

■ **FEATURES**

- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability

■ **TYPICAL APPLICATIONS**

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

■ **MECHANICAL DATA**

- **Package:** TO-252  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked

■ **MAXIMUM RATINGS** ( $T_a=25^{\circ}\text{C}$  Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBR10100CD	MBR10150CD	MBR10200CD
Device marking code			MBR10100CD	MBR10150CD	MBR10200CD
Repetitive Peak Reverse Voltage	VRRM	V	100	150	200
Average Rectified Output Current @60Hz sine wave, R-load, $T_a=25^{\circ}\text{C}$	$I_O$	A	10		
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, $T_a=25^{\circ}\text{C}$	IFSM	A	120		
Current Squared Time @1ms $\leq$ t<8.3ms $T_j=25^{\circ}\text{C}$ ,	$I^2t$	A <sup>2</sup> s	60		
Storage Temperature	Tstg	$^{\circ}\text{C}$	-55 ~ +175		
Junction Temperature	$T_j$	$^{\circ}\text{C}$	-55 ~ +175		

■ **ELECTRICAL CHARACTERISTICS** ( $T_a=25^{\circ}\text{C}$  Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MBR10100CD	MBR10150CD	MBR10200CD
Maximum instantaneous forward voltage drop per diode	VFM	V	IFM=5.0A	0.8	0.85	0.9
Maximum DC reverse current at rated DC blocking voltage per diode	I <sub>RRM1</sub>	mA	V <sub>RM</sub> =V <sub>VRRM</sub> $T_a=25^{\circ}\text{C}$	0.1		
	I <sub>RRM2</sub>		V <sub>RM</sub> =V <sub>VRRM</sub> $T_a=125^{\circ}\text{C}$	20		

■ **THERMAL CHARACTERISTICS** ( $T_a=25^{\circ}\text{C}$  Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBR10100CD	MBR10150CD	MBR10200CD
Thermal Resistance Between junction and case	$R_{\theta J-C}$	$^{\circ}\text{C/W}$	5.0		

■ **PACKAGING INFORMATION**

PREFERED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MBR10100CD THRU MBR10200CD	Approximate 0.32	2500	2500	25000	Reel

■ **CHARACTERISTICS (TYPICAL)**

FIG1:  $I_o$  -Tc Curve

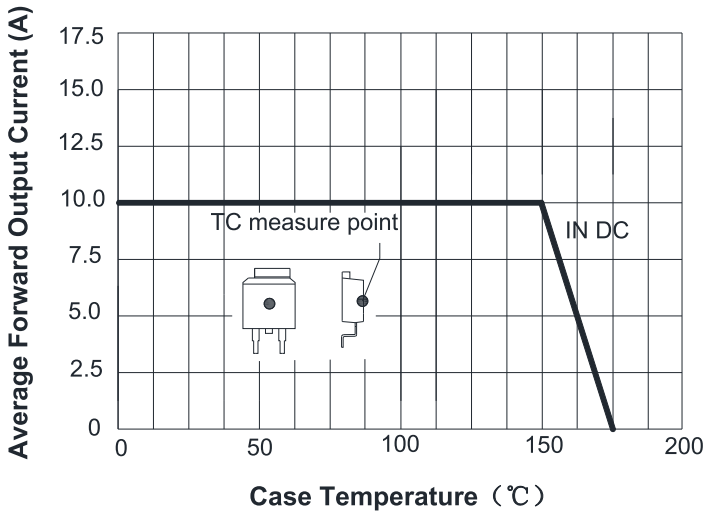


FIG2: Surge Forward Current Capability

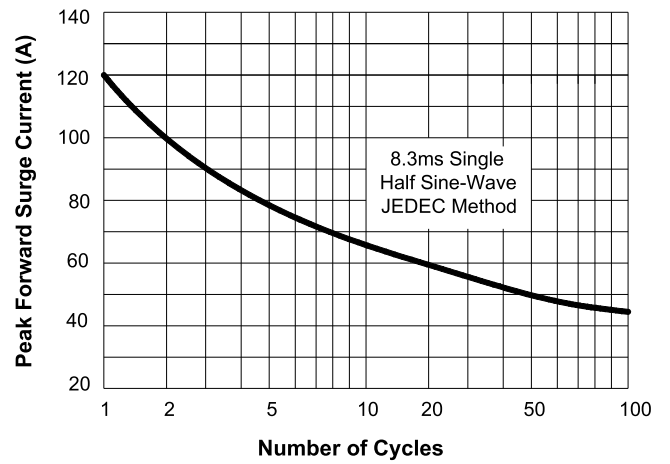


FIG3: Forward Voltage

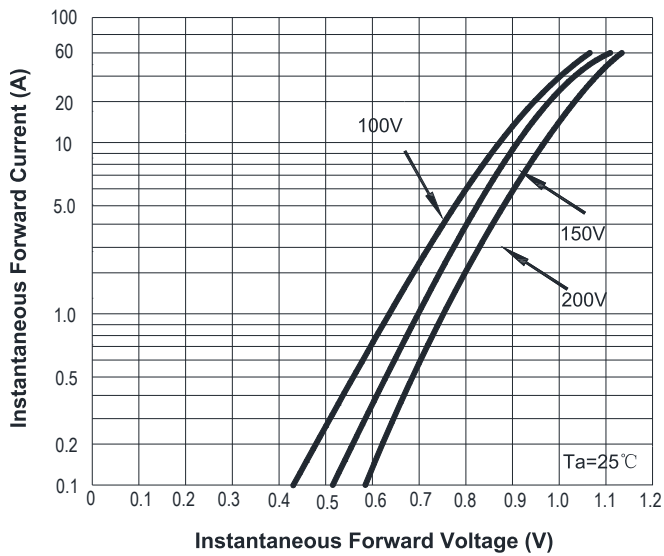
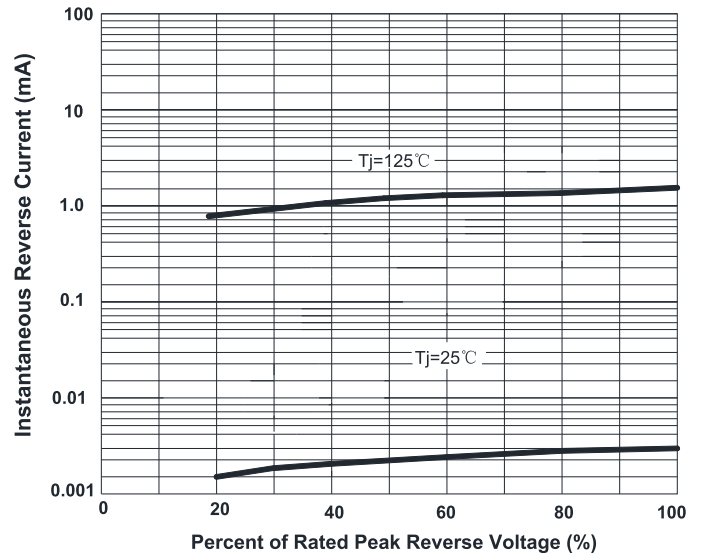
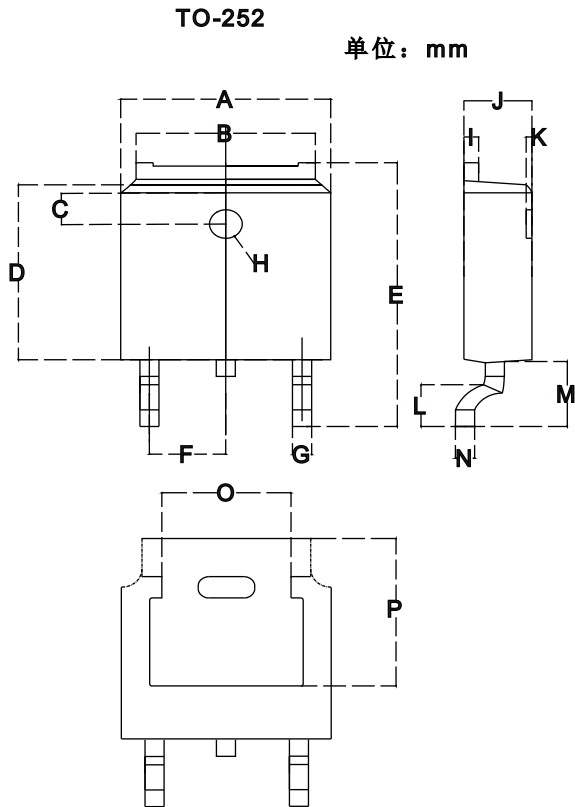


FIG4: Instantaneous Reverse Characteristics

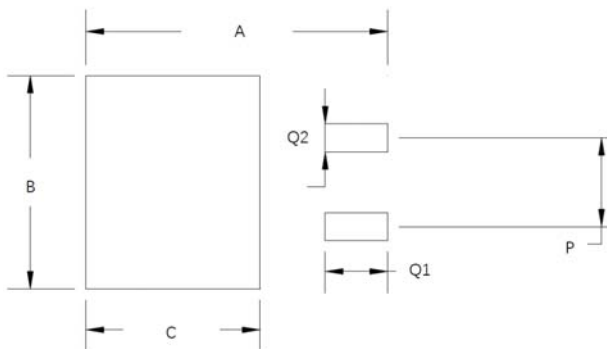


■ **OUTLINE DIMENSIONS**



TO-252		
Dim	Min	Max
A	6.500	6.700
B	5.100	5.460
C	1.400	1.800
D	6.000	6.200
E	10.000	10.400
F	2.166	2.366
G	0.660	0.860
H	Φ 1.050	Φ 1.350
I	0.460	0.580
J	2.200	2.400
K	0	0.300
L	0.890	2.290
M	2.730	3.080
N	0.430	0.580
O	4.2	4.95
P	5.15	5.45

■ **SUGGESTED PAD LAYOUT**



Dim	Millimeters
A	11.4
B	6.74
C	6.23
P	4.56
Q1	2.28
Q2	1.52