

MBR5200D

Schottky Diodes



Features

- High frequency operation
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Solder dip 275 °C max. 7 s, per JESD 22-B106

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, -
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked

■Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBR5200D
Device marking code			MBR5200D
Repetitive Peak Reverse Voltage	V_{RRM}	V	200
Average Rectified Output Current @60Hz sine wave, R-load, Ta=25°C	I_O	A	5
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, Ta=25°C	I_{FSM}	A	120
Current Squared Time @1ms≤t≤8.3ms Tj=25°C ,	I^2t	A ² s	60
Storage Temperature	T_{stg}	°C	-55 ~ +175
Junction Temperature	T_j	°C	-55 ~ +175

■Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MBR5200D
Maximum instantaneous forward voltage drop per diode	V_{FM}	V	$I_{FM}=5.0A$	0.9
Maximum DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	mA	$V_{RM}=V_{RRM}$ Ta=25°C	0.1
	I_{RRM2}		$V_{RM}=V_{RRM}$ Ta=125°C	20

Note1:Pulse test:300uS pulse width,1% duty cycle

Note2:Pulse test:pulse width 40mS

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■ Thermal Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MBR5200D
Thermal Resistance	Between junction and case	R _{θJC}	°C/W	5.0

■ Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MBR5200D	Approximate 0.31	2500	2500	25000	Reel

■ Characteristics (Typical)

FIG1: I_o -T_c Curve

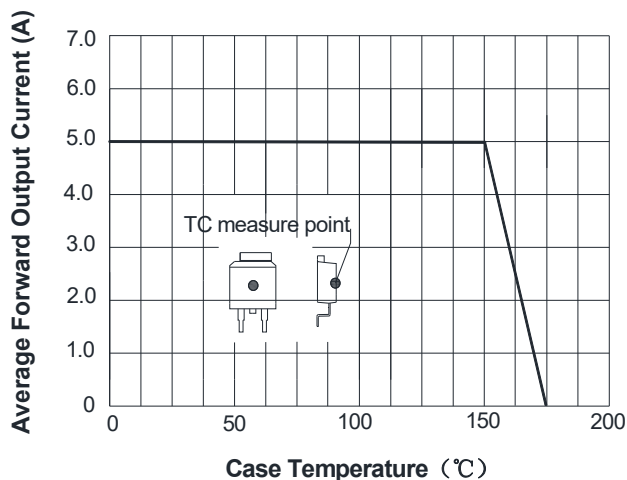


FIG2: Surge Forward Current Capability

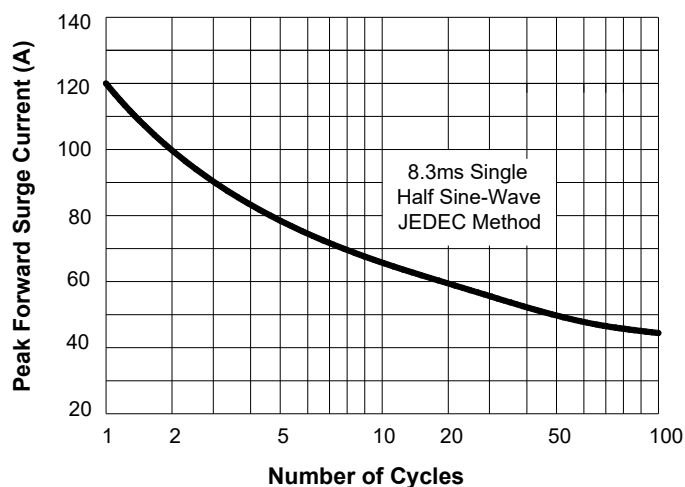


FIG3: Forward Voltage

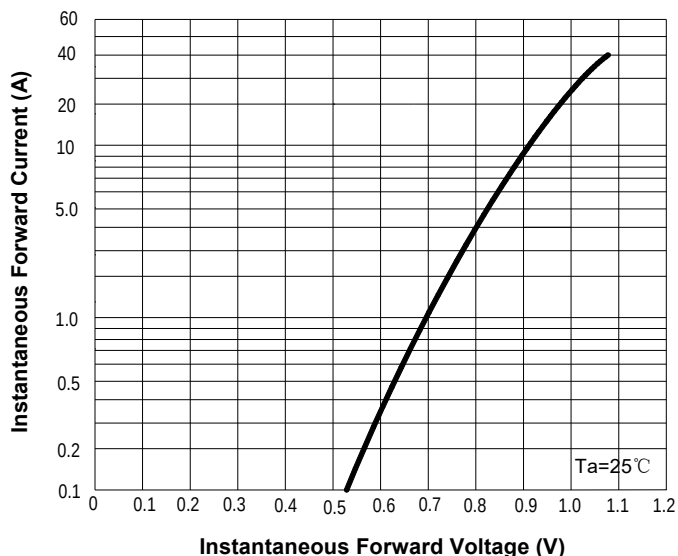
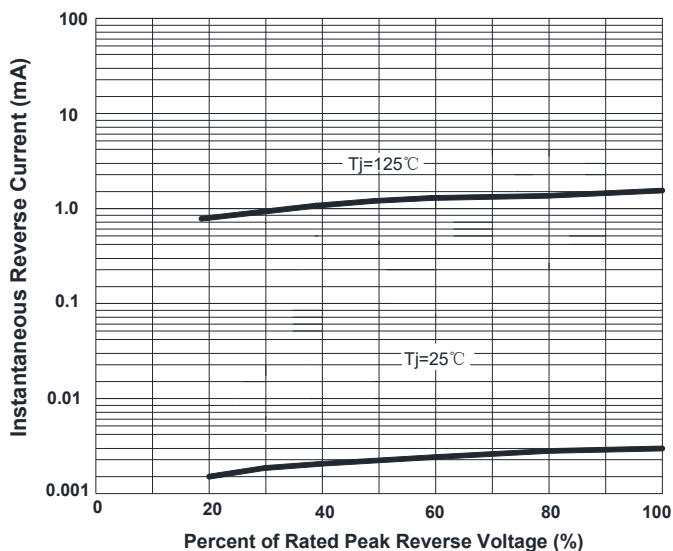
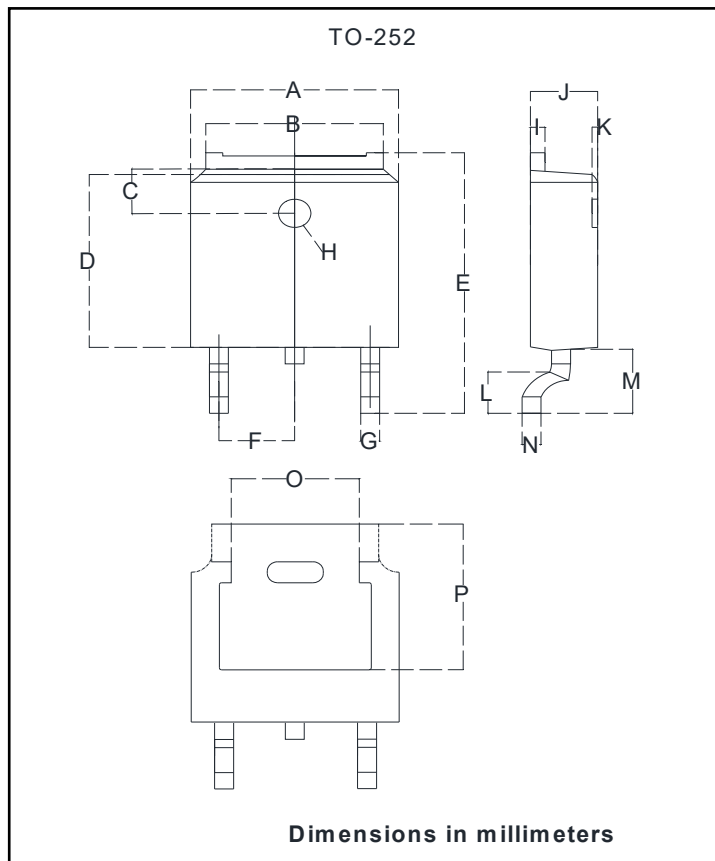


FIG4: Instantaneous Reverse Characteristics

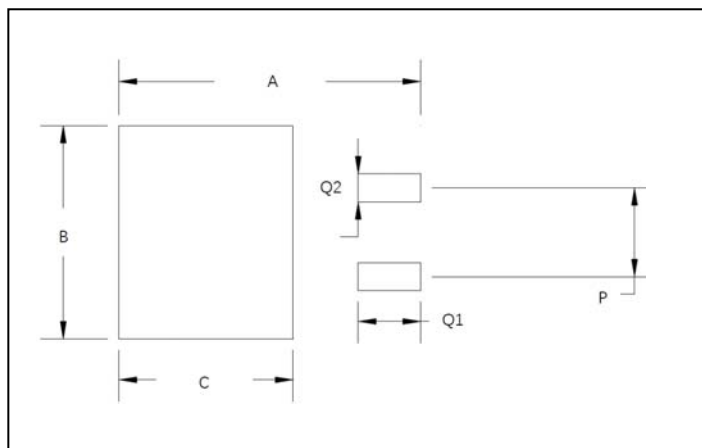


■ **Outline Dimensions**



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	4.20	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

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