

Schottky Diodes

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°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBR1045CD
Device marking code			MBR1045CD
Repetitive Peak Reverse Voltage	V _{RRM}	V	45
Average Rectified Output Current @60Hz sine wave, R-load, T _c =121°C	I _o	A	10
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T _a =25°C	I _{FSM}	A	120
Current Squared Time @1ms≤t≤8.3ms T _j =25°C,	I ² t	A ² s	60
Storage Temperature	T _{stg}	°C	-55 ~ +150
Junction Temperature	T _j	°C	-55 ~ +150

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MBR1045CD
Maximum instantaneous forward voltage drop per diode	V _{FM}	V	I _{FM} =5.0A	0.58
Maximum DC reverse current at rated DC blocking voltage per diode	I _{RRM1}	mA	V _{RM} =V _{RRM} T _a =25°C	0.2
	I _{RRM2}		V _{RM} =V _{RRM} T _a =125°C	100

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

Note2:Pulse test:pulse width 40mS



MBR1045CD

■ Thermal Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MBR1045CD
Thermal Resistance	Between junction and case	$R_{\theta\text{-c}}$	$^\circ\text{C/W}$	5.0

■ Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MBR1045CD	Approximate 0.32	2500	2500	25000	Reel

■ Characteristics (Typical)

FIG1: I_o - T_c Curve

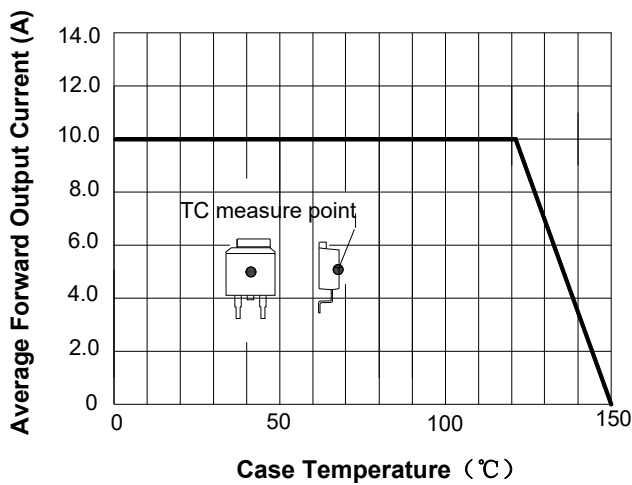


FIG2: Surge Forward Current Capability

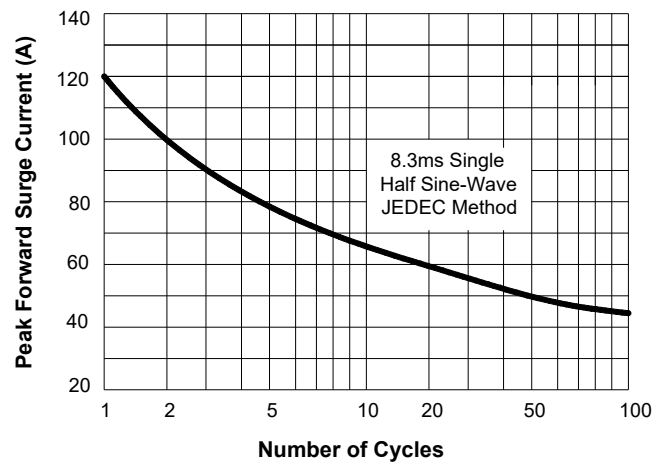


FIG3: Forward Voltage

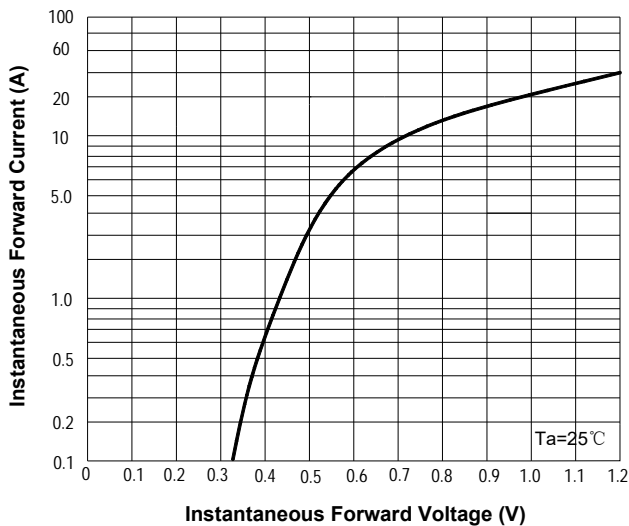
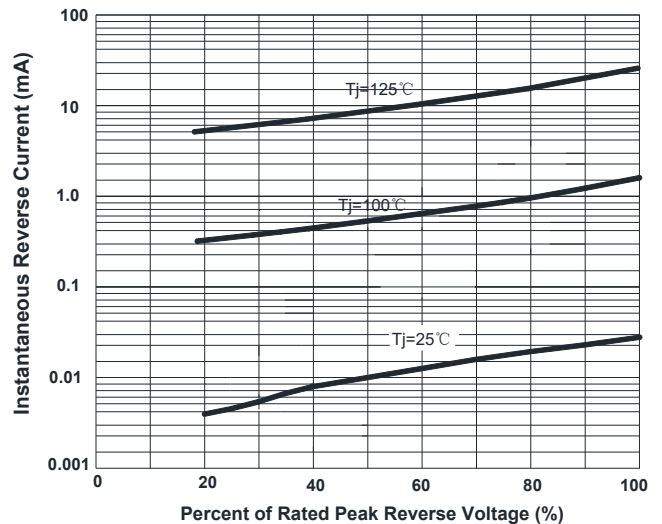


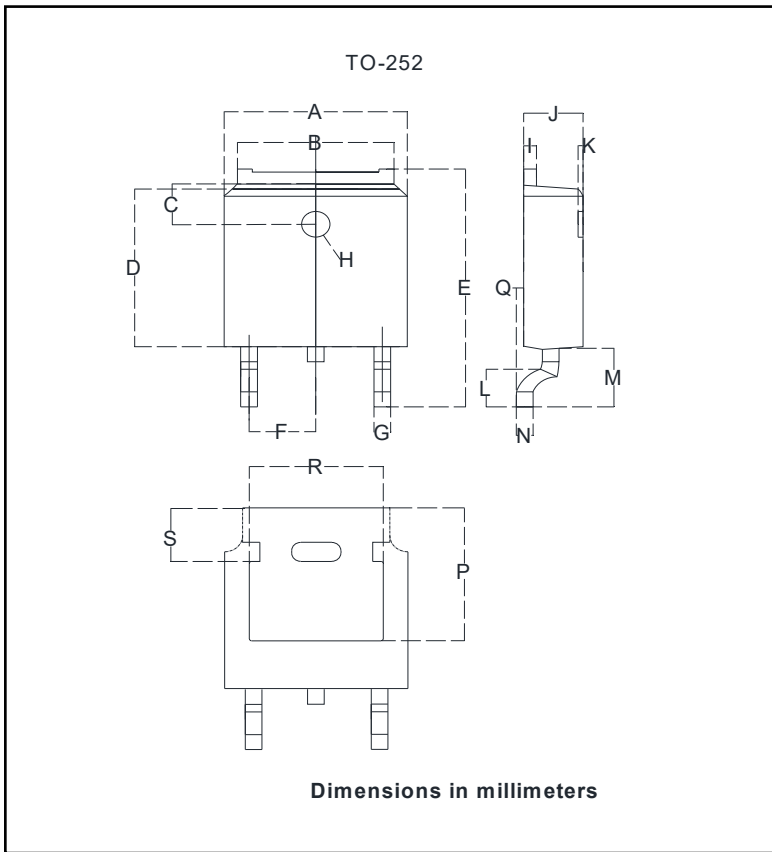
FIG4: Typical Reverse Characteristics





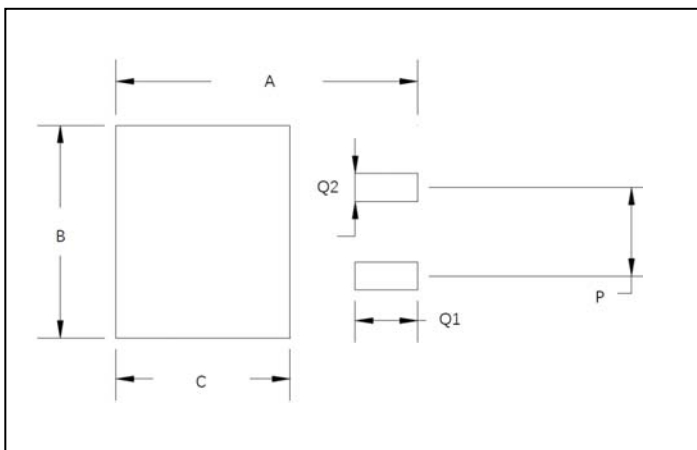
MBR1045CD

■ 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
P	5.15	5.45
Q	0	0.2
R	4.50	5.10
S	1.60	2.40

■ Suggested Pad Layout



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



MBR1045CD

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