MBR2070CT - MBR20100CT

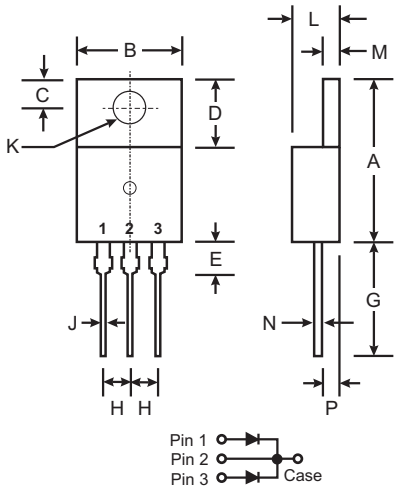
20A HIGH VOLTAGE SCHOTTKY BARRIER RECTIFIER

Features

- Schottky Barrier Chip
- 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
- **Lead Free/RoHS Compliant (Note 3)**

Mechanical Data

- Case: TO-220AB
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Polarity: As Marked on Body
- Terminals: Finish – Bright Tin. Solderable per MIL-STD-202, Method 208
- Marking: Type Number
- Weight: 2.24 grams (approx)



TO-220AB		
Dim	**Min**	**Max**
A	14.48	15.75
B	10.00	10.40
C	2.54	3.43
D	5.90	6.40
E	2.80	3.93
G	12.70	14.27
H	2.40	2.70
J	0.69	0.93
K	3.54	3.78
L	4.07	4.82
M	1.15	1.39
N	0.30	0.50
P	2.04	2.79
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics @ T_A = 25°C unless otherwise specified

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

Characteristic	Symbol	MBR 2070CT	MBR 2080CT	MBR 2090CT	MBR 20100CT	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	70	80	90	100	V
RMS Reverse Voltage	$V_{R(RMS)}$	49	56	63	70	V
Average Rectified Output Current (Note 1) @ T_C = 125°C	I_O	20				A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150				A
Forward Voltage Drop @ I_F = 10A, T_j = 125°C @ I_F = 10A, T_j = 25°C @ I_F = 20A, T_j = 125°C @ I_F = 20A, T_j = 25°C	V_{FM}	0.75 0.85 0.85 0.95				V
Peak Reverse Current @ T_A = 25°C at Rated DC Blocking Voltage @ T_A = 125°C	I_{RM}	0.15 150				mA
Typical Junction Capacitance (Note 2)	C_j	1000				pF
Typical Thermal Resistance Junction to Case (Note 1)	$R_{\theta JC}$	2.0				°C/W
Voltage Rate of Change	dV/dt	10000				V/μs
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150 -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.
3. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see *EU Directive Annex Notes 5 and 7.*

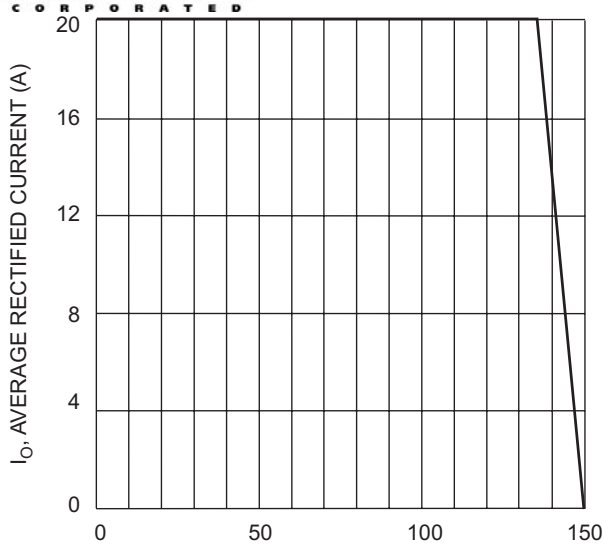


Fig. 1 Fwd Current Derating Curve

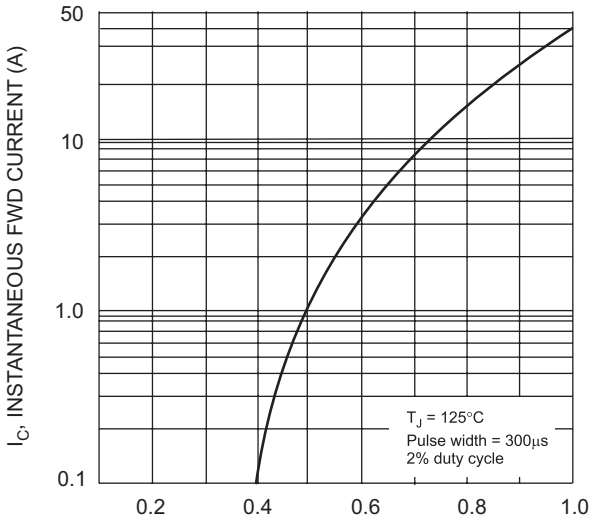


Fig. 2 Typical Forward Characteristics

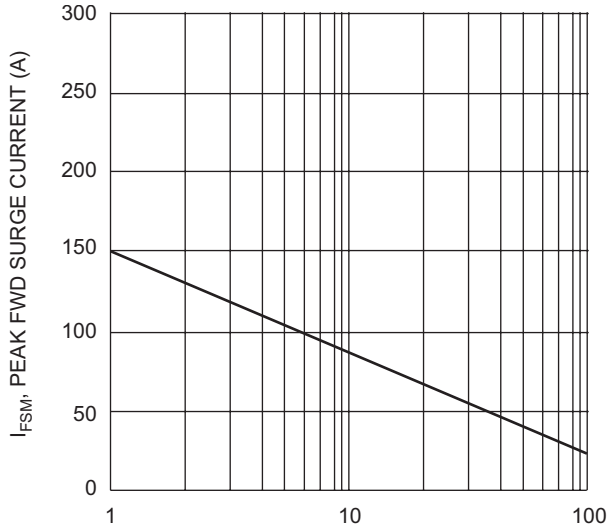


Fig. 3 Max Non-Repetitive Surge Current

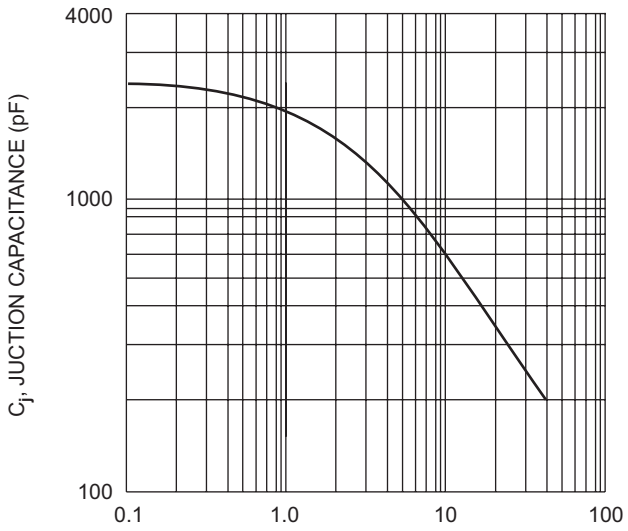


Fig. 4 Typical Junction Capacitance

Ordering Information (Note 4)

Device	Packaging	Shipping
MBR20xxCT-F*	TO-220AB	50/Tube

* xx = Device type, e.g. MBR2080CT-F

Notes: 4. For packaging details, visit our website at http://www.diodes.com/datasheets/ap02008.pdf.