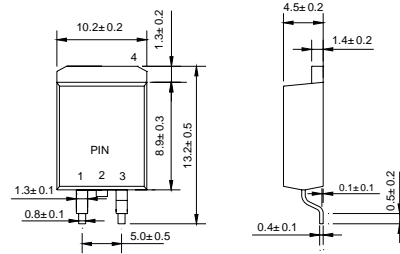




Features

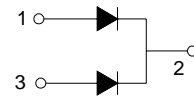
- ◇ High surge capacity.
- ◇ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- ◇ Metal silicon junction, majority carrier conduction.
- ◇ High current capacity, low forward voltage drop.
- ◇ Guard ring for over voltage protection.

D²PAK



Mechanical Data

- ◇ Case: JEDEC D²PAK, molded plastic body
- ◇ Polarity: As marked
- ◇ Position: Any
- ◇ Weight: 0.087 ounces, 2.2 grams



Dimensions in millimeters

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

		MBR 3030CGD	MBR 3035CGD	MBR 3040CGD	MBR 3045CGD	MBR 3050CGD	MBR 3060CGD	MBR 3080CGD	MBR 30100CGD	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	30	35	40	45	50	60	80	100	V
Maximum RMS Voltage	V_{RMS}	21	25	28	32	35	42	56	70	V
Maximum DC blocking voltage	V_{DC}	30	35	40	45	50	60	80	100	V
Maximum average forward total device rectified current @ $T_c = 105^\circ\text{C}$	$I_{F(AV)}$	30								A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	200								A
Maximum forward voltage ($I_F=15\text{A}, T_c=25^\circ\text{C}$) ($I_F=15\text{A}, T_c=125^\circ\text{C}$) (Note 1) ($I_F=30\text{A}, T_c=25^\circ\text{C}$) ($I_F=30\text{A}, T_c=125^\circ\text{C}$)	V_F	-				0.80	0.85			V
		0.57				0.70	0.65			
		0.84				0.95	0.95			
		0.72				0.85	0.75			
Maximum reverse current @ $T_c=25^\circ\text{C}$	I_R	1.0							0.2	mA
at rated DC blocking voltage @ $T_c=125^\circ\text{C}$		60							40	
Maximum thermal resistance (Note2)	$R_{\theta JC}$	6.8							4.4	$^\circ\text{C/W}$
Operating junction temperature range	T_J	- 55 ---- + 150								$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 ---- + 150								$^\circ\text{C}$

NOTE: 1. Pulse test: 300μs pulse width, 1% duty cycle.

2. Thermal resistance from junction to case.

Ratings AND Characteristic Curves

FIG.1 – PEAK FORWARD SURGE CURRENT

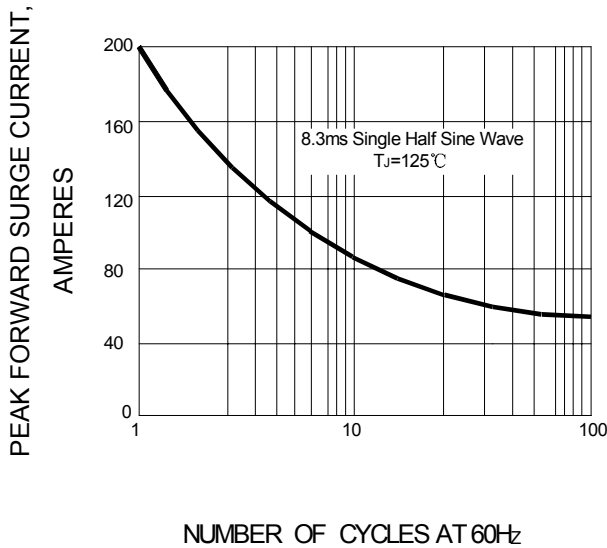


FIG.2 – FORWARD DERATING CURVE

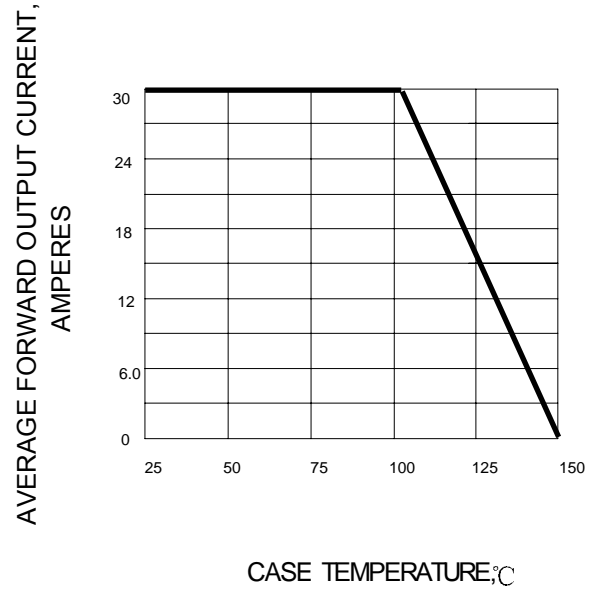


FIG.3 – TYPICAL FORWARD CHARACTERISTIC

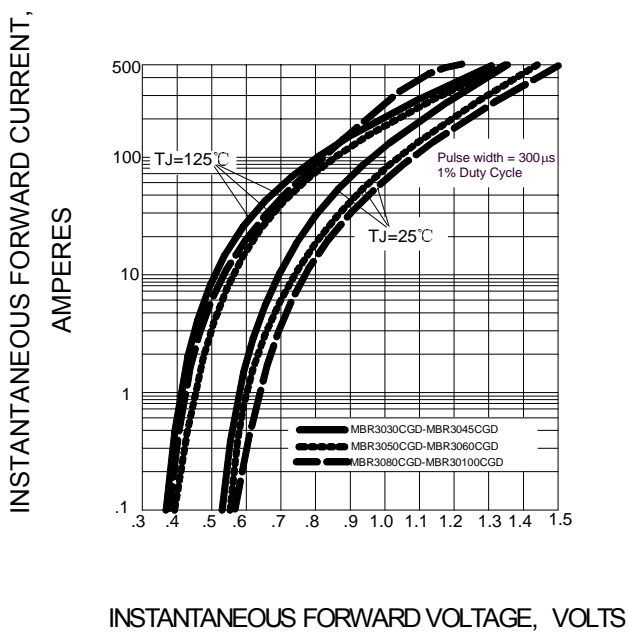


FIG.4 – TYPICAL REVERSE CHARACTERISTIC

