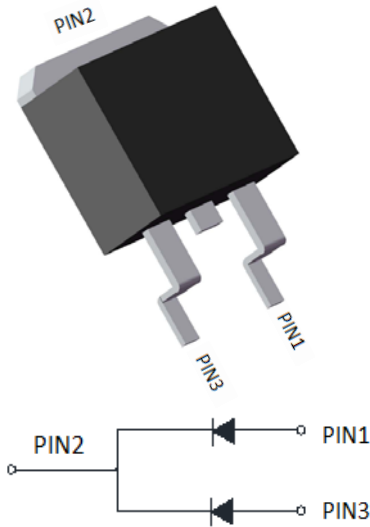


## Schottky Diodes



### 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-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>j</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBRB30300CT
Device marking code			MBRB30300CT
Repetitive Peak Reverse Voltage	VRRM	V	300
Average Rectified Output Current @60Hz sine wave, R-load, T <sub>c</sub> (FIG.1)	I <sub>O</sub>	A	30
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T <sub>j</sub> =25°C	I <sub>FSM</sub>	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>j</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Peak Forward Voltage	V <sub>FM</sub>	V	I <sub>FM</sub> =15.0A T <sub>j</sub> =25°C	0.50	0.92	1.30
			I <sub>FM</sub> =15.0A T <sub>j</sub> =125°C	-	0.80	0.85
DC reverse current at rated DC blocking voltage per diode	I <sub>RRM1</sub>	uA	V <sub>RM</sub> =V <sub>RRM</sub> T <sub>j</sub> =25°C	-	-	5
	I <sub>RRM2</sub>	mA	V <sub>RM</sub> =V <sub>RRM</sub> T <sub>j</sub> =125°C	-	-	20
Junction capacitance	C <sub>j</sub>	pF	1MHz and Applied Reverse Voltage of 4.0 V.D.C.	50	130	300

Note1:Pulse test:300uS pulse width,1% duty cycle

Note2:Pulse test:pulse width 40mS



# MBRB30300CT

## ■ Thermal Characteristics (T<sub>j</sub>=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MBRB30300CT
Thermal Resistance	Between junction and ambient	R <sub>θJ-A</sub>	°C/W	50.0
	Between junction and case	R <sub>θJ-C</sub>	°C/W	2.0

## ■ Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MBRB30300CT	Approximate 1.43	50	2000	8000	Tube
MBRB30300CT	Approximate 1.43	1000	2000	10000	Reel

## ■ Characteristics (Typical)

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

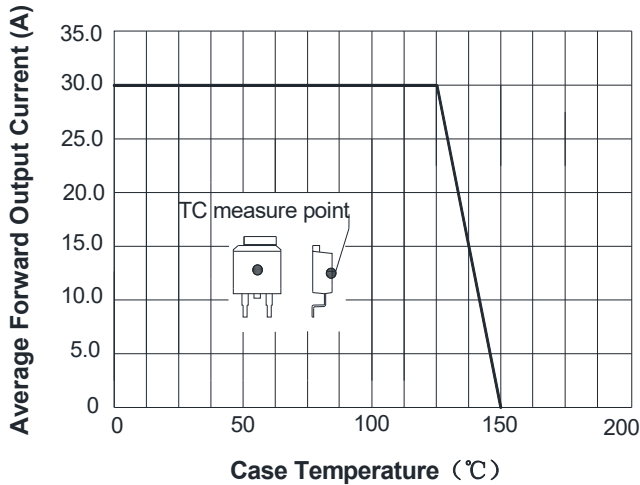


FIG2: Surge Forward Current Capability

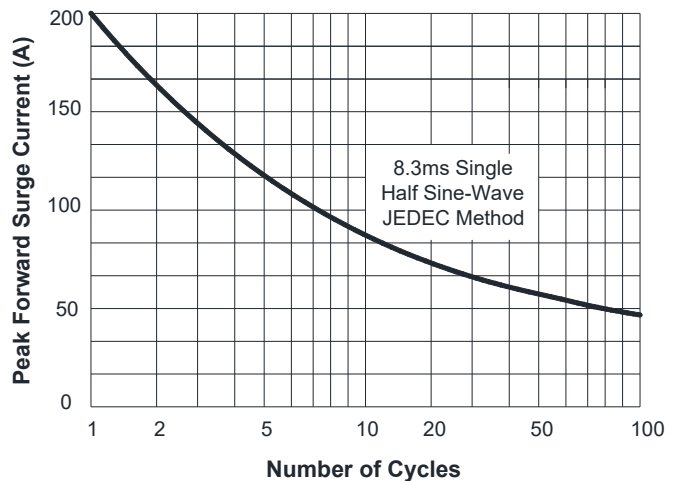


FIG3: Forward Voltage

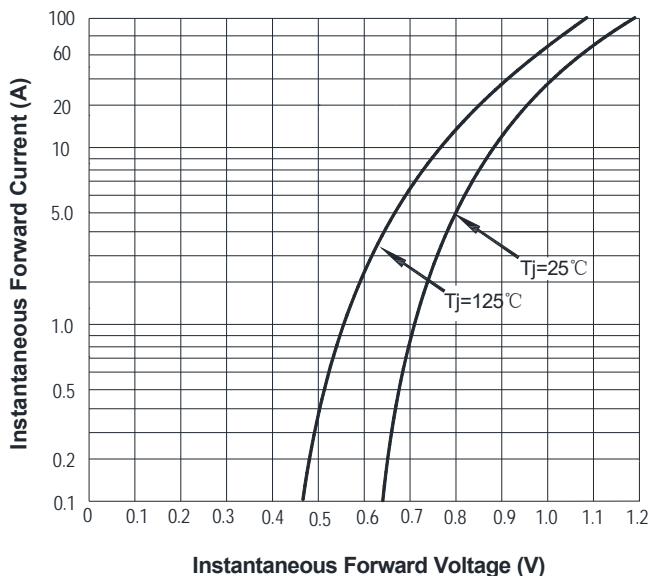
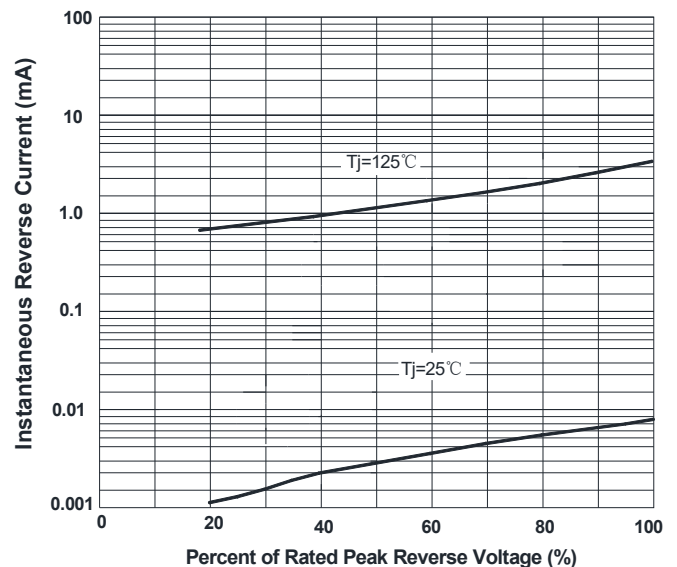


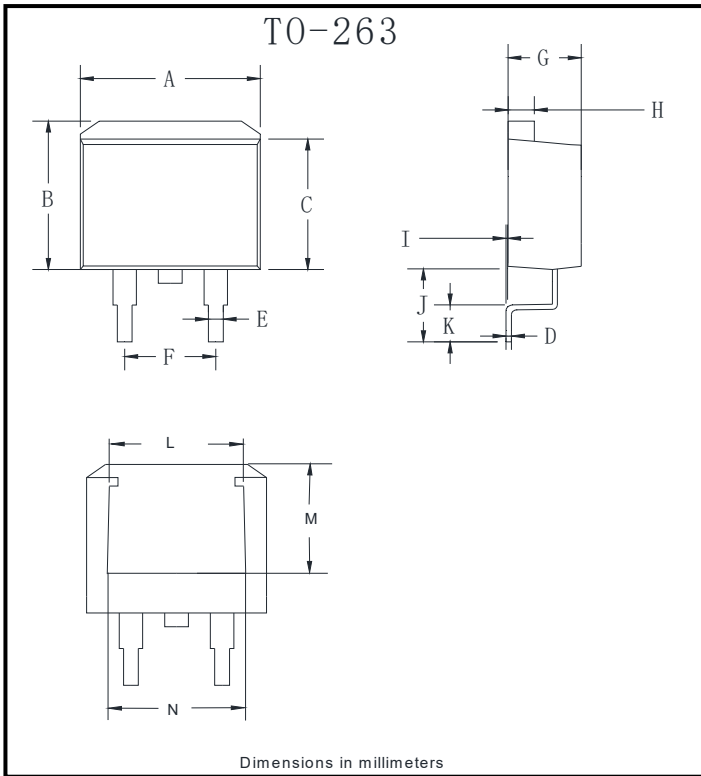
FIG4: Typical Reverse Characteristics





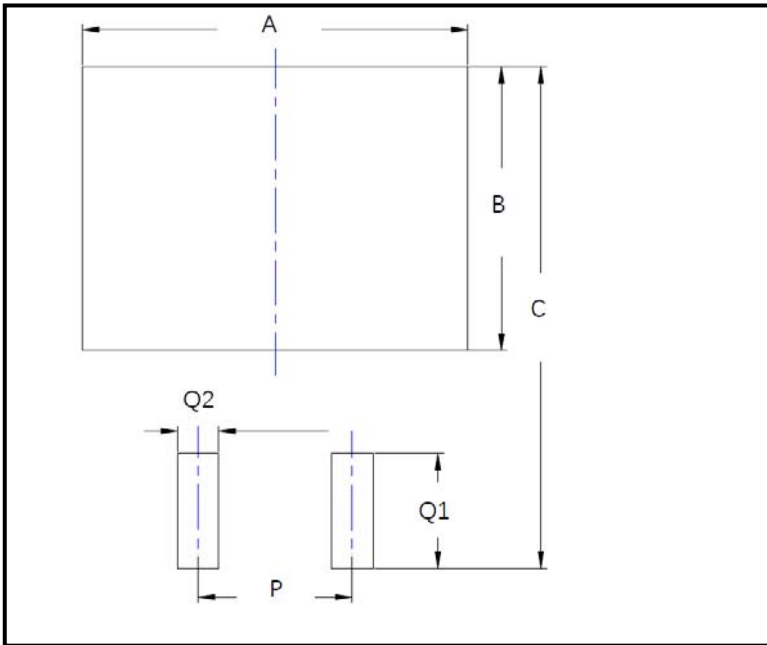
# MBRB30300CT

## ■ 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
K	1.79	2.79
L	7.3	7.9
M	6.2	6.8
N	7.6	8.2

## ■ Suggested Pad Layout



Dim	Millimeters
A	12.7
B	9.4
C	16.6
P	5.08
Q1	3.8
Q2	1.35



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