 10dBm	3mA
	SX1212	TxRx	310 - 510	-8.5 ~ 12.5	FSK/OOK / ASK	200kbps (FSK) 32.7 kbps (OOK)	-108	121	25mA 10dBm	3mA
	SX1210	Rx	862 - 960		FSK/OOK / ASK	200kbps (FSK) 32.7 kbps (OOK)	-107	-	-	3mA
	SX1213	Rx	310 - 510		FSK/OOK / ASK	200kbps (FSK) 32.7 kbps (OOK)	-108	-	-	3mA
Power & Go	SX1240	Tx	433 & 868	0 & 10	FSK/OOK / ASK	100kbps	-	-	16mA 10dBm	-
	SX1242	Tx	345	0 & 12	OOK	10kbps	-	-	22mA 10dBm	-

ZoomingADC & GPIO

ZoomingADC with serial interfaces							
Part Number	**Supply Voltage**	**Supply Current**	**Interface**	**Inputs**	**Main Function**	**Other Features**	**Packages**
SX8723S	2.4V to 5.5V	200 µA	SPI	2	ZoomingADC with 1 to 1000 gain 16 bit over-sampled ADC	Embedded voltage reference, 2-wire i/f, 2 parallel I/Os	MLPD12 4x4 mm^2
SX8724S				3		Embedded voltage reference, 2-wire i/f, 4 parallel I/Os	MLPQ16 4x4 mm^2
SX8725S				1		Embedded voltage reference, 2-wire i/f, 2 parallel I/Os	MLPD12 4x4 mm^2
SX8723C			12C	2		Embedded voltage reference, I^{2}C interface, 2 parallel I/Os	MLPD12 4x4 mm^2
SX8724C				3		Embedded voltage reference, I^{2}C interface, 4 parallel I/Os	MLPQ16 4x4 mm^2
SX8725C				1		Embedded voltage reference, I^{2}C interface, 2 parallel I/Os	MLPD12 4x4 mm^2
Digital temperature sensing							
SX8733	2.7 to 5.5 V	250 µA	SMBus	Internal sensor, up to 2 external sensors	Precision temperature acquisition	SMBus interface	MLPD-6 3x3 mm^2
SX8743				Internal sensor, up to 3 external sensors	Precision temperature acquisition	SMBus interface	MSOP-8 3x3 mm^2
SX8744				Internal sensor, up to 2 external sensors	Precision temperature acquisition, LM86 pin compatible	SMBus interface	MSOP-8 3x3 mm^2
ZoomingADC with high efficiency MCU and serial interfaces							
XE8801A SX8801R	2.4V to 5.5V	200 µA		4 differential inputs high resolution acquisition path	ZoomingADC with 1 to 1000 gain 16 bit over-sampled ADC MCU and RAM for local data processing	UART, 24 parallel I/O programmable clock PWM DACs	LQFP44
XE8802						UART, up to 60 parallel I/O, PWM DACs programmable clock, 4 low-power comparators 120 segments LCD driver with voltage reference	LQFP100
XE8805A						UART, 24 parallel I/O programmable clock 2 DACs with buffers	LQFP64

Semtech GPIO Family															
Part Number	**I/O Chan.**	**I/O Volt. Range (V)**	**Interface**	**Max Current (mA)**	**Dual I/O Supplies**	**Pull Up/ Pull Down**	**PLD Function**	**Lin./Log Intensity**	**Blink**	**Breath**	**Keypad Scan. Engine**	**Polarity Inversion**	**Current (µA)**	**I^{2}C Add.**	**Package Size (mm)**
SX1501	4	1.2 - 5.5	I^{2}C	12/24	-	✓	✓	-	-	-	-	-	1	2	3x3
SX1502	8	1.2 - 5.5	I^{2}C	12/24	✓	✓	✓	-	-	-	-	-	1	2	3x3
SX1503	16	1.2 - 5.5	I^{2}C	12/24	✓	✓	✓	-	-	-	-	-	1	1	4x4
SX1504	4	2.3 - 5.5	I^{2}C	12/24	-	✓	✓	-	-	-	-	-	1	2	3x3
SX1505	8	2.3 - 5.5	I^{2}C	12/24	✓	✓	✓	-	-	-	-	-	1	2	3x3
SX1506	16	2.3 - 5.5	I^{2}C	12/24	✓	✓	✓	-	-	-	-	-	1	1	4x4
SX1507	4	1.2 - 3.6	I^{2}C	15	✓	✓	-	✓	✓	✓	✓	✓	1	1	2x2
SX1508	8	1.2 - 3.6	I^{2}C	15	✓	✓	-	✓	✓	✓	✓	✓	1	4	3x3
SX1509	16	1.2 - 3.6	I^{2}C	15	✓	✓	-	✓	✓	✓	✓	✓	1	4	4x4
SX1510	4	1.2 - 3.6	SPI	15	✓	✓	-	✓	✓	✓	✓	✓	1	-	2x2
SX1511	8	1.2 - 3.6	SPI	15	✓	✓	-	✓	✓	✓	✓	✓	1	-	3x3
SX1512	16	1.2 - 3.6	SPI	15	✓	✓	-	✓	✓	✓	✓	✓	1	-	4x4

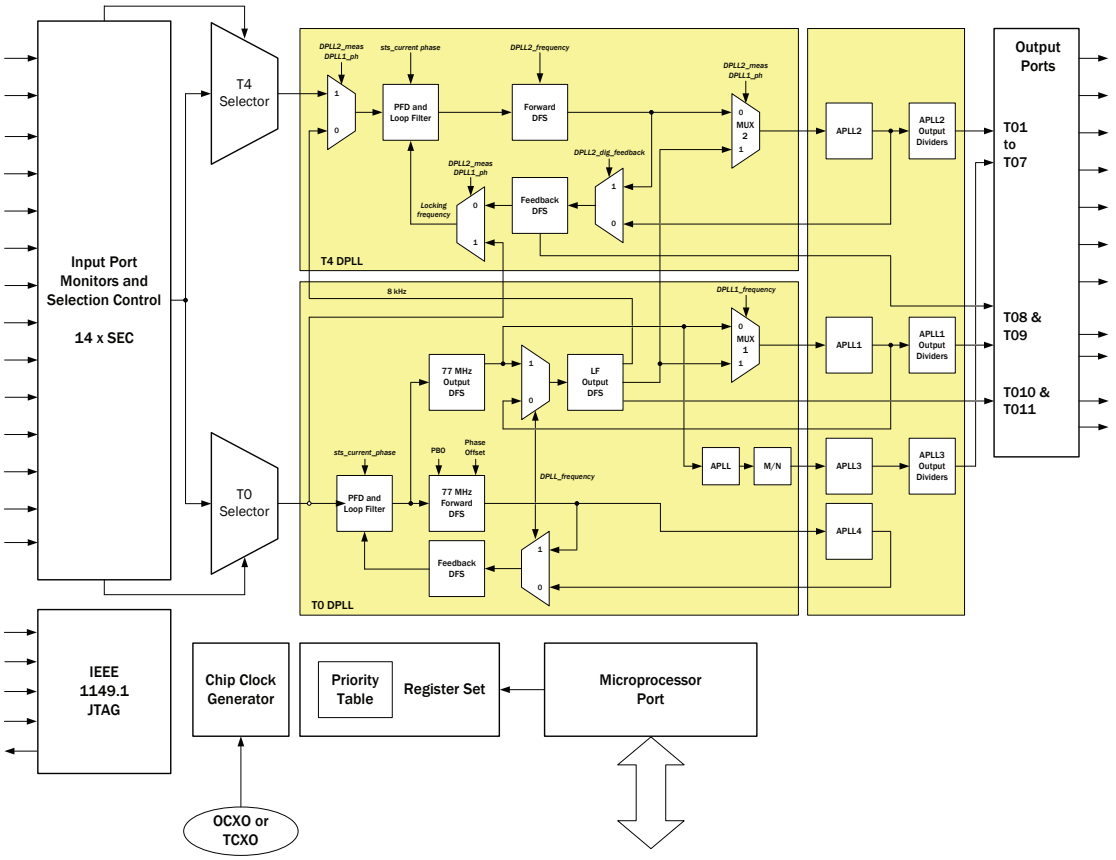
✓ Enable direct I/O expansion for latest low core voltage chipsets
✓ Multiple configurations/features optimized for different applications



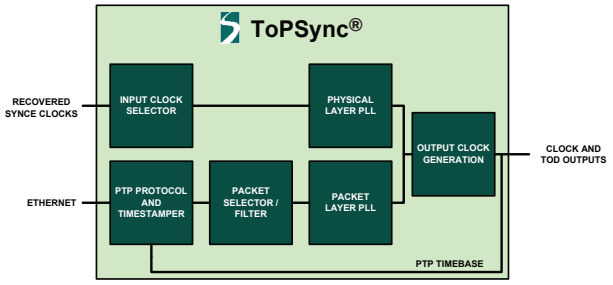
Semtech is an industry leader in network synchronization products. **Semtech SETS products** allow Stratum 3/3E, G.812 and G.8262 compliant timing systems to be implemented for Sonet/SDH and Synchronous Ethernet applications. **Semtech's ToPSync® family** products integrate SETS capability with IEEE 1588-2008 (PTP) master, slave and boundary clock functionality for next generation packet-network timing solutions. ToPSync includes all real-time processing on-chip and offers advanced features such as SyncE/PTP hybrid mode operation.

- Synchronous Equipment Timing Source PLLs (SETS)
- ToPSync® integrated IEEE 1588-2008 (PTP) synch. system-on-a-chip
- Low noise local clock generators

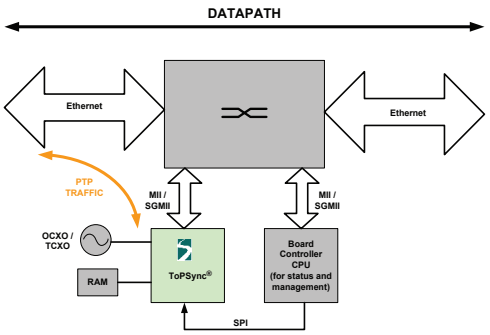
Timing and Synchronization



ACS8530B Block Diagram



ToPSync® Architecture



ToPSync® Application Example

Part number	Package	Description	Typical Application
ACS8522B	64-pin TQFP	Stratum 3 SETS-Lite physical layer PLL	SEC/EEC timing
ACS8530B	100-pin TQFP	Stratum 3E/3 SETS physical layer PLL	SEC/EEC timing, BITS/SSU
ACS9510B	360-pin 1 mm BGA	ToPSync® 1 synchronization system-on-a-chip	Node-B basestations, Edge routers, xPON OLTs
ACS9520	256-pin 0.8 mm BGA	ToPSync® 2 synchronization system-on-a-chip	Node-B basestations, Edge routers, xPON OLTs, Core & Metro switches
SX1790	24-pin QFN	Ultra-low jitter clock generator for ToPSync® 2	Synchronous Ethernet
SX1760	24-pin QFN	Standalone ultra-low jitter Sonet/SDH and Ethernet clock generator	OC48 Sonet & Synchronous Ethernet
This is only a selection of the Semtech timing product line-up. Contact Semtech for more details.			

High Reliability Discrete Semiconductor

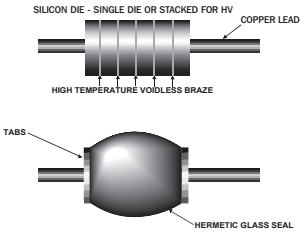
Semtech designs and manufactures power products in axial, surface-mount discrete and various custom assembly configurations. These high performance/rugged products, in high-current, high-voltage configurations, are employed in a wide range of devices used primarily in military, aerospace, industrial and medical applications.

- Half Wave Discrete Rectifiers (QPL)
- TVS Rectifiers (QPL)
- Half Wave, High Current & Voltage Assemblies
- Single & Three Phase Full Wave Bridge Assemblies
- Center Tap and Doubler Assemblies
- Single Phase Center Tap and Doubler Assemblies
- High Voltage Capacitors

Products

- Axial Rectifiers
- Surface Mount Devices
- Zener Voltage Regulators
- High Voltage Assemblies
- 1-Phase Full Wave Bridge Rectifer Assemblies
- 3-Phase Full Wave Bridge Rectifier Assemblies
- TVS Devices
- High Voltage/High Current ISOPAC Devices (Non-epoxied)
- High Voltage Capacitors
- Doublers and Center Taps

Packaging Capabilities



Typical High Voltage Rectifier


Finpac-High Current


DO-4 Stud ISOPAC®

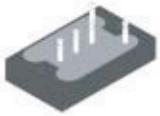

Center Tap


Doubler


1-Phase Bridge


1-Phase Bridge ISOPAC®


3-Phase Bridge ISOPAC®

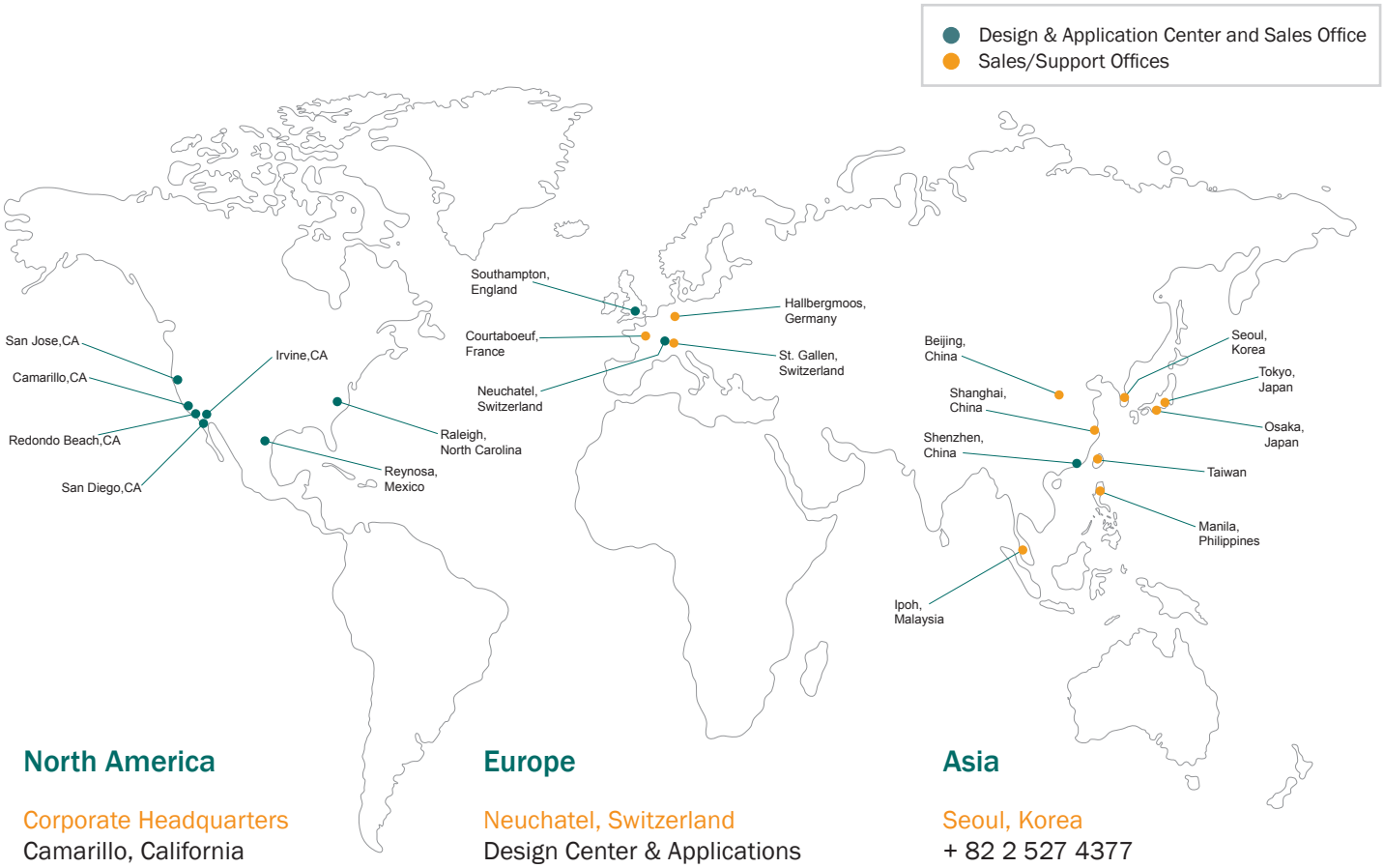

3-Phase Bridges


Slim Pac - High Voltage

JANS - Qualified Diodes for Space/Critical programs

- MIL-PRF-19500 / 356, 5W Zener voltage regulators (Available in axial lead and surface mount packages)
- MIL-PRF-19500 / 406, 1.5W Zener voltage regulators (Available in axial and surface mount)
- MIL-PRF-19500 / 411, Rectifiers (Available in axial lead packages)
- MIL-PRF-19500 / 420, Rectifiers (Available in axial lead packages)
- MIL-PRF-19500 / 427, Rectifiers (Available in axial lead packages)
- MIL-PRF-19500 / 429, Rectifiers (Available in axial lead packages)
- MIL-PRF-19500 / 477, Rectifiers (Available in axial lead and surface mount packages)
- MIL-PRF-19500 / 516, TVS Devices (Available in axial lead and surface mount packages)

Worldwide Location & Offices



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