

■ 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-220AB
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_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBRL2045CT
Device marking code			MBRL2045CT
Repetitive Peak Reverse Voltage	V _{RRM}	V	45
Average Rectified Output Current @60Hz sine wave, R-load, T _a (FIG 1)	I _O	A	20
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T _a =25°C	I _{FSM}	A	180
Current Squared Time @1ms≤t≤8.3ms T _j =25°C, rating of per diode	I ² t	A ² s	134
Storage Temperature	T _{stg}	°C	-55 ~ +150
Junction Temperature	T _j	°C	-55 ~ +150

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MBRL2045CT
Maximum instantaneous forward voltage drop per diode	V _{FM}	V	I _{FM} =10.0A	0.55
Maximum DC reverse current at rated DC blocking voltage per diode	I _{RRM1}	mA	V _{RM} =V _{RRM} T _a =25°C	0.2
	I _{RRM2}		V _{RM} =V _{RRM} T _a =100°C	50

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

PARAMETER	SYMBOL	UNIT	MBRL2045CT
Thermal Resistance Between junction and case	R _{θJ-C}	°C/W	2.0

■ PACKAGING INFORMATION

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MBRL2045CT	Approximate 1.9	50	1000	5000	Tube

■ **CHARACTERISTICS (TYPICAL)**

FIG1: I_o -T_c Curve

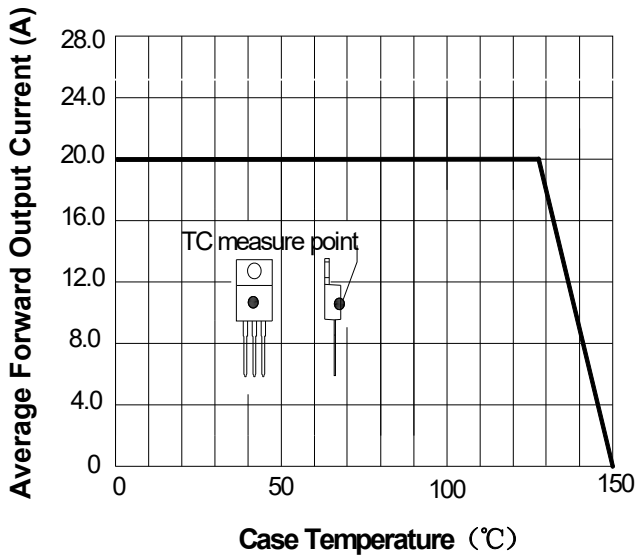


FIG2: Surge Forward Current Capability

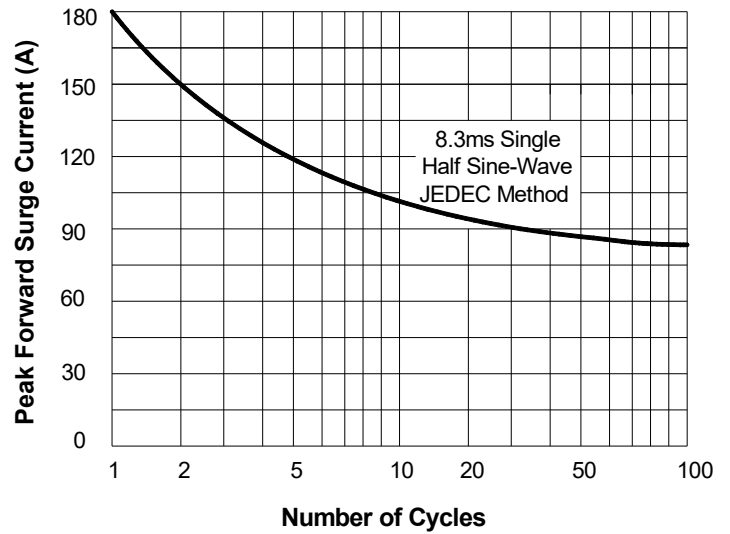


FIG3: Forward Voltage

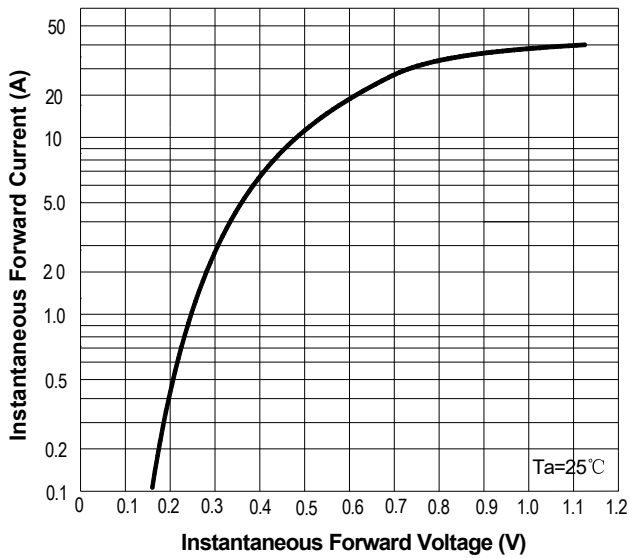
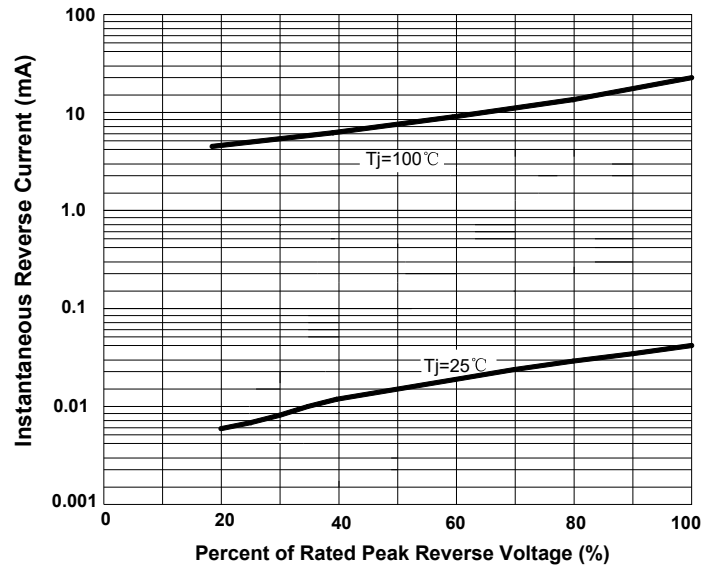
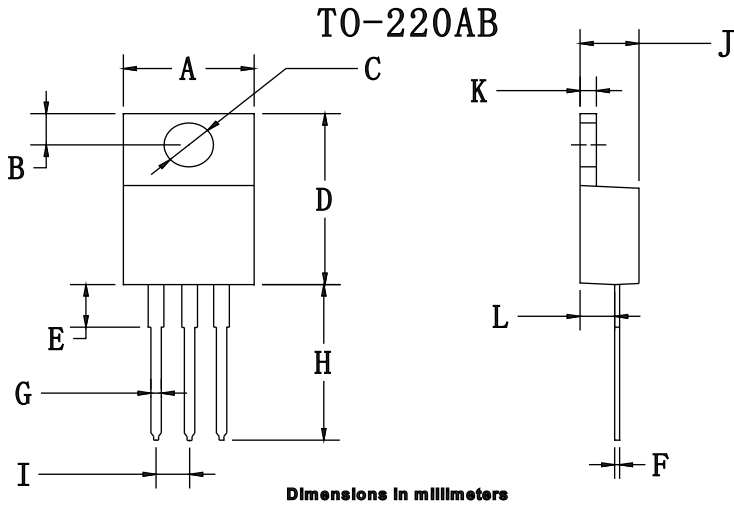


FIG.4: Typical Reverse Characteristics



■ **OUTLINE DIMENSIONS**



TO-220AB		
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	2.01	3.07
J	4.04	5.1
K	1.14	1.4
L	2.14	3.19