BCH65S016D2

Silicon Carbide Schottky Diode

650V, 16A

bestirpower

Description

BCH65S016D2 utilizes Bestirpower's advanced silicon carbide diode technology. This technology combines the benefits of excellent low forward voltage and robustness. Consequently, the family is suitable for application requiring high power efficiency

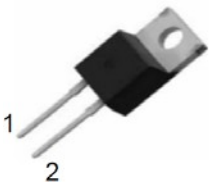
Features

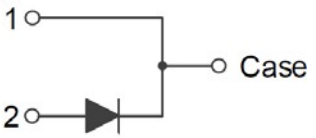
V_{RRM}	I_F	$T_{J,max}$	Q_C
650 V	**16 A**	**175 ℃**	**42 nC**

- High surge current capability
- No reverse recovery
- Positive temperature coefficient
- Benchmark switching behavior
- RoHS compliant / Halogen-free

Benefits

- High-speed switching
- Low heat dissipation requirements
- Reduce size and cost of the system
- High-reliability
- System efficiency improvement





Applications

- Solar inverter
- Power factor correction
- Uninterruptible & AUX power supplies
- Switch mode power supply

Absolute Maximum Ratings (T_C = 25℃ unless otherwise noted)

Symbol	Parameter		Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		650	V
I_F	Forward Current	T_C = 25℃	40	A
		T_C = 154℃	16	A
$I_{F,SM}$	Non-Repetitive Forward Surge Current	T_C = 25℃, t_p = 10 ms	128	A
		T_C = 110℃, t_p = 10 ms	100	A
$I_{F,RM}$	Repetitive Peak Forward Surge Current	T_C = 25℃, tp = 10 ms	118	A
I^2dt value	$\int I^2t$	T_C = 25℃, t_p = 10 ms	81	A^2s
		T_C = 110℃, t_p = 10 ms	50	A^2s
P_{tot}	Power Dissipation	T_C = 25℃	150	W
		T_C = 110℃	65	W
		T_C = 150℃	25	W
T_J,T_{STG}	Operating Junction and Storage Temperature		-55 to +175	℃

Thermal Characteristics

Symbol	Parameter	Value	Unit
$R_{\theta JC}$	Thermal Resistance, Junction to Case, Typ.	1.0	℃/W

Electrical Characteristics (T_C = 25℃ unless otherwise noted)

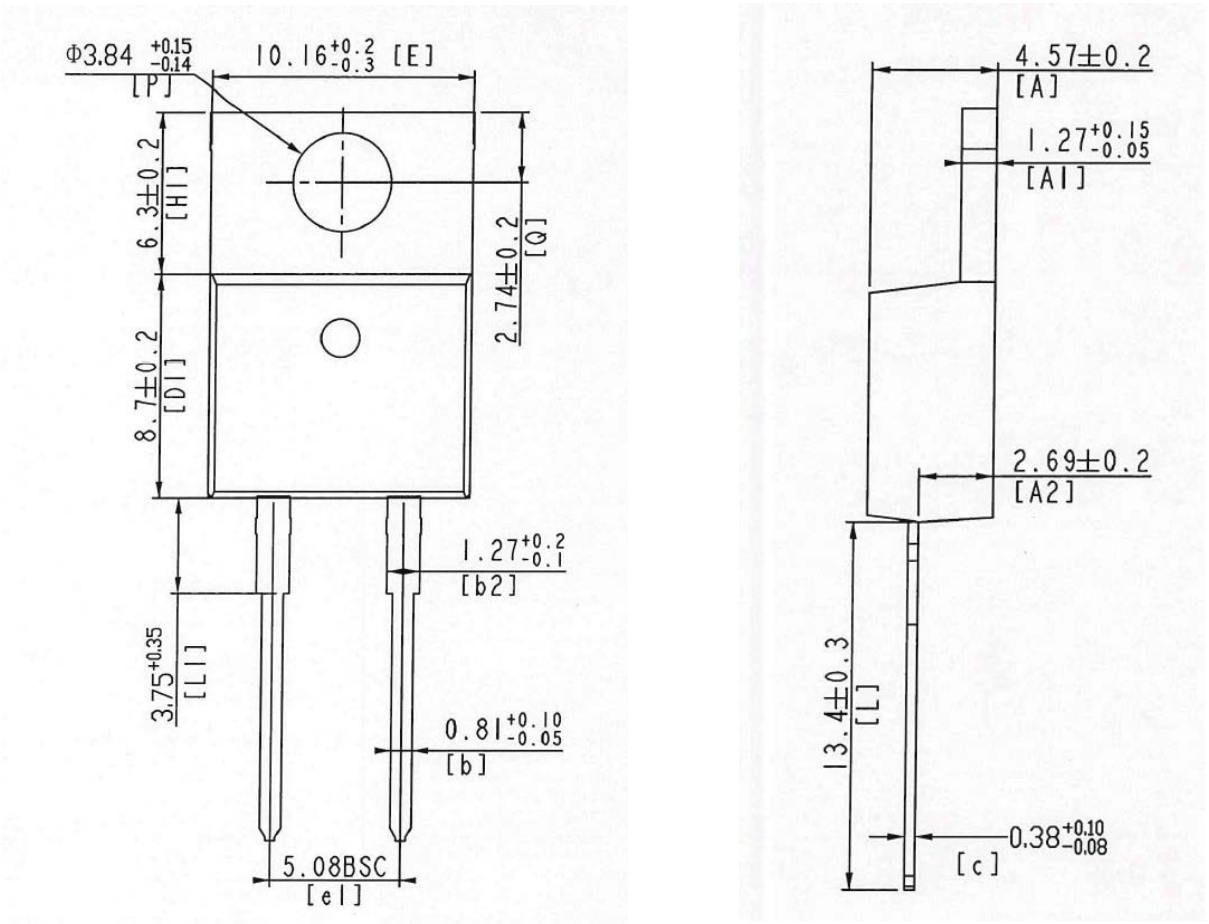
Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
V_{DC}	DC blocking voltage		650	-	-	V
V_F	Forward Voltage	I_F=8A	-	1.20	-	V
		I_F=16A，Tc=25℃	-	1.43	1.6	
		I_F=16A，Tc=175℃	-	1.72	-	
I_R	Reverse Current	V_R = 650 V, T_C = 25℃	-	7	100	μA
		V_R = 650 V, T_C = 175℃	-	15	-	
Q_C	Total Capacitive Charge	V_R = 400 V, T_C = 25℃	-	42	-	nC

Package Marking and Ordering Information

Part Number	Top Marking	Package	Packing Method	Quantity
BCH65S016D2	BCH65S016D2	TO220-2	Tube	50 units

Package Outlines

TO220-2



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