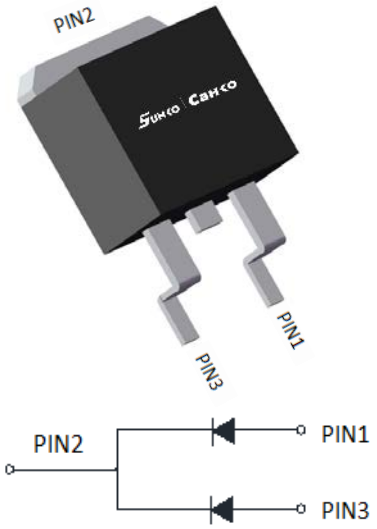
MBRB40150CT

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
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260℃

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, -
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity**: As marked

■Maximum Ratings (Ta=25℃ Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MBRB40150CT
Device marking code				MBRB40150CT
Repetitive Peak Reverse Voltage		V_{RRM}	V	150
Average Rectified Output Current @60Hz sine wave, R-load, Tc=107℃		I_O	A	40
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, Ta=25℃		I_{FSM}	A	300
Surge(Non-repetitive)Forward Current @1ms, square wave, 1 time, Ta=25℃				600
Current Squared Time @1ms≤t≤8.3ms Tj=25℃,		I^2t	A^2s	373
Typical junction capacitance	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C.	Cj	pF	410
Storage Temperature		T_{stg}	℃	-55 ~ +175
Junction Temperature		Tj	℃	-55 ~ +175

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■Electrical Characteristics（T_a=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Peak Forward Voltage	V_{FM}	V	I_{FM}=20.0A Ta=25℃	0.5	0.815	0.85
			I_{FM}=20.0A Ta=125℃	-	0.68	0.72
Maximum DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	mA	V_{RM}=V_{RRM} Tj=25℃	-	-	0.1
	I_{RRM2}		V_{RM}=V_{RRM} Tj=125℃	-	-	20

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

Note2:Pulse test:pulse widh 40mS

■Thermal Characteristics （T_a=25℃ Unless otherwise specified）

PARAMETER		SYMBOL	UNIT	MBRB40150CT
Thermal Resistance	Between junction and ambient	$R_{\theta J-A}$	℃/W	50.0
	Between junction and case	$R_{\theta J-C}$	℃/W	2.0

■Characteristics (Typical)

FIG1:Io -Tc Curve

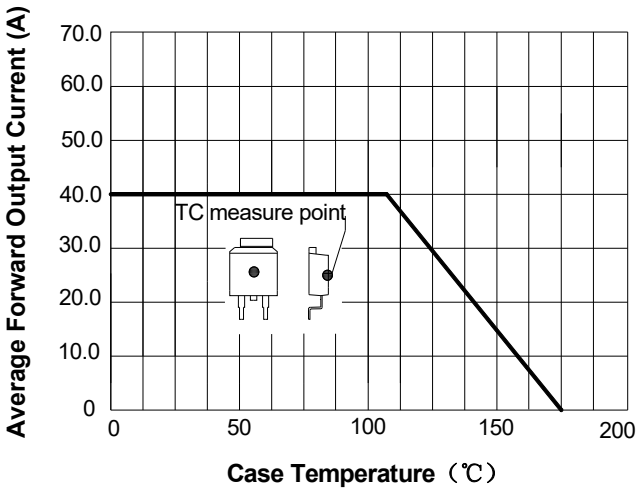


FIG2:Surge Forward Current Capability

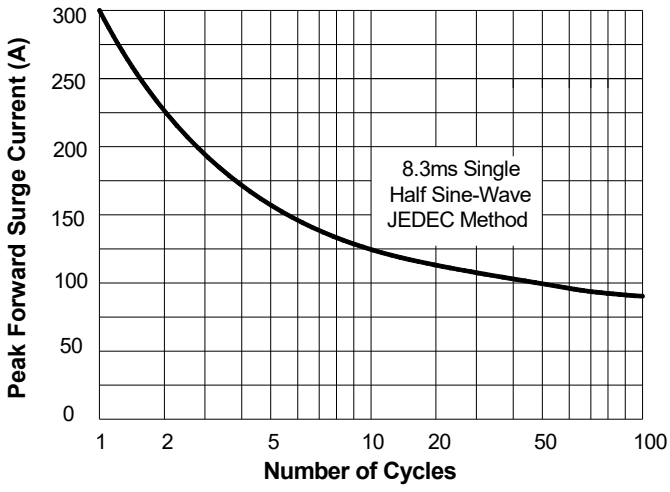


FIG3: Forward Voltage

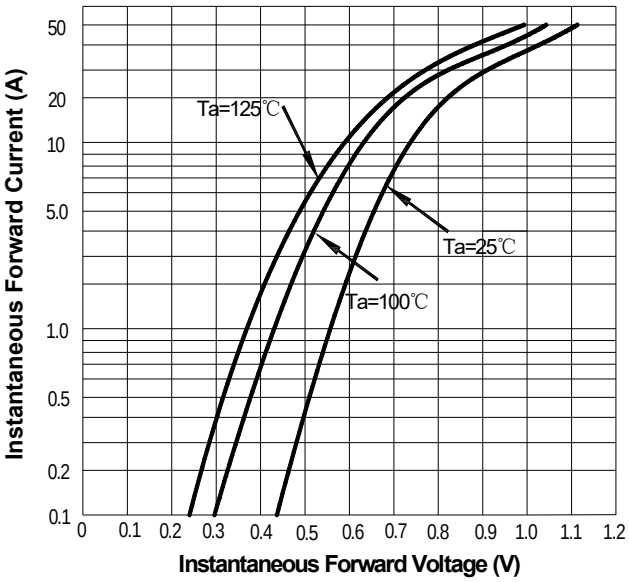


FIG.4: Instantaneous Reverse Characteristics

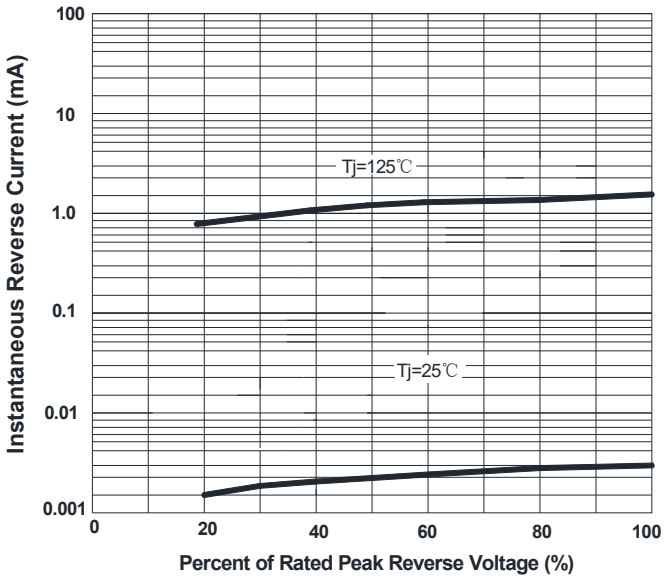
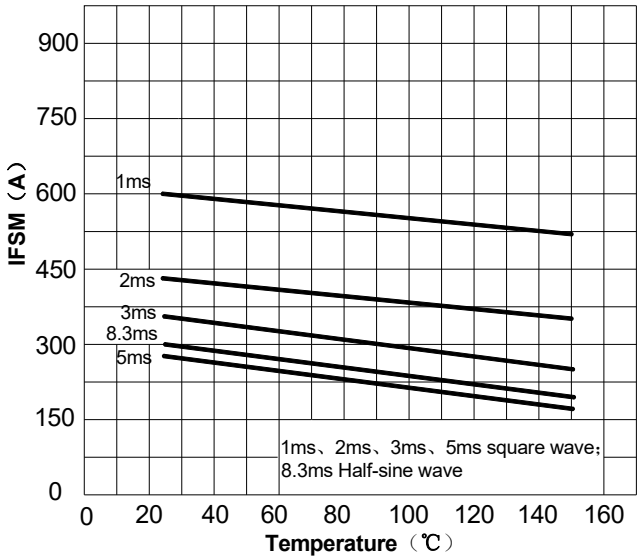
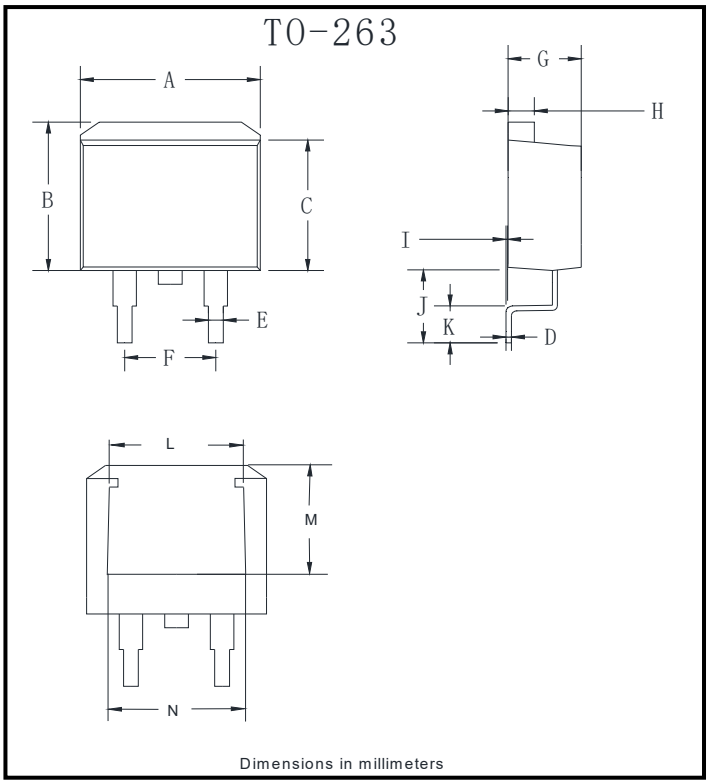


FIG.5: Maximum Non-Repetitve Peak Forword

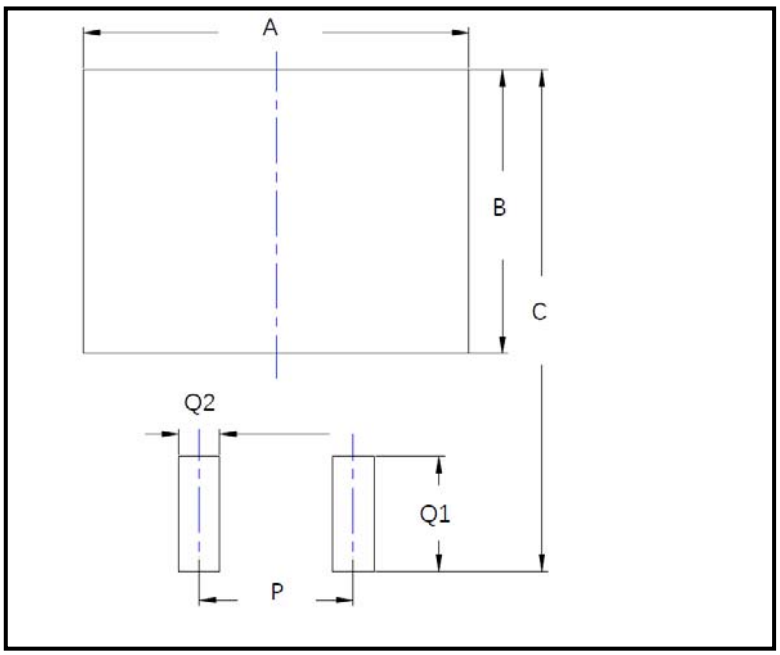


■Outline Dimensions



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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