

■ 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 (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 ² s	260
Storage Temperature	T_{stg}	°C	-55 ~ +175
Junction Temperature	T_j	°C	-55 ~ +175

■ ELECTRICAL CHARACTERISTICS (Ta=25°C Unless otherwise specified)

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

■ THERMAL CHARACTERISTICS (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBR30200PT	
Thermal Resistance	Between junction and ambient	$R_{θJA}$	°C/W	50.0
	Between junction and case	$R_{θJC}$	°C/W	1.0

■ **CHARACTERISTICS (TYPICAL)**

FIG1: I_o -T_c Curve

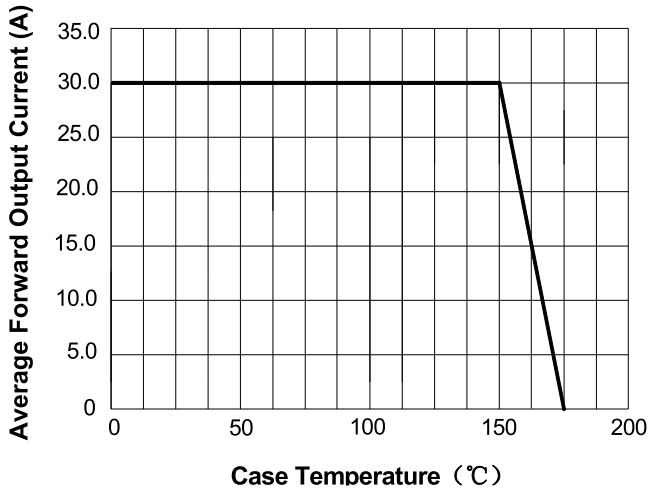


FIG2: Surge Forward Current Capability

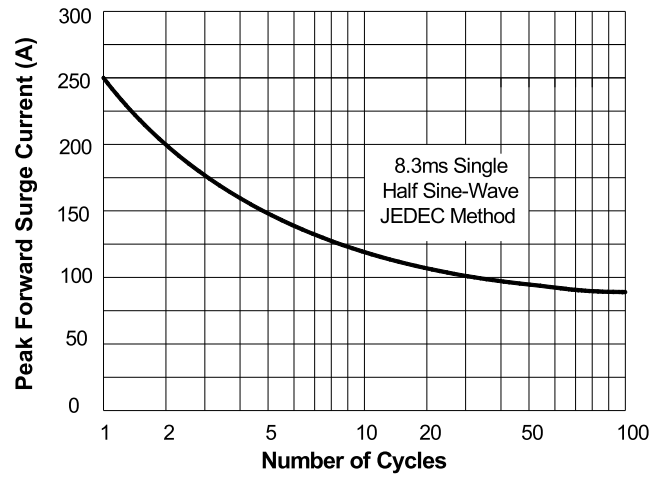


FIG3: Forward Voltage

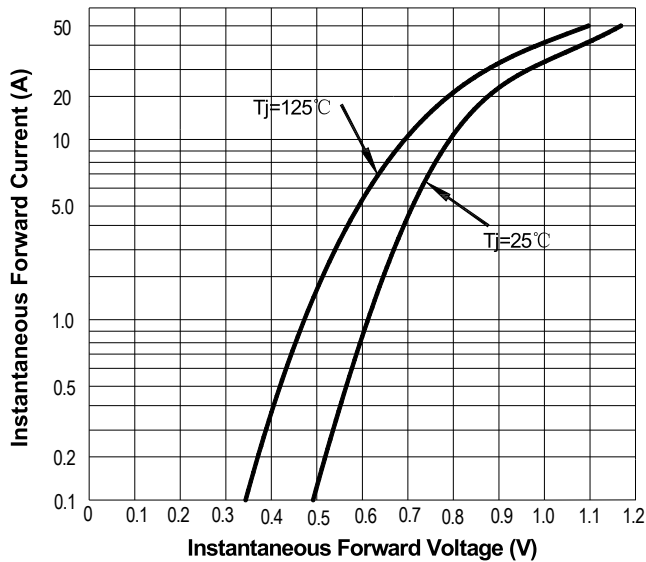
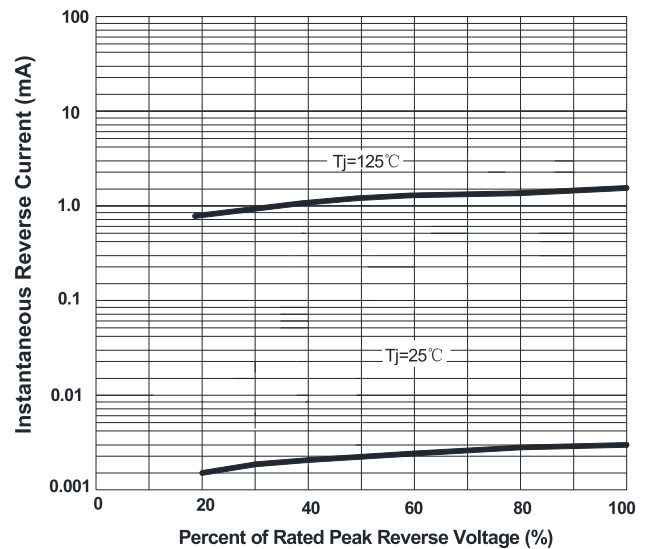
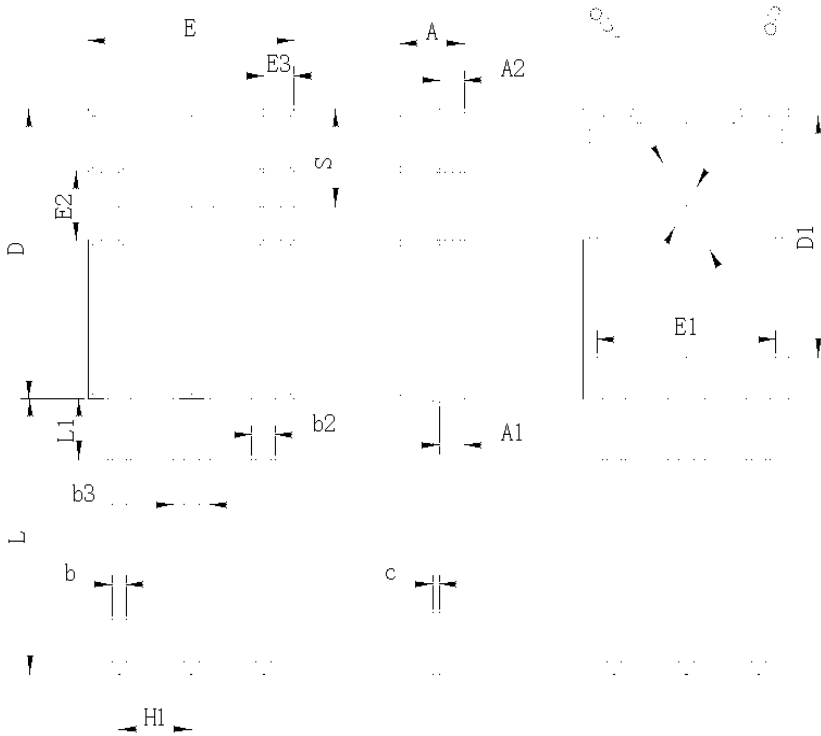


FIG.4: Instantaneous Reverse Characteristics



■ **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
ΦP	3.40	3.80
ΦP1	-	7.30
S	6.15TYP	
H1	5.44TYP	
b3	2.80	3.20