



Bourns Announces the Release of New Silicon Carbide (SiC) Schottky Barrier Diodes (SBDs)

Model BSD Series

Riverside, California – June 26, 2023 – Bourns is pleased to debut its Model BSD Series Silicon Carbide (SiC) Schottky Barrier Diodes (SBDs) that are designed for today’s more demanding high frequency and high current applications that require increased peak forward surge capability, low forward voltage drop, reduced thermal resistance and low power loss. These advanced wide band gap components are ideal power conversion solutions to help increase reliability, switching performance and efficiency in applications such as DC-DC and AC-DC converters, Switched-Mode Power Supplies (SMPS), photovoltaic inverters, motor drives and other rectification applications.

In addition to offering 650 V to 1200 V voltage operation with currents in the 6-10 A range, the new BSD models feature no reverse recovery current to reduce EMI, enabling these SiC SBDs to significantly lower energy losses further increasing efficiency. Providing excellent thermal performance and high power density along with various forward voltage, current and package options that include TO220-2, TO247-3, TO252 and DFN8x8, the six new BSD models give designers the higher power density necessary to match their application specifications while helping them develop smaller, state-of-the-art power electronics.

Bourns Part Number	Photo	Package	$I_{F(AV)}$ Max. (A)	$I_{O(AV)}$ Max. (A)	T_j Max. (°C)	V_{RRM} Max. (V)	Q_r Typ. (nC)	V_F @ $T_j = 25^\circ C$, $I_{F(av)}$ (V)
BSDH10G65E2		TO220-2	10	-	175	650	14.5	1.45
BSDH10G120E2		TO220-2	10	-	175	1200	22	1.42
BSDD06G65E2		TO252	6	-	175	650	9	1.45
BSDL10S65E6		DFN8x8	10	-	175	650	24	1.29
BSDW20S65C6		TO247-3	-	20	175	650	24	1.29
BSDW20G120C2		TO247-3	-	20	175	1200	22	1.42

ESD2312

Product data sheets with detailed specifications can be viewed on the Bourns website at www.bourns.com. Should you have any questions or need additional information, please contact [Bourns Customer Service/Inside Sales](#).

Features

- Low power loss, high efficiency
- Low reverse leakage current
- High peak forward surge current (I_{FSM})
- Reduced EMI
- No reverse recovery current
- Reduced heat dissipation
- Low forward voltage (V_F)
- Maximum operating temperature junction range (T_J) up to 175 °C
- Epoxy potting compound is flame retardant to the UL 94V-0 standard
- RoHS compliant*, Pb free and halogen free**

Applications

- Switched-Mode Power Supplies (SMPS)
- Power Factor Correction (PFC)
- Photovoltaic inverters
- DC-DC, AC-DC converters
- Telecommunications
- Motor drives

* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

** Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.