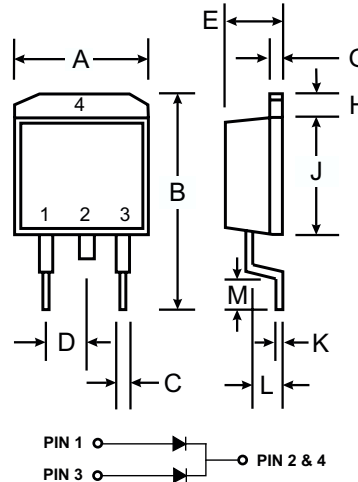


### Features

- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- Plastic Material: UL Flammability Classification Rating 94V-0

### Mechanical Data

- Case: D<sup>2</sup>PAK, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Body
- Weight: 1.7 grams (approx)
- Marking: Type Number



D <sup>2</sup> PAK		
Dim	Min	Max
A	9.65	10.69
B	14.60	15.88
C	0.51	1.14
D	2.29	2.79
E	4.37	4.83
G	1.14	1.40
H	1.14	1.40
J	8.25	9.25
K	0.30	0.64
L	2.03	2.92
M	2.29	2.79
All Dimensions in mm		

### Maximum Ratings and Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

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

Characteristic	Symbol	MBRB 2070CT	MBRB 2080CT	MBRB 2090CT	MBRB 20100CT	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	70	80	90	100	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	49	56	63	70	V
Average Rectified Output Current (Note 1) @ T <sub>C</sub> = 110°C	I <sub>O</sub>	20				A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	150				A
Forward Voltage Drop @ I <sub>F</sub> = 10A, T <sub>j</sub> = 125°C @ I <sub>F</sub> = 10A, T <sub>j</sub> = 25°C @ I <sub>F</sub> = 20A, T <sub>j</sub> = 125°C @ I <sub>F</sub> = 20A, T <sub>j</sub> = 25°C	V <sub>FM</sub>	0.75 0.85 0.85 0.95				V
Peak Reverse Current at Rated DC Blocking Voltage @ T <sub>A</sub> = 25°C @ T <sub>A</sub> = 125°C	I <sub>RM</sub>	0.1 100				mA
Typical Junction Capacitance (Note 2)	C <sub>j</sub>	275				pF
Typical Thermal Resistance Junction to Case (Note 1)	R <sub>θJC</sub>	2.0				°C/W
Voltage Rate of Change @ rated V <sub>R</sub>	dV/dt	10000				V/μs
Operating Temperature Range	T <sub>j</sub>	-65 to +150				°C
Storage Temperature Range	T <sub>STG</sub>	-65 to +175				°C

Notes: 1. Thermal resistance junction to case mounted on heatsink.  
 2. Measured at 1.0 MHz and Applied Reverse Voltage of 4.0V DC.

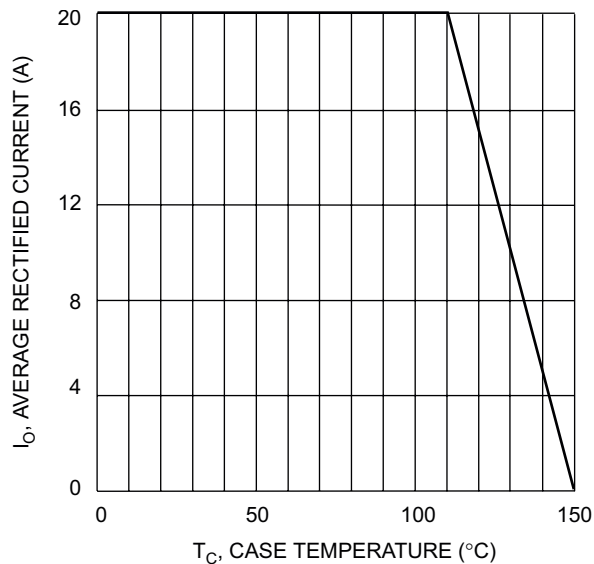


Fig. 1 Fwd Current Derating Curve

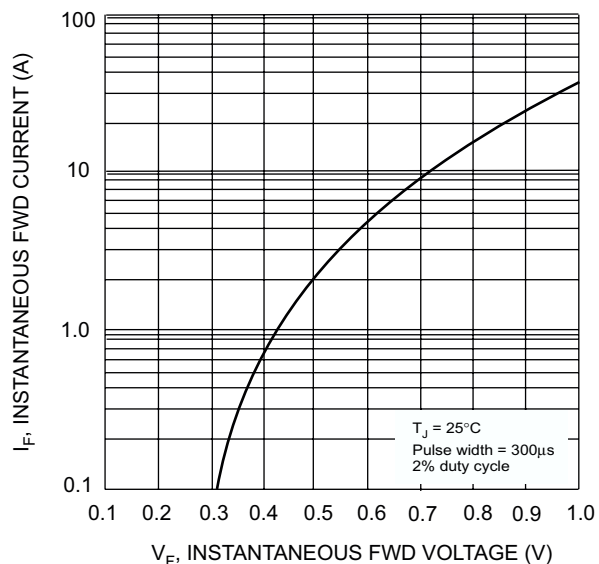


Fig. 2 Typical Forward Characteristics

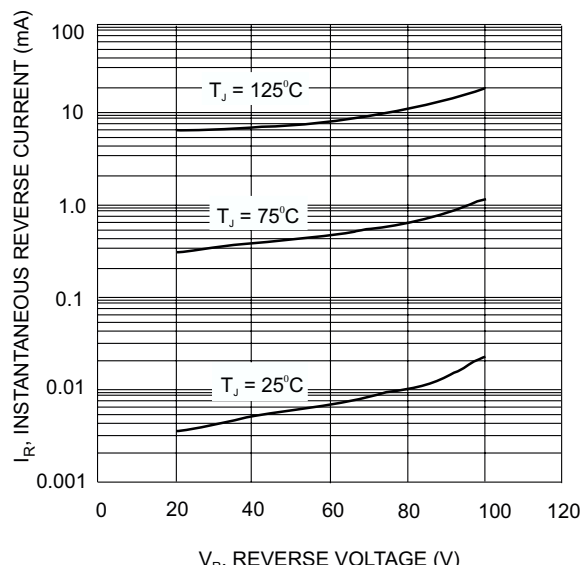


Fig. 3 Typical Reverse Characteristics

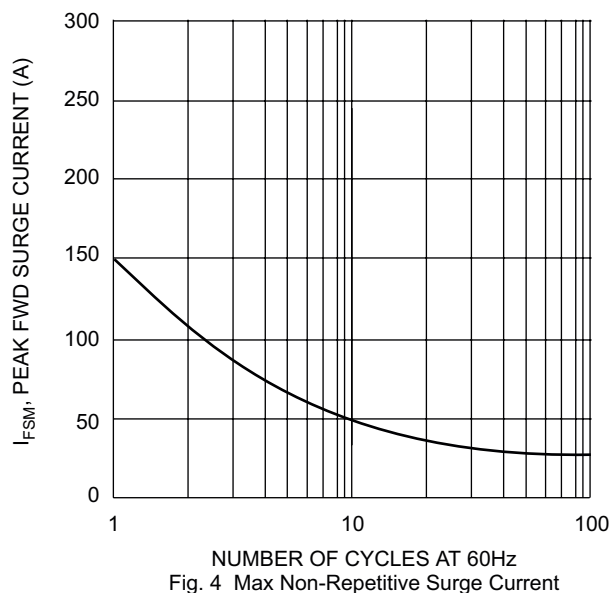


Fig. 4 Max Non-Repetitive Surge Current

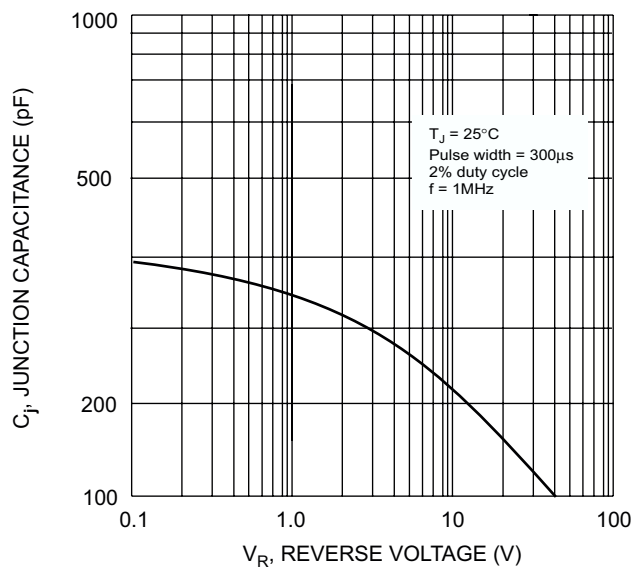


Fig. 5 Typical Junction Capacitance