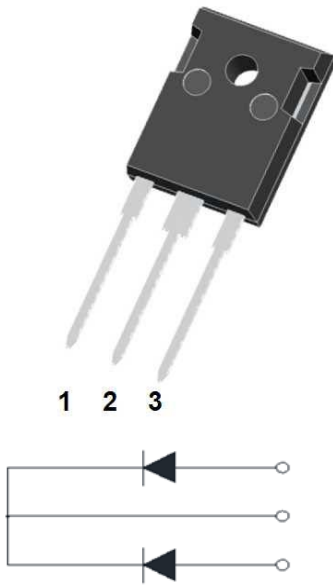


## Schottky Diodes



### 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, RoHS-compliant, halogen-free
- **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	MBR40200PT
Device marking code			MBR40200PT
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	V	200
Average Rectified Output Current @60Hz sine wave, R-load, T <sub>c</sub> =139°C	I <sub>o</sub>	A	40
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T <sub>a</sub> =25°C	I <sub>FSM</sub>	A	300
Current Squared Time @1ms≤t≤8.3ms T <sub>j</sub> =25°C	I <sup>2</sup> t	A <sup>2</sup> s	373
Storage Temperature	T <sub>stg</sub>	°C	-55 ~ +175
Junction Temperature	T <sub>j</sub>	°C	-55 ~ +175

### ■Electrical Characteristics

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Peak Forward Voltage	V <sub>FM</sub>	V	I <sub>FM</sub> =20.0A T <sub>j</sub> =25°C	0.5	0.85	0.9
			I <sub>FM</sub> =20.0A T <sub>j</sub> =125°C	-	0.74	0.78
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>j</sub> =25°C	-	-	0.1
	I <sub>RRM2</sub>		V <sub>RM</sub> =V <sub>RRM</sub> T <sub>j</sub> =125°C	-	-	2.0
Junction capacitance	C <sub>j</sub>	pF	1MHz Applied Voltage and Reverse of 4.0 V.D.C	200	320	550

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

Note2:Pulse test:pulse width 40mS



# MBR40200PT

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

PARAMETER		SYMBOL	UNIT	MBR40200PT
Thermal Resistance	Between junction and ambient	R <sub>θJ-A</sub>	°C/W	50.0
	Between junction and case	R <sub>θJ-C</sub>	°C/W	1.0

## ■ Characteristics (Typical)

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

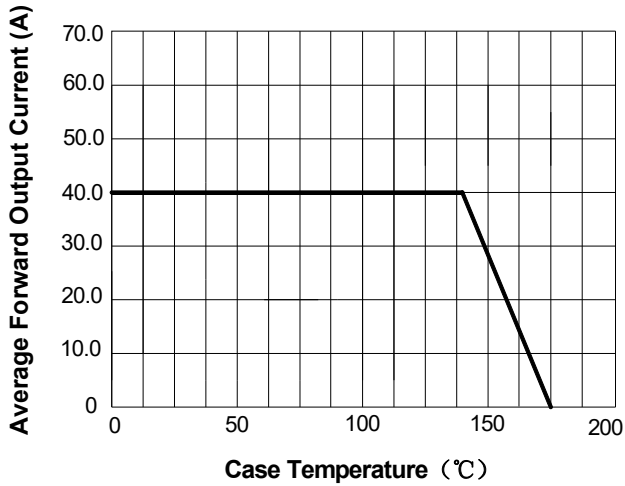


FIG2: Surge Forward Current Capability

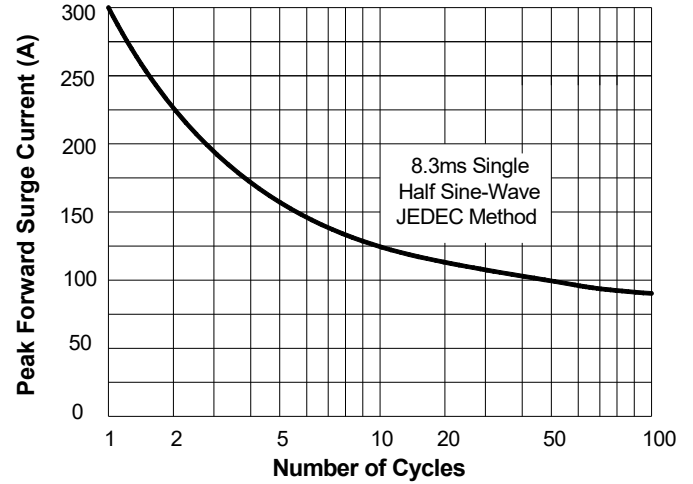


FIG3: Forward Voltage

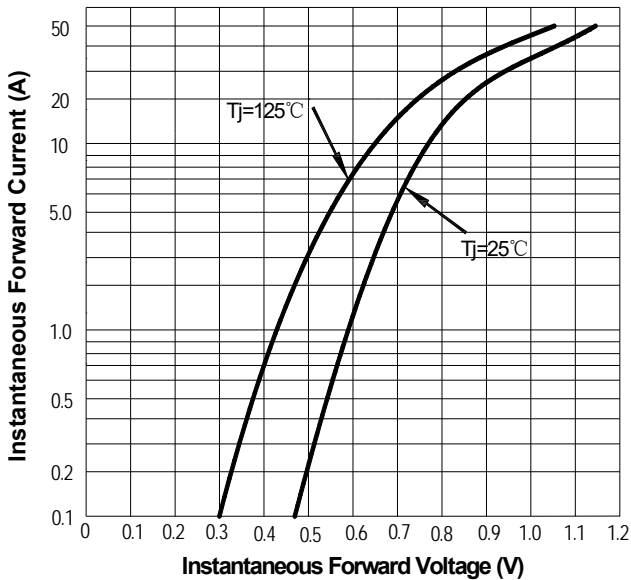
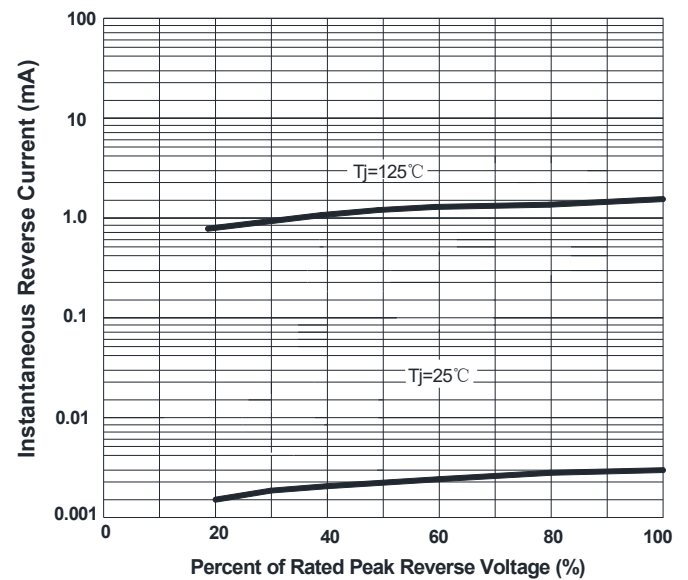


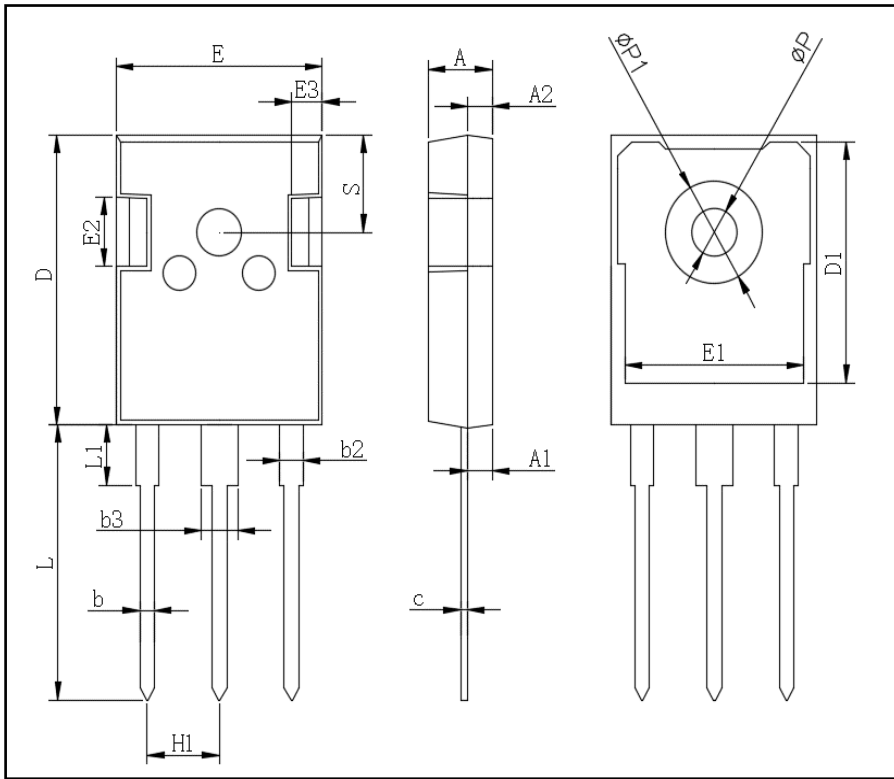
FIG4: Instantaneous Reverse Characteristics





# MBR40200PT

## ■Outline Dimensions



TO-247AB		
Dim	Min	Max
A	4.80	5.20
A1	2.21	2.61
A2	1.85	2.15
b	1.0	1.4
b2	1.91	2.21
C	0.5	0.7
D	20.70	21.30
D1	16.25	16.85
E	15.50	16.10
E1	13.0	13.6
E2	4.80	5.20
E3	2.30	2.70
L	19.62	20.22
L1	-	4.30
$\phi P$	3.40	3.80
$\phi P1$	-	7.30
S	6.15TYP	
H1	5.44TYP	
b3	2.80	3.20



# MBR40200PT

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