

## 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-247AB  
Molding compound meets UL 94 V-0 flammability rating, -compliant, halogen-free
- **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	MBR30200PT
Device marking code			MBR30200PT
Repetitive Peak Reverse Voltage	$V_{RRM}$	V	200
Average Rectified Output Current @60Hz sine wave, R-load, Tc=148°C	$I_O$	A	30
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, Ta=25°C	$I_{FSM}$	A	250
Current Squared Time @1ms≤t≤8.3ms Tj=25°C	$I^2t$	A <sup>2</sup> s	260
Storage Temperature	$T_{stg}$	°C	-55 ~ +175
Junction Temperature	$T_j$	°C	-55 ~ +175

### ■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Peak Forward Voltage	$V_{FM}$	V	$I_{FM}=15.0A$ $T_j=25^{\circ}C$	0.5	0.83	0.9
			$I_{FM}=15.0A$ $T_j=125^{\circ}C$	-	0.745	0.82
DC reverse current at rated DC blocking voltage per diode	$I_{RRM1}$	mA	$V_{RM}=V_{RRM}$ $T_j=25^{\circ}C$	-	-	0.1
	$I_{RRM2}$		$V_{RM}=V_{RRM}$ $T_j=125^{\circ}C$	-	-	20
Junction capacitance	$C_j$	pF	1MHz and Applied Reverse Voltage of 4.0 V.D.C	150	240	500

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

Note2:Pulse test:pulse width 40mS

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

PARAMETER		SYMBOL	UNIT	MBR30200PT
Thermal Resistance	Between junction and ambient	R <sub>θJA</sub>	°C/W	50.0
	Between junction and case	R <sub>θJC</sub>	°C/W	1.0

## ■ Characteristics (Typical)

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

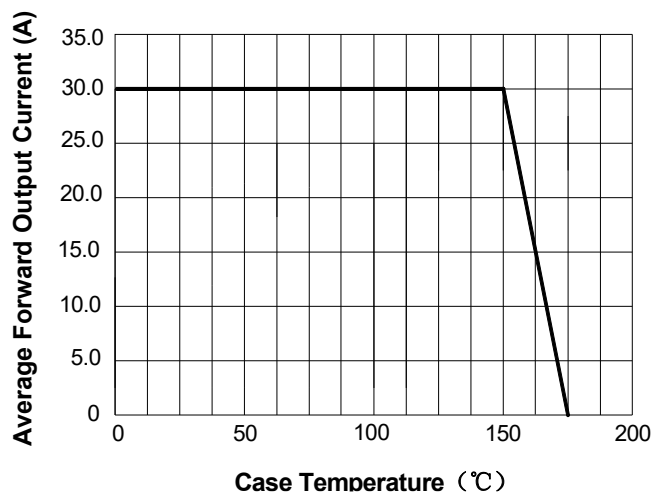


FIG2: Surge Forward Current Capability

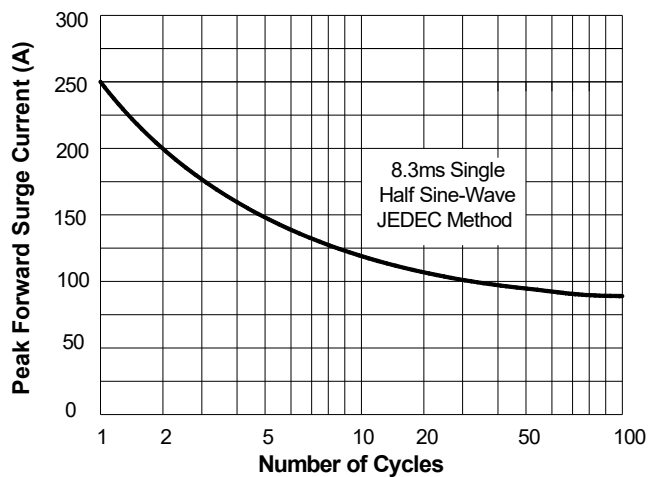


FIG3: Forward Voltage

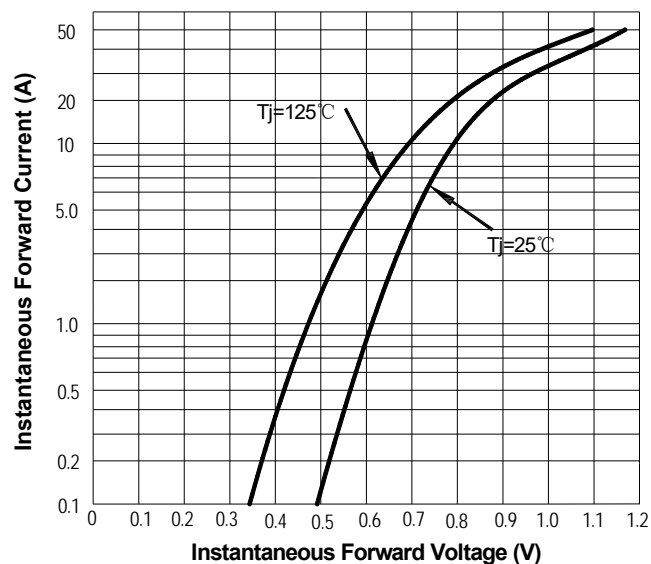
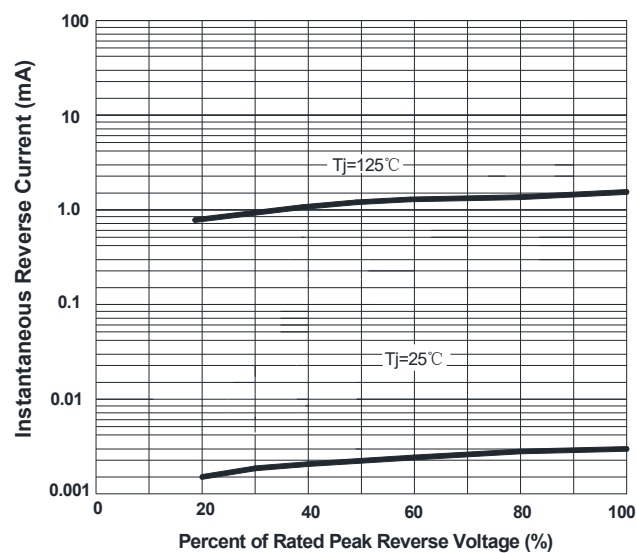
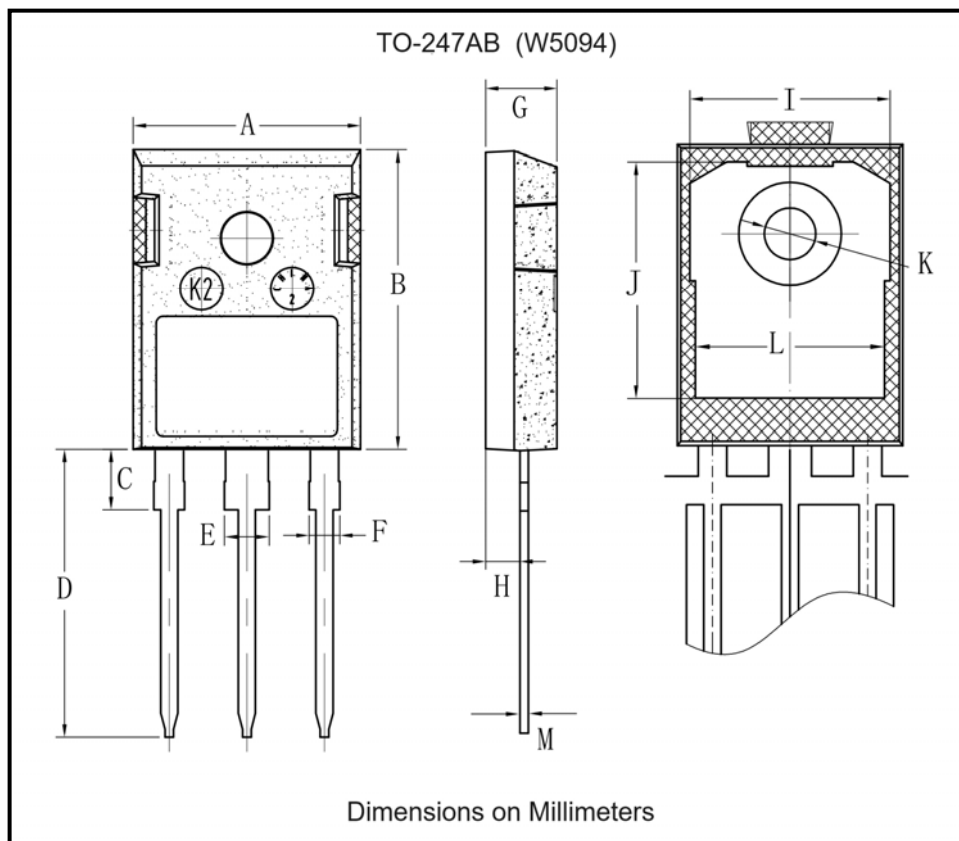


FIG4: Instantaneous Reverse Characteristics



■ Outline Dimensions



TO-247AB (W5094)		
Dim	Min	Max
A	15.72	16.12
B	20.70	21.10
C	4.02	4.42
D	19.90	20.30
E	3.00	3.30
F	2.00	2.30
G	4.80	5.20
H	2.30	2.50
I	TYP 14.02	
J	TYP 16.55	
K	3.50	3.70
L	TYP 13.26	
M	0.58	0.62

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