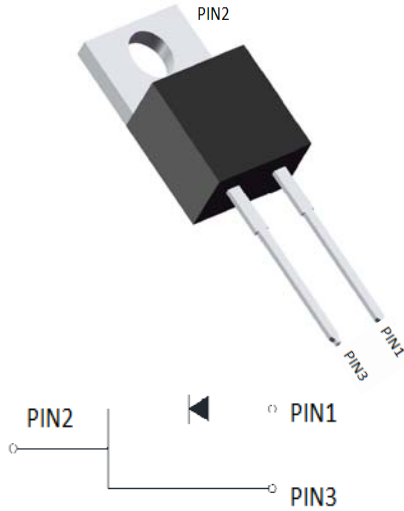


## Schottky Diodes



### 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-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:** As marked

### ■Maximum Ratings (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBR1020	MBR1035	MBR1040	MBR1045	MBR1050	MBR1060	
Device marking code			MBR1020	MBR1035	MBR1040	MBR1045	MBR1050	MBR1060	
Repetitive Peak Reverse Voltage	VRRM	V	20	35	40	45	50	60	
Average Rectified Output Current @60Hz sine wave, R-load, T <sub>a</sub> =25°C	I <sub>O</sub>	A	10						
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T <sub>a</sub> =25°C	IFSM	A	150						
Current Squared Time @1ms≤t<8.3ms T <sub>j</sub> =25°C,	I <sup>2</sup> t	A <sup>2</sup> s	94						
Storage Temperature	T <sub>stg</sub>	°C	-55 ~ +150						
Junction Temperature	T <sub>j</sub>	°C	-55 ~ +125				-55 ~ +150		

### ■Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MBR1020	MBR1035	MBR1040	MBR1045	MBR1050	MBR1060
Maximum instantaneous forward voltage drop per diode	VFM	V	IFM=10.0A	0.55				0.75	
Maximum DC reverse current at rated DC blocking voltage per diode	I <sub>RRM1</sub>	mA	V <sub>RM</sub> =V <sub>RRM</sub> T <sub>a</sub> =25°C	0.2					
	I <sub>RRM2</sub>		V <sub>RM</sub> =V <sub>RRM</sub> T <sub>a</sub> =100°C	50					



# MBR1020 THRU MBR1060

## ■ Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MBR1020	MBR1035	MBR1040	MBR1045	MBR1050	MBR1060
Thermal Resistance	Between junction and case	R <sub>θJ-C</sub>	°C/W	2.0					

## ■ Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MBR1020 THRU MBR1060	Approximate 1.8	50	1000	5000	Tube

## ■ Characteristics (Typical)

FIG1: I<sub>o</sub> -T<sub>c</sub> Curve

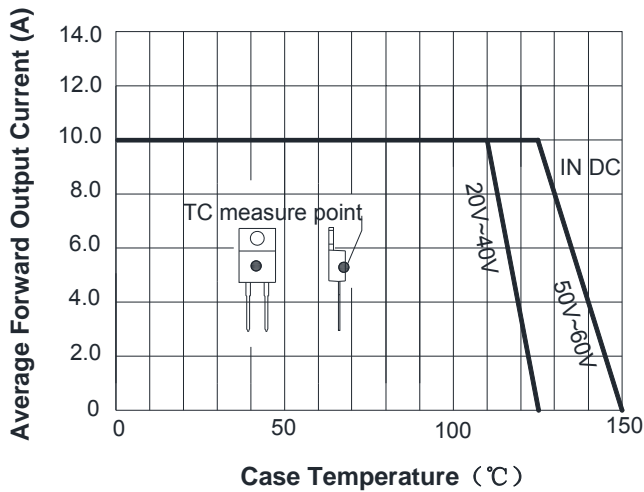


FIG2: Surge Forward Current Capability

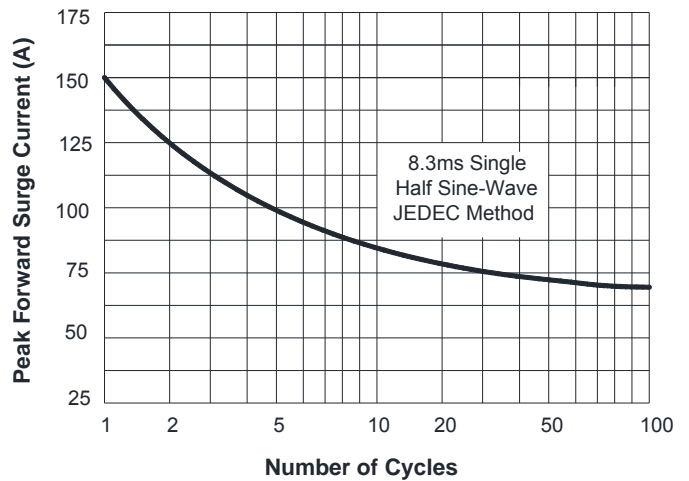


FIG3: Forward Voltage

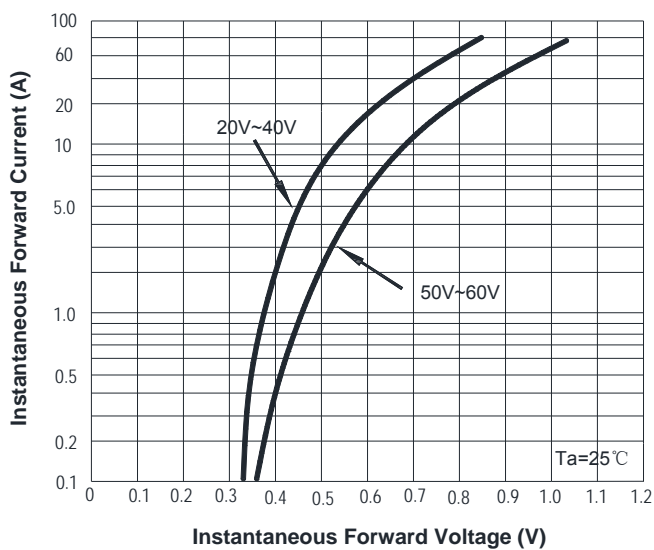
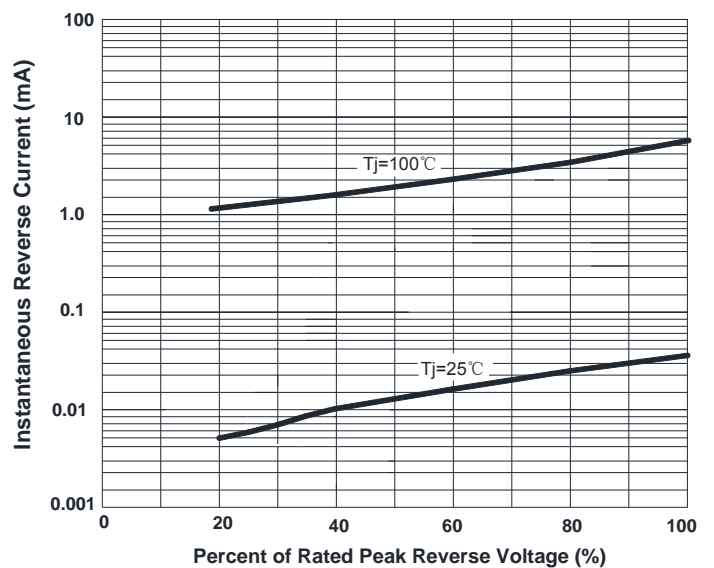


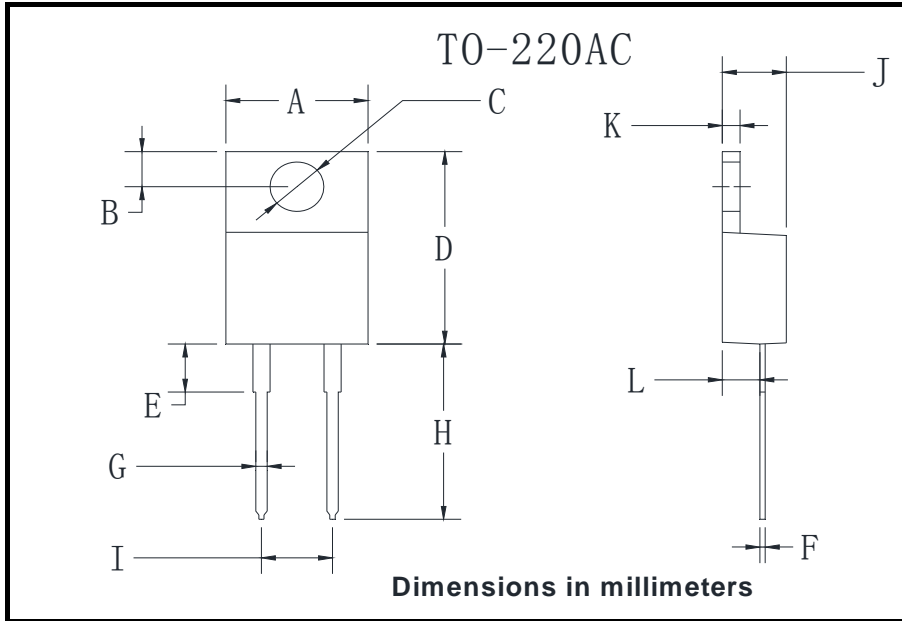
FIG4: Typical Reverse Characteristics





# MBR1020 THRU MBR1060

## ■Outline Dimensions



TO-220AC		
Dim	Min	Max
A	9.5	10.9
B	2.22	3.27
C	3.34	4.31
D	14.5	15.5
E	3.16	4.46
F	0.28	0.64
G	0.68	0.94
H	13.06	14.62
I	4.55	5.60
J	4.04	5.1
K	1.14	1.4
L	2.14	3.19

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