

High-voltage, High-current, Ultra Low $R_{DS(on)}$ Integrated Power Control Switches Selector Guide

Silego's new family of high-performance integrated power switches now include high-voltage capability for all high-side, 4.5 V to 24 V power rail applications up to 6 A. Using Silego's proprietary MOSFET design, this new family of power control switches achieves ultra-stable and low $R_{DS(on)}$ across a wide input/supply voltage range. Combining Silego's proprietary MOSFET IP and advanced assembly techniques, these new products are available in very pcb space-efficient footprints and exhibit low thermal resistance for high-current operation. Compared to discrete FETs currently used in high-voltage applications, Silego's HFET 1 products combine high-performance nFET structures, charge pumps, multiple protection, and control circuits into feature-rich products. For products rated to operate over the industrial (-40°C to 85°C) or extended industrial temperature (-40°C to 125°C) range, these new high-voltage integrated power control switches are available in low thermal resistance, RoHS-compliant packaging or wafer-lead chip scale packaging (WLCSP).

Featured Products



Part Number	Description	Configuration In:Out	Max IDS (A)	$R_{DS(on)}$ (mΩ)	VBUS Min (V)	VBUS Max (V)	Protection Features*	Package Size (mm)
SLG59H1302C	A surge-protected, 28V tolerant USB Type C Power Splitter/Switch in WLCSP	1:2 In: VBUS Out1: VOUT Out2: VSYS	VOUT: 6 VSYS: 6	VOUT: 12 VSYS: 24	2.5	13.2	TVS, UVLO, OVP, TSD, RCB (VSYS)	WLCSP-28 (2.98 x 1.69 mm)

* Notes (Please consult product specifications for additional information):

1. CL – Two-stage Current-limit:
 - a) External resistor-programmable Active Current Limit and
 - b) Fixed Internal Short-circuit Current Protection
2. TVS - Internal Transient Voltage Suppressor
- 3: UVLO - Undervoltage Lockout Protection
4. OVP - Overvoltage Lockout Protection
5. RCB - Reverse-current blocking
6. TSD - Thermal shutdown protection

For Applications up to 13.2 V

Part Number	Description	Max IDS (A)	$R_{DS(on)}$ (mΩ)	VIN Min (V)	VIN Max (V)	VOUT Slew-rate Control	Protection Features ¹	VOUT Discharge Circuit	Package Type
SLG59H1127V	A 4.8 mm ² power control switch with pin-selectable VIN overvoltage protection, internal 5W nFET SOA protection, and Power Good Output	4	15	4.5	13.2	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)
SLG59H1120V	A 4.8 mm ² power control switch with pin-selectable VIN overvoltage protection, internal 5W nFET SOA protection, and IDS Current-Monitor Output	5	18	4.5	13.2	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)

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For Applications up to 24 V

Part Number	Description	Max IDS (A)	$R_{DS(on)}$ (m Ω)	VIN Min (V)	VIN Max (V)	VOUW Slew-rate Control	Protection Features ¹	VOUT Discharge Circuit	Package Type	UL Certified
NEW SLG59H1017V	A 4.8 mm ² power control switch with pin-selectable VIN lockout protection, internal 15W nFET SOA protection, and IDS Current Monitor Output for enterprise printer/copier applications	4	13.3	10.8	26.4	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)	
SLG59H1128V	A 4.8 mm ² power control switch with pin-selectable VIN overvoltage protection, internal 15W nFET SOA protection, and IDS Current Monitor Output	5	13.1	4.5	22	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)	
SLG59H1016V	A 125°C-rated, 4.8 mm ² power control switch with pin-selectable VIN overvoltage protection, internal 5W nFET SOA protection, and IDS Current Monitor Output	3.5	13.1	4.5	22	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)	
SLG59H1013V	A 125°C-rated, 4.8 mm ² power control switch with pin-selectable VIN lockout protection, internal 5W nFET SOA protection, and IDS Current Monitor Output for enterprise printer/copier applications	3.5	13.3	10.8	26.4	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)	Pending
SLG59H1012V	A 4.8 mm ² power control switch with pin-selectable VIN overvoltage protection, internal 5W nFET SOA protection, and IDS Current Monitor Output	6	13.1	4.5	22	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)	
SLG59H1006V	A 4.8 mm ² power control switch with pin-selectable VIN overvoltage protection, internal 5W nFET SOA protection, and IDS Current Monitor Output	5	13.1	4.5	22	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)	
SLG59H1009V	A 4.8 mm ² power control switch with pin-selectable VIN overvoltage protection, internal 5W nFET SOA protection, and IDS Current Monitor Output	4	13.1	4.5	22	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)	UL2367
SLG59H1008V	A 4.8 mm ² power control switch with pin-selectable VIN lockout protection, internal 5W nFET SOA protection, and IDS Current Monitor Output for enterprise printer/copier applications	4	13.3	10.8	26.4	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)	UL2367
SLG59H1010V	A 4.8 mm ² power control switch with pin-selectable VIN lockout protection, internal 5W nFET SOA protection, and IDS Current Monitor Output for enterprise printer/copier applications	5	13.3	10.8	26.4	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)	
SLG59H1007V	A 4.8 mm ² power control switch with pin-selectable VIN overvoltage protection, internal 5W nFET SOA protection, and load-power monitor output	5	13.3	4.5	22	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)	
SLG59H1005V	A 4.8 mm ² back-to-back reverse blocking power control switch with pin-selectable VIN overvoltage protection, internal 5W nFET SOA protection, and IDS Current Monitor Output	3	50	4.5	22	Capacitor	CL, TSD	No	STQFN-18 (1.6 x 3.0 mm)	

Notes:

1. CL – Current-limit, external resistor-adjustable

TSD – For 85°C-rated products, thermal shutdown threshold is typically set at 125°C with 25°C hysteresis. For 125°C-rated products, thermal shutdown threshold is set at 150°C with 25°C hysteresis. All products automatically attempt a restart operation when die temperature cools.

For more information please visit www.silego.com

Or email your questions to info@silego.com

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