GeneSiC™ SEMICONDUCTOR

Silicon Bridge Rectifier

V_{RRM} = 50 V - 1000 V

I_F = 25 A

Features

• Types up to 1000 V V_{RRM}
• Ideal for printed circuit board
• Low forward voltage drop, high current capability
• Plastic package has Underwriters Laboratory Flammability Classification 94V-0
• Reliable, low cost construction utilizing molded plastic technique

KBJ Package

Maximum ratings, at T_j = 25 °C, unless otherwise specified

Parameter	Symbol	Conditions	KBJ25005G	KBJ2501G	KBJ2502G	KBJ2504G	Unit
Repetitive peak reverse voltage	V_{RRM}		50	100	200	400	V
RMS reverse voltage	V_{RMS}		35	70	140	280	V
DC blocking voltage	V_{DC}		50	100	200	400	V
Continuous forward current	I_F	$T_C \leq$ 110°C, with heatsink	25	25	25	25	A
		$T_C \leq$ 110°C, without heatsink	4.2	4.2	4.2	4.2	
Surge non-repetitive forward current, Half Sine Wave	$I_{F,SM}$	T_C = 25 °C, t_p = 8.3 ms	350	350	350	350	A
Operating temperature	T_j		-55 to 150	-55 to 150	-55 to 150	-55 to 150	°C
Storage temperature	T_{stg}		-55 to 150	-55 to 150	-55 to 150	-55 to 150	°C

Electrical characteristics, at Tj = 25 °C, unless otherwise specified

Parameter	Symbol	Conditions	KBJ25005G	KBJ2501G	KBJ2502G	KBJ2504G	Unit
Diode forward voltage	V_F	I_F = 12.5 A, T_j = 25 °C	1.05	1.05	1.05	1.05	V
Reverse current	I_R	V_R = 50 V, T_j = 25 °C	10	10	10	10	μA
		V_R = 50 V, T_j = 125 °C	500	500	500	500	
Thermal characteristics							
Thermal resistance, junction - case	R_{thJA}		0.6	0.6	0.6	0.6	°C/W

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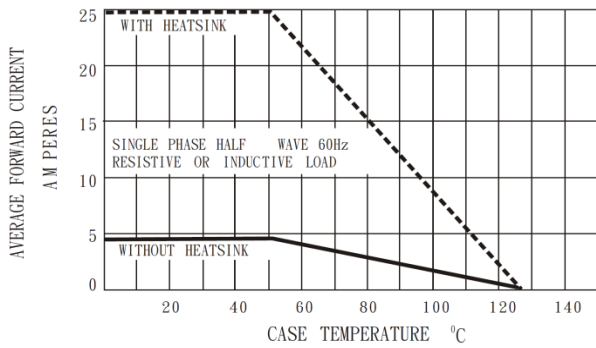
FIG. 1 - FORWARD CURRENT DERATING CURVE

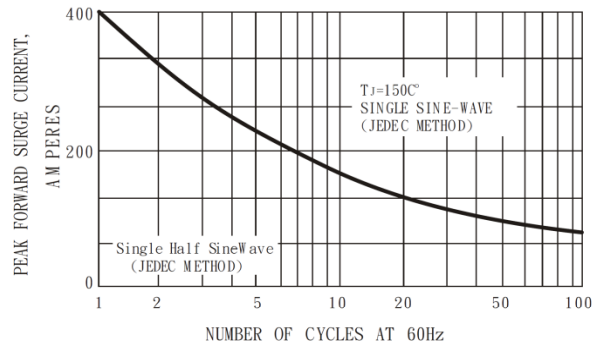FIG. 2 - MAXIMUM NON-REPETITIVE SURGE CURRENT
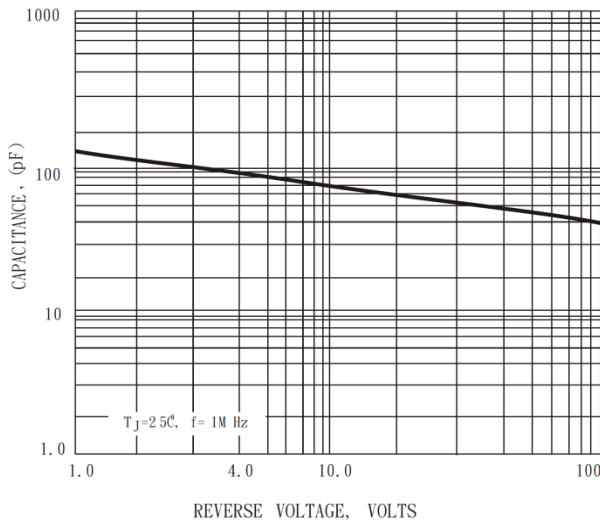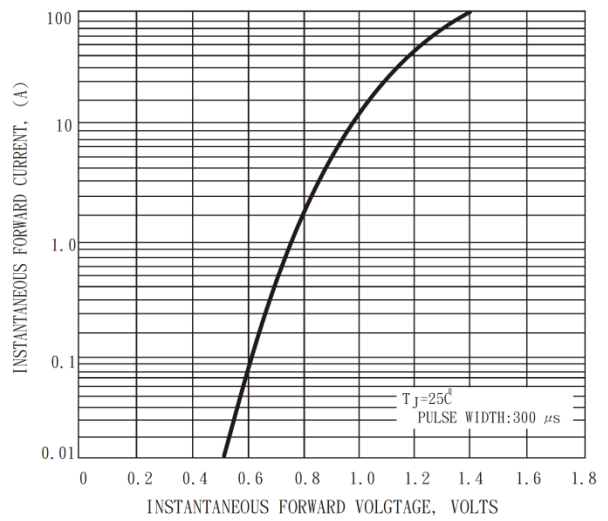
FIG. 3 - TYPICAL JUNCTION CAPACITANCE

FIG. 4 - TYPICAL FORWARD CHARACTERISTICS

FIG. 5- TYPICAL REVERSE CHARACTERISTICS