

MBR1020 THRU MBR1060

Schottky Diodes

Features

- High efficiency operation
- Guard ring for enhanced ruggedness and long term reliability
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Solder dip maximum peak of 275 °C /7s, per JESD 22-B106

Typical Application

For use in switching power supplies, converters, freewheeling diodes and reverse battery protection.

Mechanical Data

- Package: TO-220AC
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: Color Band denotes cathode end



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

PARAMETER	Symbol	Unit	Conditions	MBR				
				1020	1030	1040	1050	1060
Repetitive Peak Reverse Voltage	V_{RRM}	V		20	30	40	50	60
Average Rectified Output Current	I_o	A	60HZ Half-sine wave, Resistance load, Tc(Fig.1)	10				
Surge(Nonrepetitive)Forward Current	I_{FSM}	A	60HZ sine wave, 1 cycle, Ta=25°C	150				
Current Squared Time	I^2T	A ² S	1ms ≤ t < 8.3ms Tj = 25°C, Rating of per diode	150				
Storage Temperature	T_{stg}	°C		-55 ~ +150				
Junction Temperature	T_j	°C	IN DC Forward Mode-Forward Operations, without reverse bias, t ≤ 1 h (Fig. 1)①	-55 ~ +125		-55 ~ +155		

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

PARAMETER	Symbol	Unit	Conditions	MBR				
				1020	1030	1040	1050	1060
Peak Forward Voltage	V_{FM}	V	$I_{FM}=10A$	0.55			0.7	
Peak Reverse Current	I_{RRM1}	mA	$V_{RM}=V_{RRM}$	Ta=25°C				
	I_{RRM2}			Ta=100°C				
Thermal Resistance	$R_{\theta J-C}$	°C/W	Between junction and case	2.0 ¹⁾				

NOTES:

Thermal resistance from junction to case per leg with heat-sink size of 2"x3"x0.25"A-L plate



■ Characteristics (Typical)

FIG1: Forward Current Derating Curve

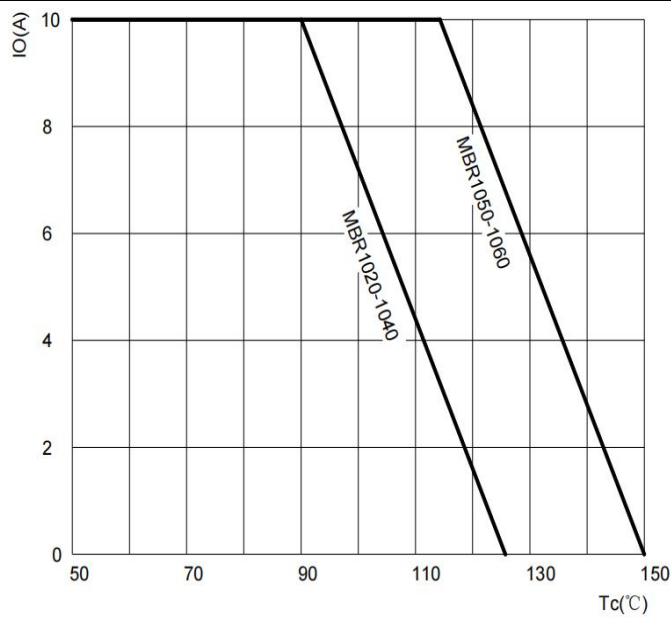


FIG2: Surge Forward Current Capability

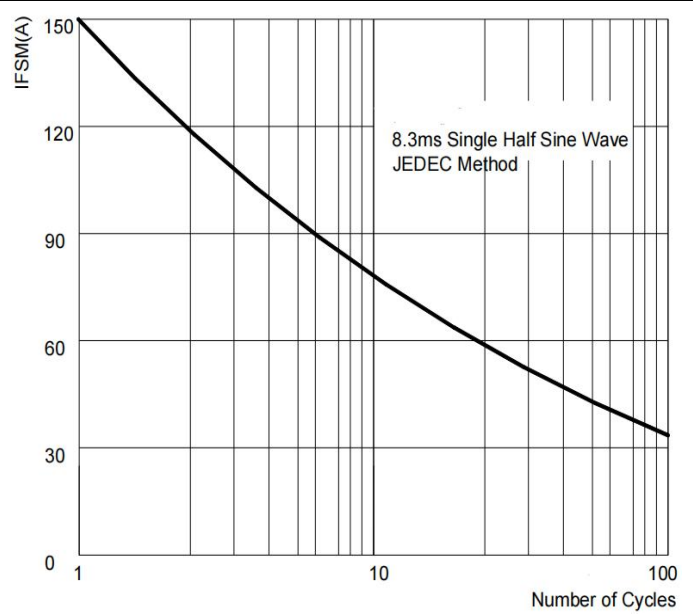


FIG3: Instantaneous Forward Voltage

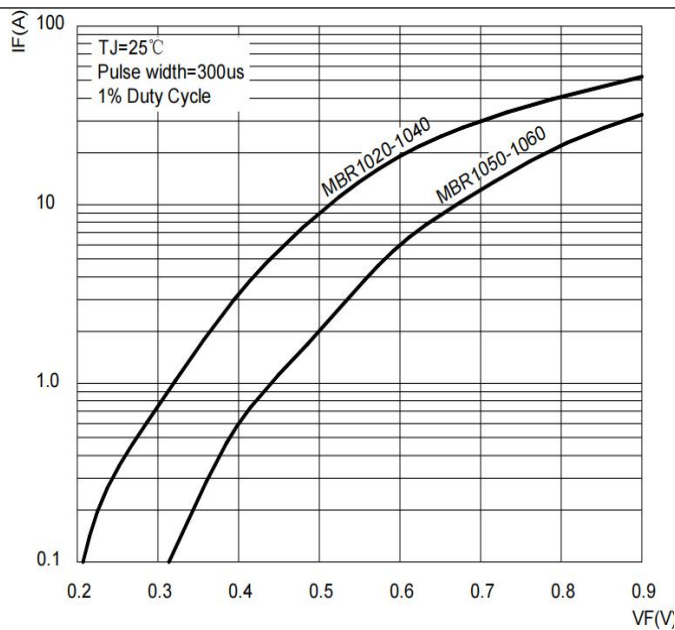
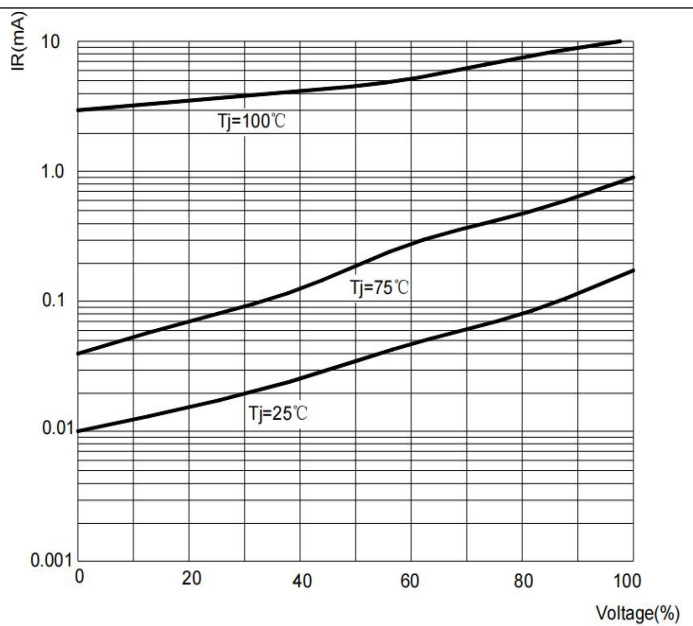


FIG4: Typical Reverse Characteristics



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High Performance Schottky Diodes

Ordering Information (Example)

PREFERED	PACKAGE CODE	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MBR1020 ~ MBR1060	TO-220AC	50	1000	5000	Tube

Outline Dimensions

