

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

PARAMETER	SYMBOL	UNIT	MBRBL3060CT
Device marking code			MBRBL3060CT
Repetitive Peak Reverse Voltage	VRRM	V	60
Average Rectified Output Current @60Hz sine wave, R-load, T <sub>a</sub> =25°C	I <sub>O</sub>	A	30
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T <sub>a</sub> =25°C	IFSM	A	200
Current Squared Time @1ms≤t<8.3ms T <sub>j</sub> =25°C,	i <sup>2</sup> t	A <sup>2</sup> s	167
Storage Temperature	T <sub>stg</sub>	°C	-55 ~ +150
Junction Temperature	T <sub>j</sub>	°C	-55 ~ +150

### ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	MBRBL3060CT
Maximum instantaneous forward voltage drop per diode	VFM	V	I <sub>FM</sub> =15.0A	0.6
Maximum DC reverse current at rated DC blocking voltage per diode	IRRM1	mA	V <sub>RM</sub> =VRRM T <sub>a</sub> =25°C	0.2
	IRRM2		V <sub>RM</sub> =VRRM T <sub>a</sub> =100°C	30

### THERMAL CHARACTERISTICS (T<sub>a</sub>=25°C Unless otherwise specified)

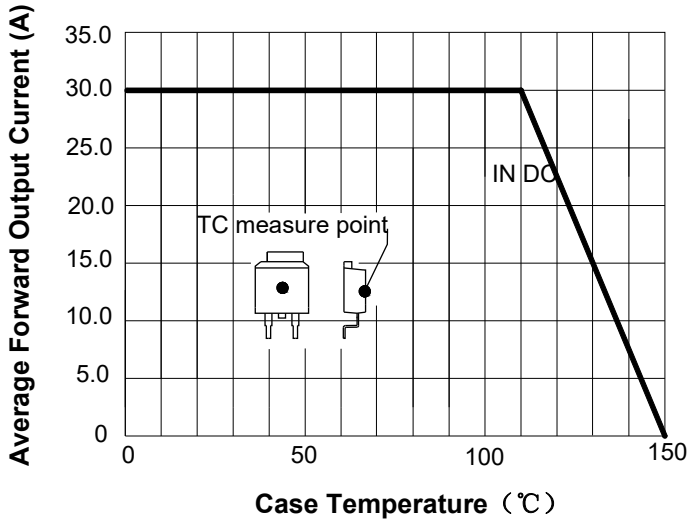
PARAMETER	SYMBOL	UNIT	MBRBL3060CT
Thermal Resistance Between junction and case	R <sub>θj-c</sub>	°C/W	2.0

### PACKAGING INFORMATION

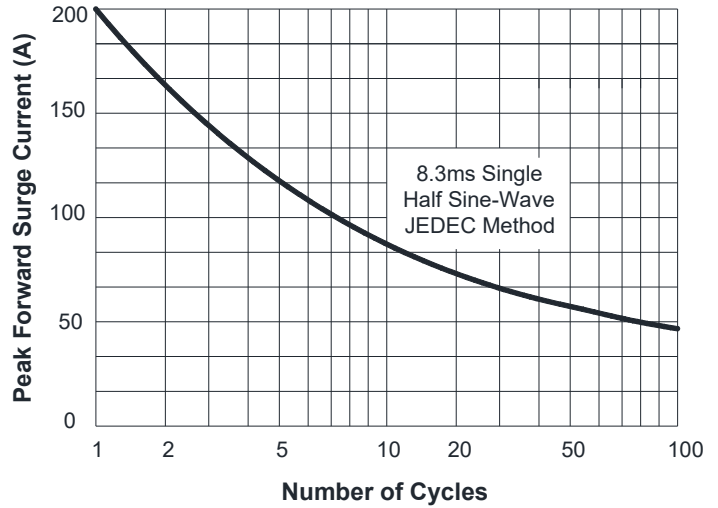
PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MBRBL3060CT	Approximate 1.43	50	2000	8000	Tube
MBRBL3060CT	Approximate 1.43	1000	2000	10000	Reel

■ **CHARACTERISTICS (TYPICAL)**

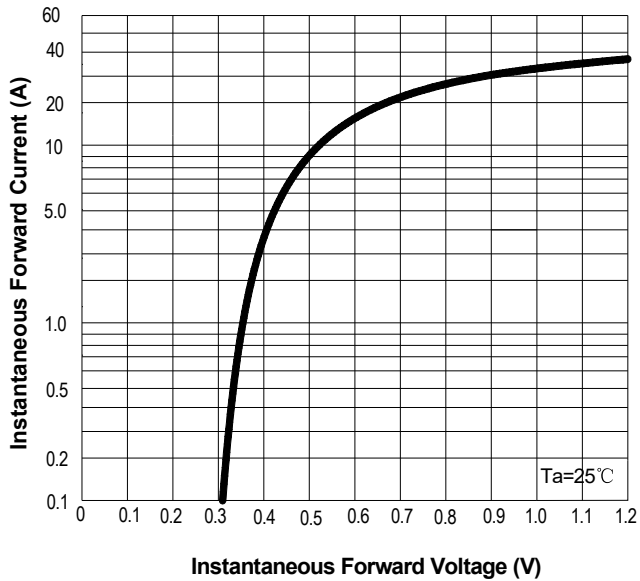
**FIG1: I<sub>o</sub> -T<sub>c</sub> Curve**



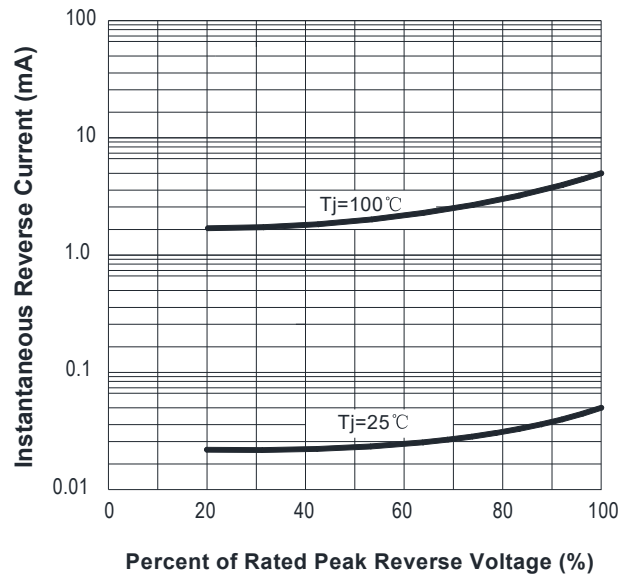
**FIG2: Surge Forward Current Capability**



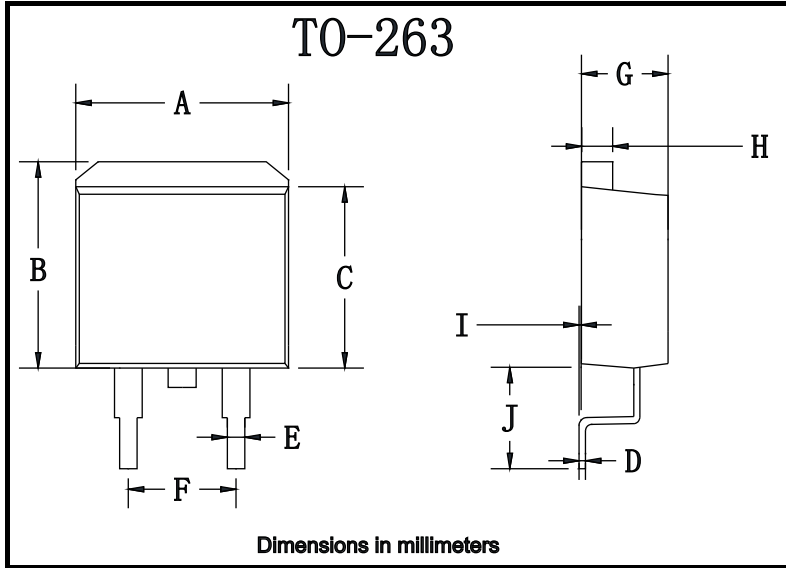
**FIG3: Forward Voltage**



**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