

## High-voltage, High-current, Ultra Low R<sub>DS(on)</sub> Integrated Power Control Switches Selector Guide

Dialog's family of high-performance integrated power switches include high-voltage capability for all high-side, 4.5 V to 24 V power rail applications up to 6 A. Using Dialog's proprietary MOSFET design, this new family of power control switches achieves ultra-stable and low R<sub>DS(on)</sub> across a wide input voltage range. Combining Dialog's proprietary MOSFET IP and advanced assembly techniques, these 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, Dialog's HFET1 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 high-voltage integrated power control switches are available in low thermal resistance, RoHS-compliant packaging or wafer level chip scale packaging (WLCSP).

### Featured Products

Part Number	Description	Configuration In:Out	Max I <sub>DS</sub> (A)	R <sub>DS(on)</sub> (mΩ)	VBUS Min (V)	VBUS Max (V)	Protection Features*	Package Size (mm)
<b>NEW</b> 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	13.3	TVS, UVLO, OVP, TSD, RCB (VSYS)	WLCSP-28 (2.98 x 1.69 mm)
<b>NEW</b> SLG59H1313C	A surge-protected, 29V tolerant nFET Integrated Power Switch with Internal 100V TVS and Adjustable OVP in WLCSP	1:1	4.5	23	2.5	20	TVS, OVP, OCP, TSD	WLCSP-12 (1.3 x 1.8 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. OCP - Overcurrent Protection
6. RCB - Reverse-current blocking
7. TSD - Thermal shutdown protection

### For Applications up to 13.2 V

Part Number	Description	Max I <sub>DS</sub> (A)	R <sub>DS(on)</sub> (mΩ)	VIN Min (V)	VIN Max (V)	VOUT Slew-rate Control	Protection Features <sup>1</sup>	VOUT Discharge Circuit	Package Type
SLG59H1120V	A 4.8 mm <sup>2</sup> power control switch with pin-selectable VIN overvoltage protection, internal 5W nFET SOA protection, and I <sub>DS</sub> Current-Monitor Output	5	18	4.5	13.2	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)
<b>NEW</b> SLG59H1126V	A 4.8 mm <sup>2</sup> power control switch with pin-selectable VIN overvoltage protection, internal 5W nFET SOA protection, open-drain FAULT signaling, and I <sub>DS</sub> Current-Monitor Output	6	18	4.5	13.2	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)



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

For Applications up to 13.2 V (continued)



Part Number	Description	Max $I_{DS}$ (A)	$R_{DS(on)}$ (mΩ)	VIN Min (V)	VIN Max (V)	VOUT Slew-rate Control	Protection Features <sup>1</sup>	VOUT Discharge Circuit	Package Type
SLG59H1127V	A 4.8 mm <sup>2</sup> 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)

For Applications up to 25.2 V

Part Number	Description	Max $I_{DS}$ (A)	$R_{DS(on)}$ (mΩ)	VIN Min (V)	VIN Max (V)	VOUT Slew-rate Control	Protection Features <sup>1</sup>	VOUT Discharge Circuit	Package Type	UL Certified
SLG59H1005V	A 4.8 mm <sup>2</sup> back-to-back reverse-current blocking power control switch with pin-selectable VIN overvoltage protection, internal 5W nFET SOA protection, and $I_{DS}$ Current Monitor Output	3	50	4.5	22	Capacitor	RCB, CL, TSD	No	STQFN-18 (1.6 x 3.0 mm)	
SLG59H1006V	A 4.8 mm <sup>2</sup> power control switch with pin-selectable VIN overvoltage protection, internal 5W nFET SOA protection, and $I_{DS}$ Current Monitor Output	5	13.1	4.5	22	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)	
SLG59H1007V	A 4.8 mm <sup>2</sup> 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)	
SLG59H1008V	A 4.8 mm <sup>2</sup> power control switch with pin-selectable VIN lockout protection, internal 5W nFET SOA protection, and $I_{DS}$ Current Monitor Output for enterprise printer/copier applications	4	13.3	10.8	25.2	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)	Pending
SLG59H1009V	A 4.8 mm <sup>2</sup> power control switch with pin-selectable VIN overvoltage protection, internal 5W nFET SOA protection, and $I_{DS}$ Current Monitor Output	4	13.1	4.5	22	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)	UL2367
SLG59H1010V	A 4.8 mm <sup>2</sup> power control switch with pin-selectable VIN lockout protection, internal 5W nFET SOA protection, and $I_{DS}$ Current Monitor Output for enterprise printer/copier applications	5	13.3	10.8	25.2	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)	
SLG59H1012V	A 4.8 mm <sup>2</sup> power control switch with pin-selectable VIN overvoltage protection, internal 5W nFET SOA protection, and $I_{DS}$ Current Monitor Output	6	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 <sup>2</sup> power control switch with pin-selectable VIN lockout protection, internal 5W nFET SOA protection, and $I_{DS}$ Current Monitor Output for enterprise printer/copier applications	3.5	13.3	10.8	25.2	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)	Pending
SLG59H1016V	A 125 °C-rated, 4.8 mm <sup>2</sup> power control switch with pin-selectable VIN overvoltage protection, internal 5W nFET SOA protection, and $I_{DS}$ Current Monitor Output	3.5	13.1	4.5	22	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)	

## High-voltage, High-current, Ultra Low R<sub>DS(on)</sub> Integrated Power Control Switches Selector Guide

For Applications up to 25.2 V (continued)

Part Number	Description	Max I <sub>DS</sub> (A)	R <sub>DS(on)</sub> (mΩ)	VIN Min (V)	VIN Max (V)	VOUT Slew-rate Control	Protection Features <sup>1</sup>	VOUT Discharge Circuit	Package Type	UL Certified
SLG59H1017V	A 4.8 mm <sup>2</sup> power control switch with pin-selectable VIN lockout protection, internal 10W nFET SOA protection, and I <sub>DS</sub> Current Monitor Output for enterprise printer/copier applications	4	13.3	10.8	25.2	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)	
 SLG59H1019V	A 4.8 mm <sup>2</sup> power control switch with VIN OVLO disabled, internal 10W nFET SOA protection, and I <sub>DS</sub> current-monitor output	5	13	4.5	25.2	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)	
 SLG59H1020V	A 4.8 mm <sup>2</sup> back-to-back reverse-current blocking power control switch with pin-selectable VIN overvoltage protection, internal 5W nFET SOA protection, and I <sub>DS</sub> Current Monitor Output	3	50	4.5	20	Capacitor	RCB, CL, TSD	No	STQFN-18 (1.6 x 3.0 mm)	
SLG59H1128V	A 4.8 mm <sup>2</sup> power control switch with pin-selectable VIN overvoltage protection, internal 10W nFET SOA protection, and I <sub>DS</sub> Current Monitor Output	5	13.1	4.5	22	Capacitor	CL, TSD	Yes	STQFN-18 (1.6 x 3.0 mm)	

\* Notes:

1. CL – Current-limit, external resistor-adjustable, RCB - Reverse-current blocking

TSD – For 85 °C-rated products, thermal shutdown threshold is typically set at 125 °C for 5W SOA parts or 145 °C for 10W SOA parts 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