CBR08P65D

SiC Schottky Diode

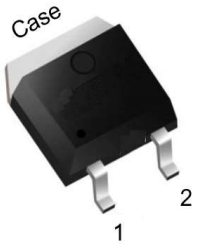
Features

- Positive temperature coefficient for safe operation and ease of paralleling
- 175°C maximum operating junction temperature
- Extremely fast switching, temperature-independent
- No reverse or forward recovery
- Enhanced surge capability
- Avalanche rated 67mJ[1]
- Component in accordance to ROHS
- AEC-Q101 qualification available

Typical Applications

- For used in high frequency rectifier of switching mode power supplies, freewheeling diodes, dc-to-dc converters, industrial motor drives, power factor correction modules

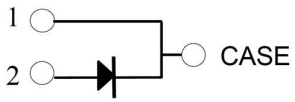
Package type： TO252-2L



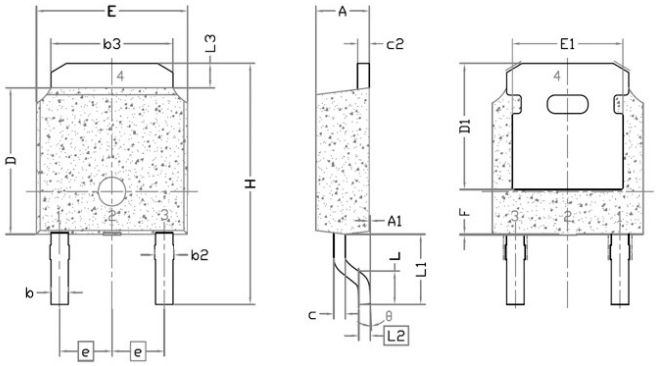
AEC-Q101 Qualification Available

RoHS Compliant

Graphic Symbol

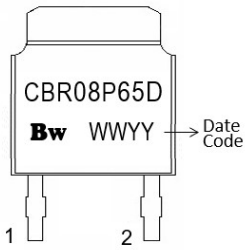


Package Dimension



REF.	Millimeter			REF.	Millimeter		
	Min.	Nom.	Max.		Min.	Nom.	Max.
E	6.4	6.6	6.731	e	2.286 BSC		
L	1.4	1.52	1.77	A	2.20	2.30	2.38
L1	2.743 Ref.			A1	0.00	--	0.127
L2	0.508 BSC			c	0.46	0.50	0.60
L3	0.89	--	1.27	c2	0.46	0.50	0.58
D	6.00	6.10	6.223	D1	5.21	--	--
H	9.40	10.00	10.40	E1	4.40	--	--
b	0.64	0.76	0.88	F	--	--	0.45
b2	0.77	0.84	1.14	b3	5.21	5.34	5.46

Marking



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MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Absolute Maximum Ratings (Tc=25°C unless otherwise noted)			
Symbol	**Parameter**	**Value**	**Unit**
V_{RRM}	Maximum repetitive reverse voltage	650	V
I_F	Maximum average forward rectified current @ T_C=25°C	29	A
	Maximum average forward rectified current @ T_C=150°C	8	A
I_{FSM}	Peak forward surge current (tp=8.3ms) @ T_C=25°C	80	A
	Peak forward surge current (tp=8.3ms) @ T_C=110°C	70	A
I_{FRM}	Repetitive peak forward surge current (tp=8.3ms) @ T_C=25°C	40	A
	Repetitive peak forward surge current (tp=8.3ms) @ T_C=110°C	27	A
$I_{F\ Max}$	Non-repetitive peak forward current (tp=10μs) @ T_C=25°C	575	A
P_{tot}	Power Dissipation	100	W
T_J/T_{STG}	Operating Junction and Storage Temperature	-55 to 175	°C

Thermal Resistance Ratings			
Symbol	**Parameter**	**Value**	**Unit**
$R_{\theta JC}$	Maximum Junction-to-Case Thermal Resistance	1.5	°C/W

Electrical Characteristics(TJ =25°C unless otherwise specified)					
Symbol	**Parameter**	**Test Conditions**	**Typ.**	**Max.**	**Unit**
V_F	Instantaneous forward voltage	I_F=8A, T_J=25°C	1.5	1.7	V
		I_F=8A, T_J=150°C	1.7	2.1	
		I_F=8A, T_J=175°C	1.8	2.25	
I_R	Maximum reverse current	V_R=650V, T_J=25°C	1.5	25	μA
		V_R=650V, T_J=175°C	36	250	
C	Total Capacitance	V_R=1V	419	-	pF
		V_R=200V	51	-	
		V_R=400V	43	-	
Q_C	Total Capacitive charge	V_R=400V, I_F=8A, di/dt=250A/μs	26	-	nC
				-	

NOTE:

1. Max. EAS is tested base on TJ=25oC, L=1.0mH, IAS=11.58A, V=50V

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Typical Electrical Characteristics

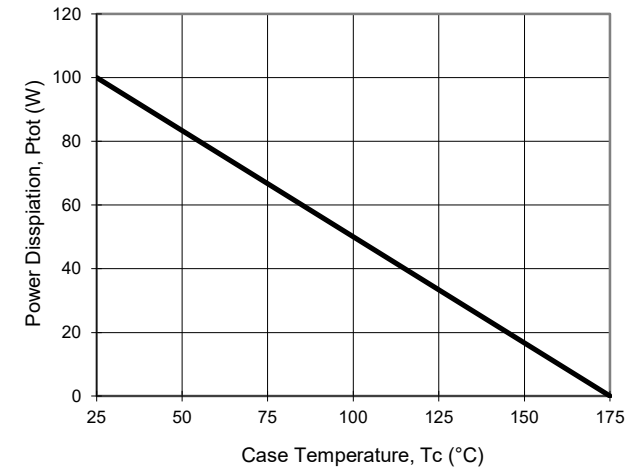

Fig1. Power Dissipation

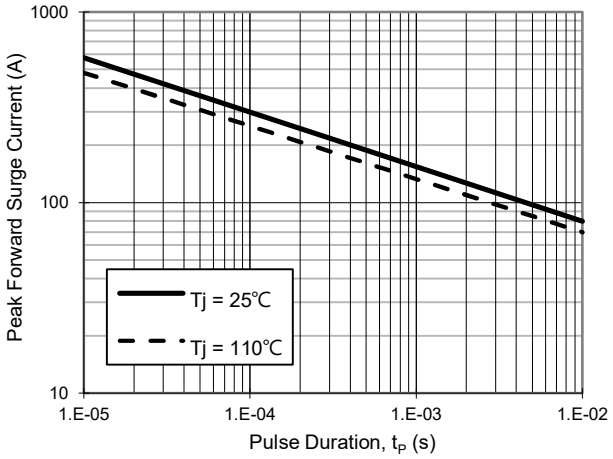

Fig2. Non-repetitive peak forward current vs. t_P

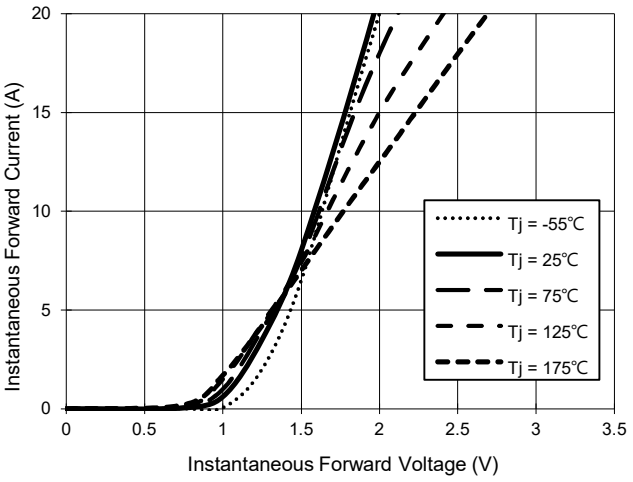

Fig3. Typical Forward Characteristics

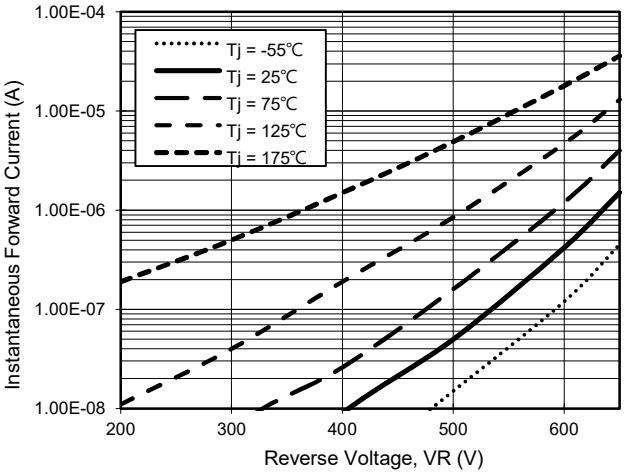

Fig4. Typical Reverse Characteristics

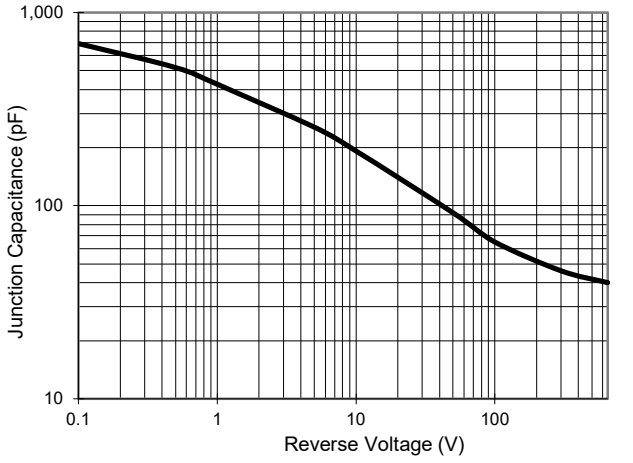

Fig5. Typical Junction Capacitance

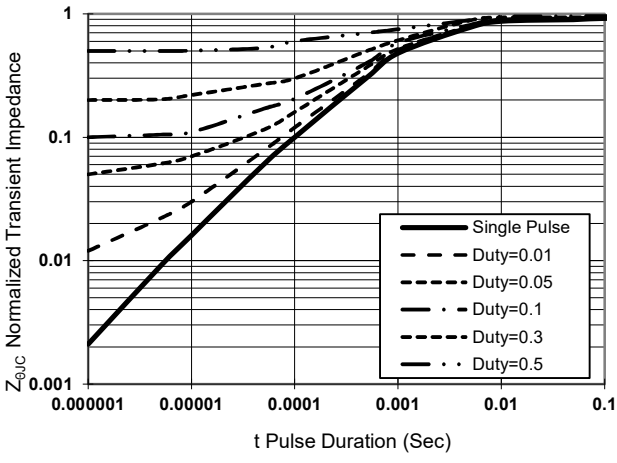

Fig6. Transient Thermal Impedance

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