

### ■ FEATURES

- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

### ■ TYPICAL APPLICATIONS

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

### ■ MECHANICAL DATA

- **Package:** TO-263  
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	MBRBL3045CT
Device marking code			MBRBL3045CT
Repetitive Peak Reverse Voltage	$V_{RRM}$	V	45
Average Rectified Output Current @60Hz sine wave, R-load, Ta (FIG 1)	$I_o$	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, rating of per diode	$I^2t$	A <sup>2</sup> s	259
Storage Temperature	$T_{stg}$	°C	-55 ~ +150
Junction Temperature	$T_j$	°C	-55 ~ +150

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MBRBL3045CT
Maximum instantaneous forward voltage drop per diode	$V_{FM}$	V	$I_{FM}=15.0A$	0.55
Maximum DC reverse current at rated DC blocking voltage per diode	$I_{RRM1}$	mA	$V_{RM}=V_{RRM}$ Ta=25°C	0.2
	$I_{RRM2}$		$V_{RM}=V_{RRM}$ Ta=100°C	50

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

PARAMETER	SYMBOL	UNIT	MBRBL3045CT	
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	°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
MBRBL3045CT	Approximate 1.43	50	2000	8000	Tube
MBRBL3045CT	Approximate 1.43	1000	2000	10000	Reel

■ **CHARACTERISTICS (TYPICAL)**

FIG1:  $I_o$  -Tc Curve

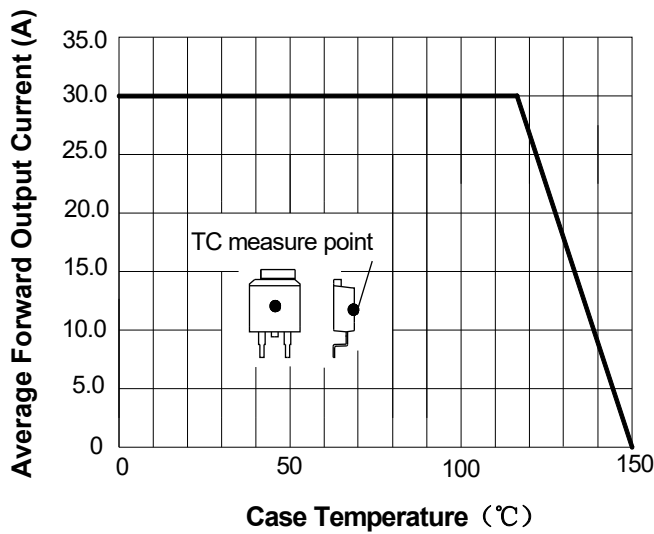


FIG2: Surge Forward Current Capability

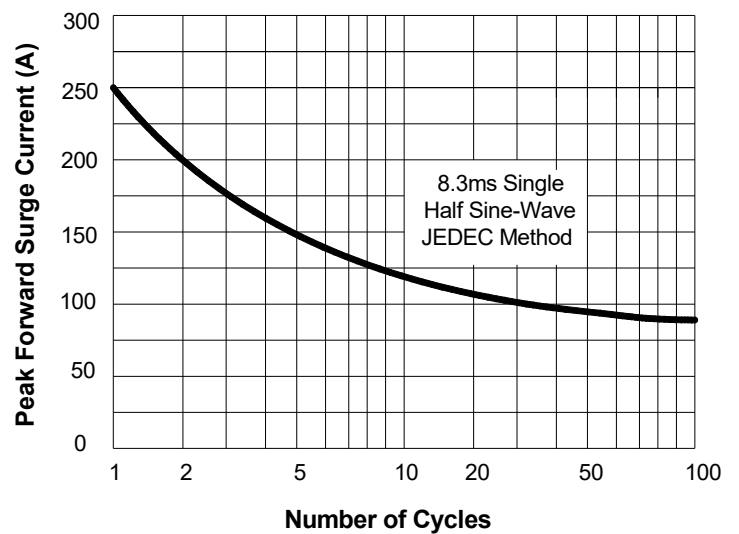


FIG3: Forward Voltage

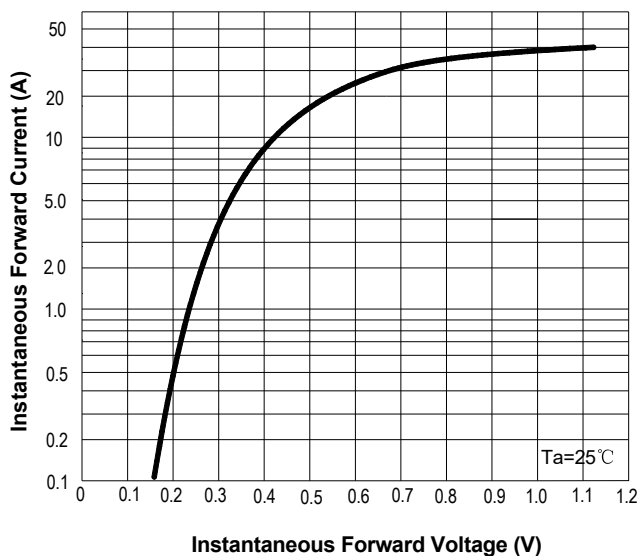
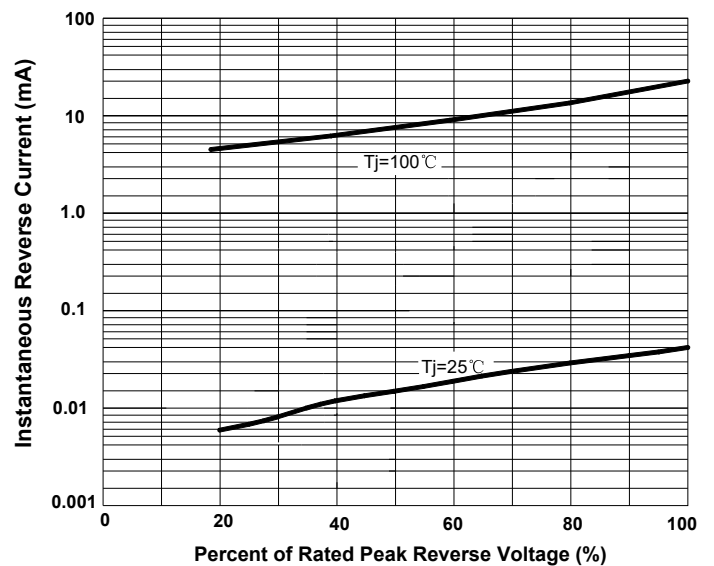
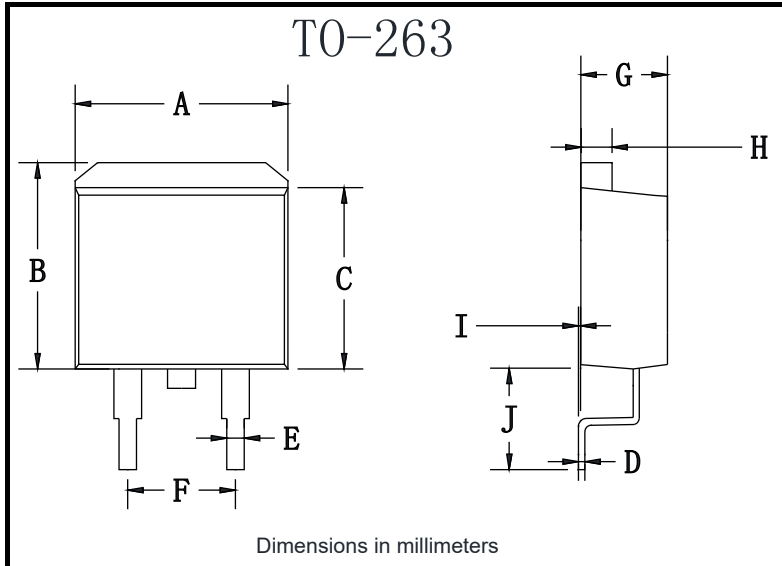


FIG4: Typical Reverse Characteristics



■ **OUTLINE DIMENSIONS**



TO-263		
Dim	Min	Max
A	9.5	11.5
B	9.7	10.5
C	8.4	9.0
D	0.28	0.64
E	0.68	0.94
F	4.55	5.6
G	4.04	5.10
H	1.14	1.4
I	0	0.2
J	4.9	6.05