CBR06P65HL

SiC Schottky Diode

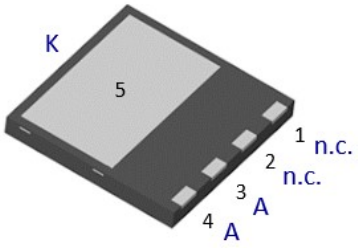
Features

- 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
- Component in accordance to ROHS

Typical Applications

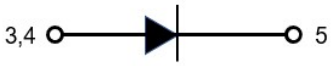
- For used in high frequency rectifier of switching mode power supplies, freewheeling diodes, dc-to-dc converters, industrial motor drives, power factor correction modules

Package type：DFN 8X8

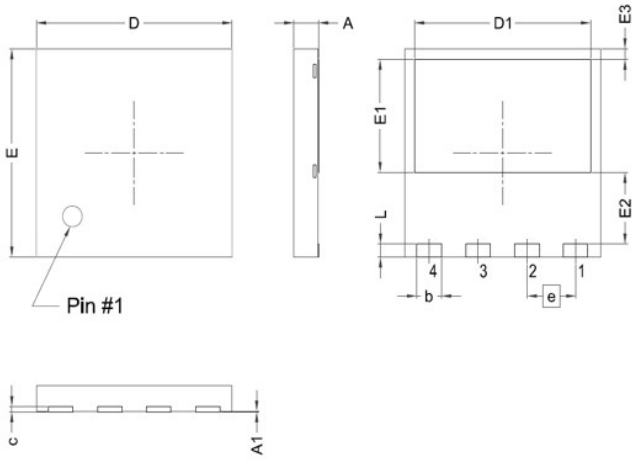


RoHS Compliant

Graphic Symbol

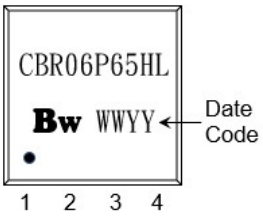


Package Dimension



REF.	Millimeter			REF.	Millimeter		
	Min.	Nom.	Max.		Min.	Nom.	Max.
A	0.90	1.00	1.10	E	7.90	8.00	8.10
A1	0.00	-	0.05	E1	4.25	4.35	4.45
b	0.90	1.00	1.10	E2	2.65	2.75	2.85
c	0.10	0.20	0.30	E3	0.30	0.40	0.50
D	7.90	8.00	8.10	e	2.00 BSC		
D1	7.10	7.20	7.30	L	0.40	0.50	0.60

Marking



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MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Absolute Maximum Ratings (T_C=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	18	A
	Maximum average forward rectified current @ T_C=150°C	6	A
I_{FSM}	Peak forward surge current (tp=8.3ms) @ T_C=25°C	48	A
	Peak forward surge current (tp=8.3ms) @ T_C=110°C	32	A
I_{FRM}	Repetitive peak forward surge current (tp=8.3ms) @ T_C=25°C	24	A
	Repetitive peak forward surge current (tp=8.3ms) @ T_C=110°C	12	A
$I_{F\ Max}$	Non-repetitive peak forward current (tp=10μs) @ T_C=25°C	120	A
P_{tot}	Power Dissipation	85	W
T_J/T_{STG}	Operating Junction and Storage Temperature	-55 to 150	°C

Thermal Resistance Ratings			
Symbol	**Parameter**	**Value**	**Unit**
$R_{\theta JC}$	Maximum Junction-to-Case Thermal Resistance	1. 76	°C/W

Electrical Characteristics (T_J =25°C unless otherwise specified)					
Symbol	**Parameter**	**Test Conditions**	**Typ.**	**Max.**	**Unit**
V_F	Instantaneous forward voltage	I_F=6A, T_J=25°C	1.5	1.7	V
		I_F=6A, T_J=175°C	2	2.6	
I_R	Maximum reverse current	V_R =650V, T_J =25°C	3	20	μA
		V_R =650V, T_J =175°C	60	300	
C	Total Capacitance	V_R =1V	325	-	pF
		V_R =200V	38	-	
		V_R =400V	22	-	
Q_C	Total Capacitive charge	V_R =400V, I_F =10A, di/dt=250A/μs	15	-	nC
				-	

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Typical Electrical Characteristics

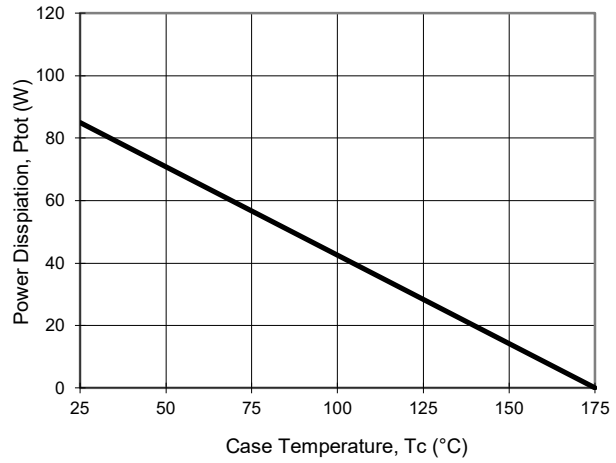

Fig1. Power Dissipation

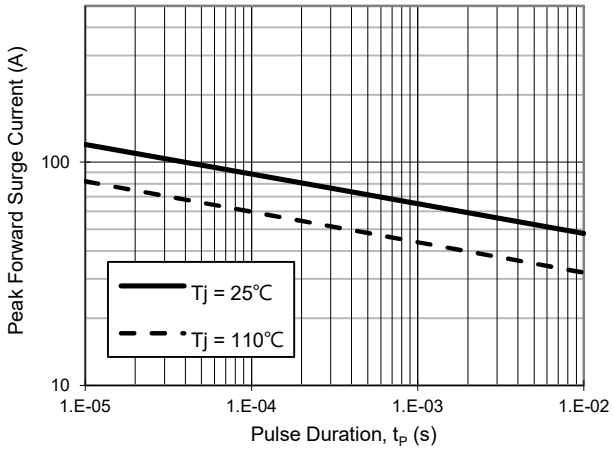

Fig2. Non-repetitive peak forward current vs. t_P

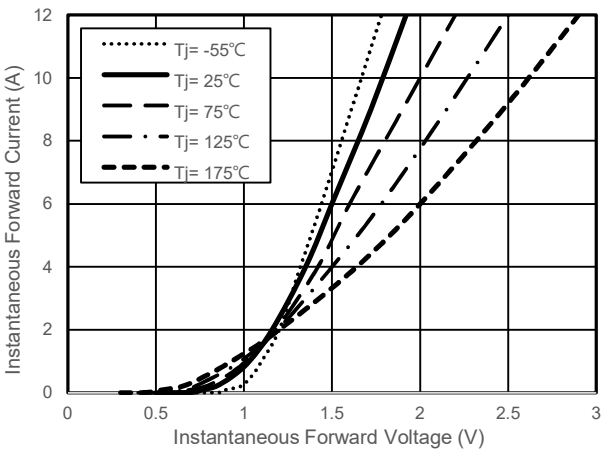

Fig3. Typical Forward Characteristics

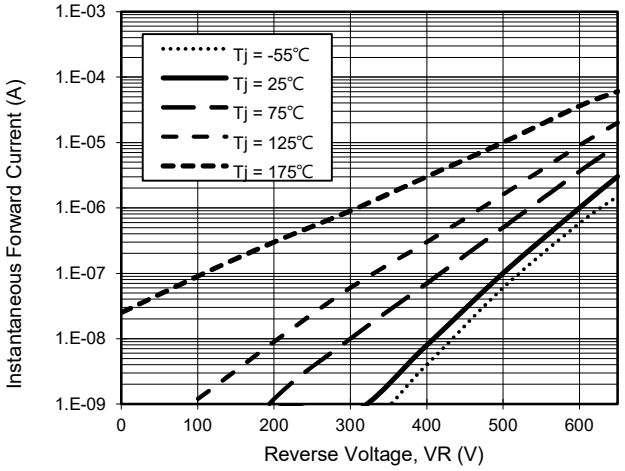

Fig4. Typical Reverse Characteristics

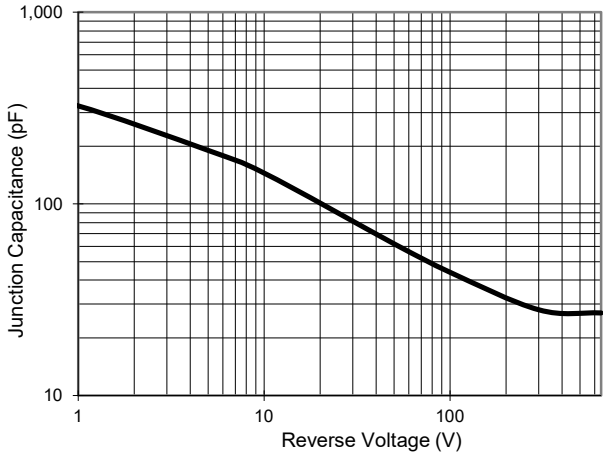

Fig5. Typical Junction Capacitance

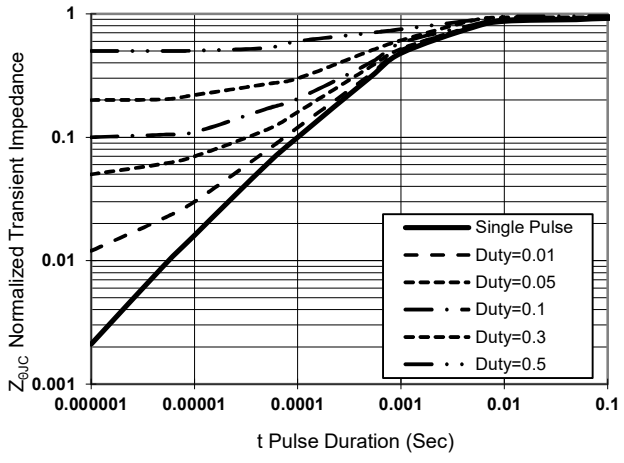

Fig6. Transient Thermal Impedance

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