

■ 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
- **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	MBR40100PT	MBR40150PT	MBR40200PT
Device marking code			MBR40100PT	MBR40150PT	MBR40200PT
Repetitive peak reverse voltage	VRRM	V	100	150	200
Average Rectified Forward Current (Rated VR-20Khz Square Wave) - 50% duty cycle, Tc (FIG 1)	IFAV	A		40	
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, Tj=25°C	IFSM	A		300	
Current Squared Time @1ms≤t≤8.3ms Tj=25°C	I ² t	A ² s		373	
Storage temperature	TSTG	°C		-55 ~+175	
Junction temperature	TJ	°C		-55 ~+175	

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MBR40100PT	MBR40150PT	MBR40200PT
Maximum instantaneous forward voltage drop per diode	V _F	V	I _F =20A, T _J =25°C	0.85	0.85	0.9
Maximum DC reverse current at rated DC blocking voltage per diode @ VRM=VRRM	I _{RRM}	mA	VRM=VRRM T _J =25°C	0.1		
			VRM=VRRM T _J =125°C	20		

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

PARAMETER	SYMBOL	UNIT	MBR40100PT	MBR40150PT	MBR40200PT
Typical Thermal Resistance(Per leg)	R _{θJ-C}	°C/W		1.0	

■ PACKAGING INFORMATION

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MBR40100PT THUR MBR40200PT	Approximate 6.0	30	330	1980	Tube

FIG1: I_o -T_c Curve

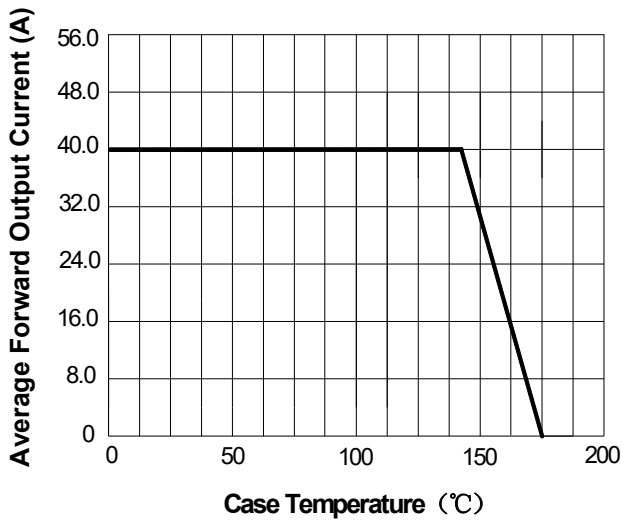


FIG2: Surge Forward Current Capability

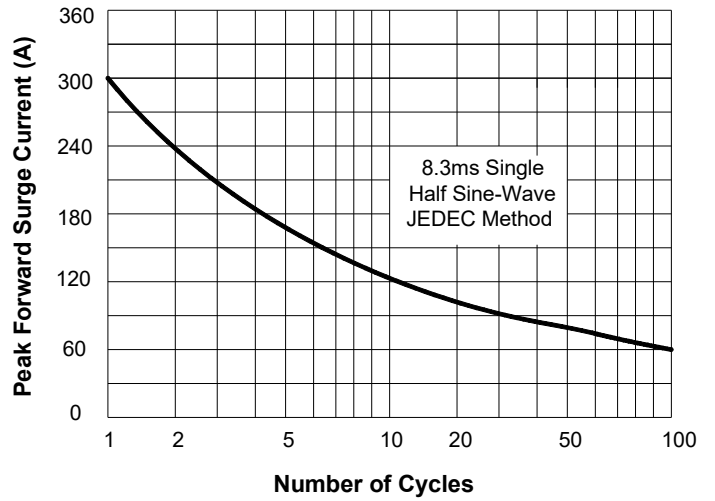


FIG3: Forward Voltage

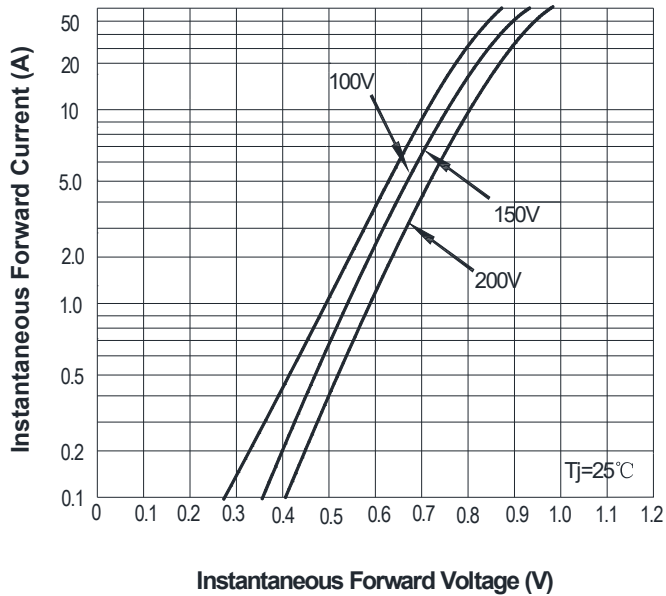
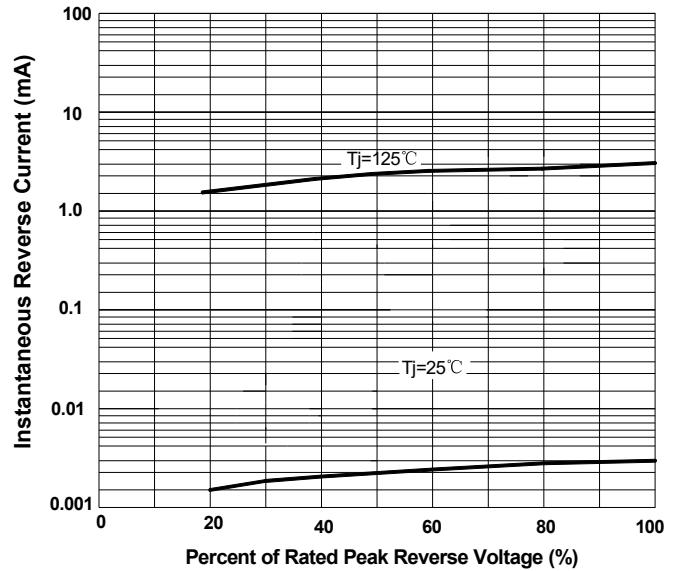
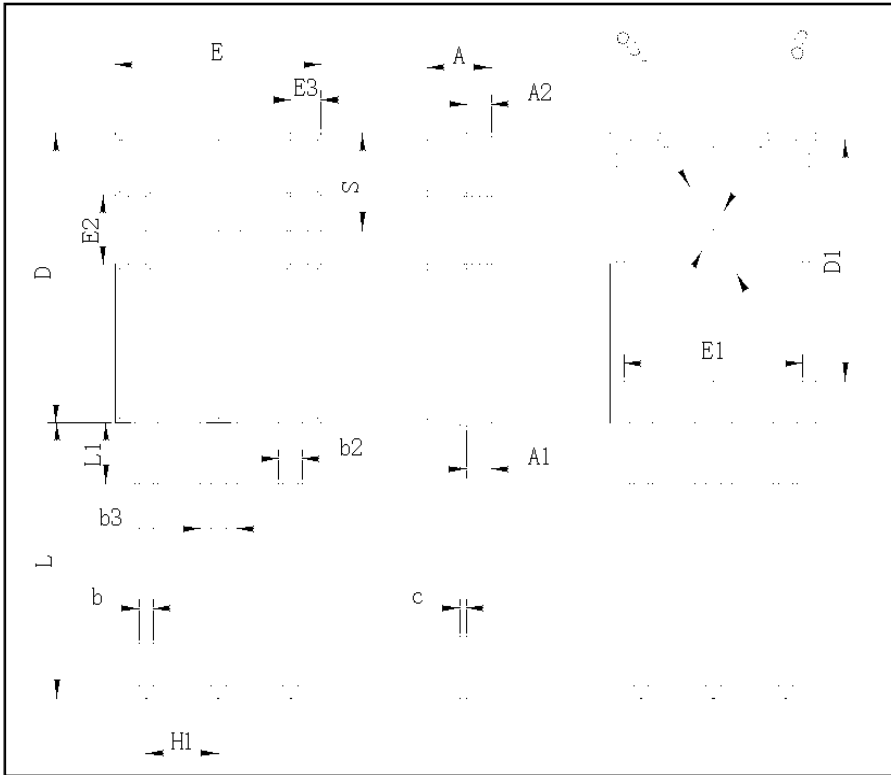


FIG4: Instantaneous Reverse Characteristics



■ **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