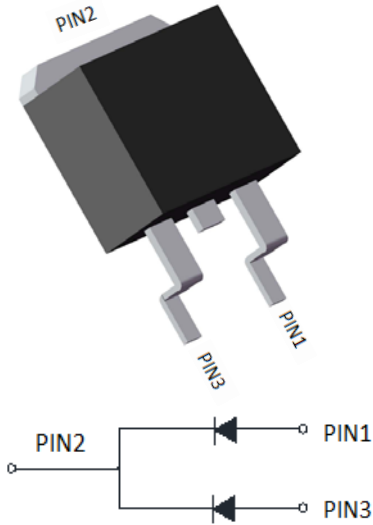


Schottky Diodes



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°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_a=25°C 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, T _c =107°C		I _O	A	40
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T _a =25°C		I _{FSM}	A	300
Surge(Non-repetitive)Forward Current @1ms, square wave, 1 time, T _a =25°C				600
Current Squared Time @1ms≤t≤8.3ms T _j =25°C,		I ² t	A ² s	373
Typical junction capacitance	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C.	C _j	pF	410
Storage Temperature		T _{stg}	°C	-55 ~ +175
Junction Temperature		T _j	°C	-55 ~ +175



■Electrical Characteristics (Ta=25°C Unless otherwise specified)

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

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

Note2:Pulse test:pulse width 40mS

■Thermal Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MBRB40150CT
Thermal Resistance	Between junction and ambient	R _{θJ-A}	°C/W	50.0
	Between junction and case	R _{θJ-C}	°C/W	2.0

■Characteristics (Typical)

FIG1:Io -Tc Curve

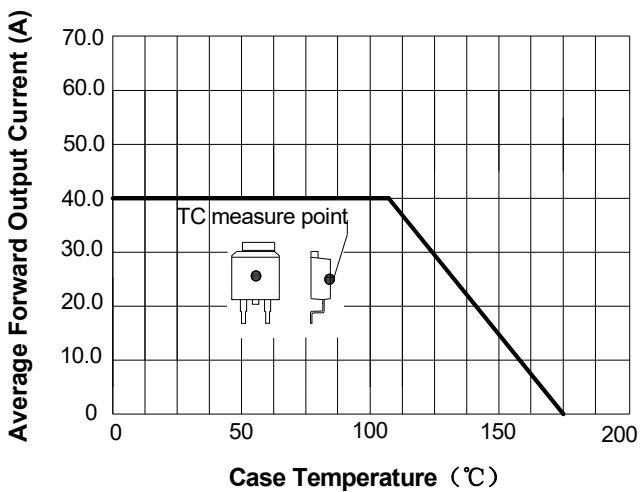


FIG2:Surge Forward Current Capability

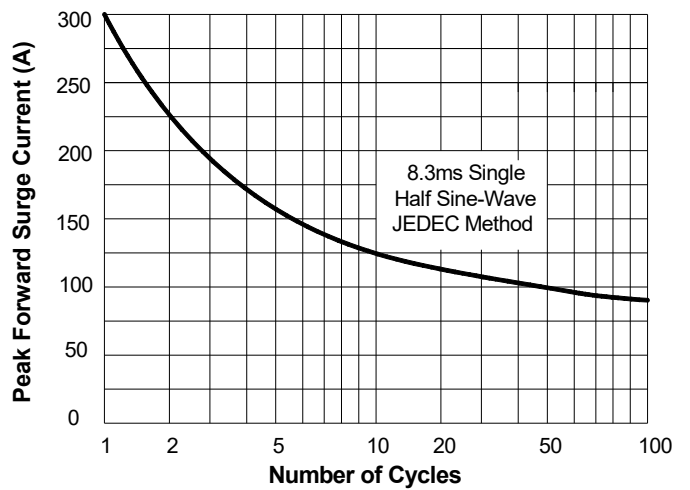




FIG3: Forward Voltage

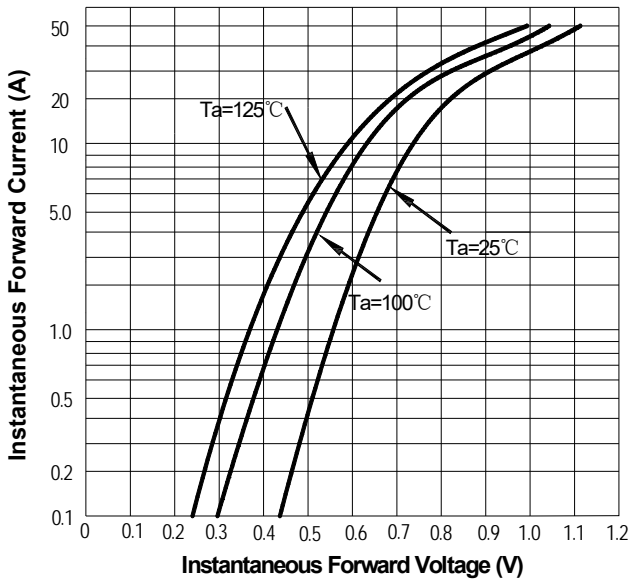


FIG.4: Instantaneous Reverse Characteristics

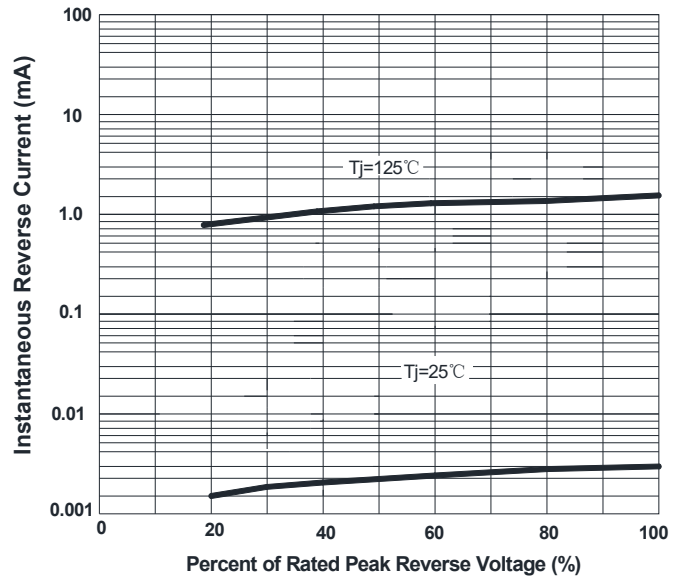
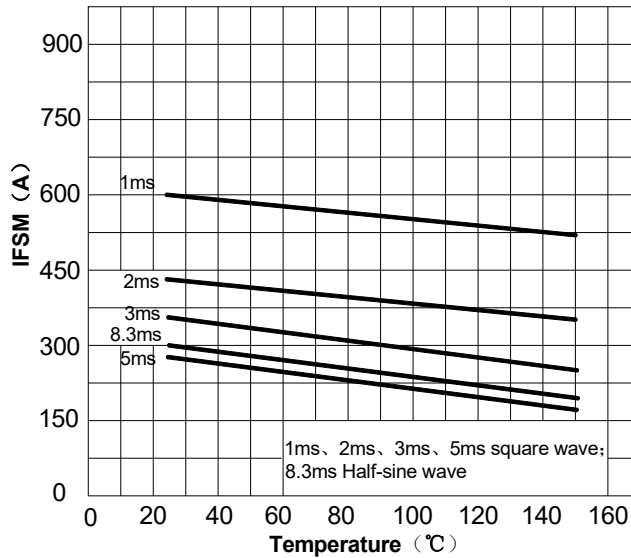
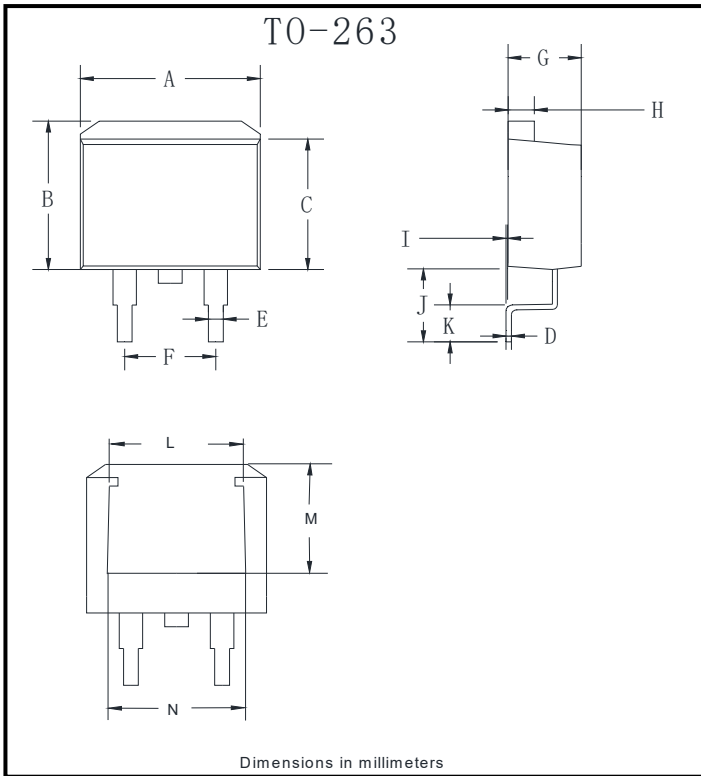


FIG.5: Maximum Non-Repetitive Peak Forward

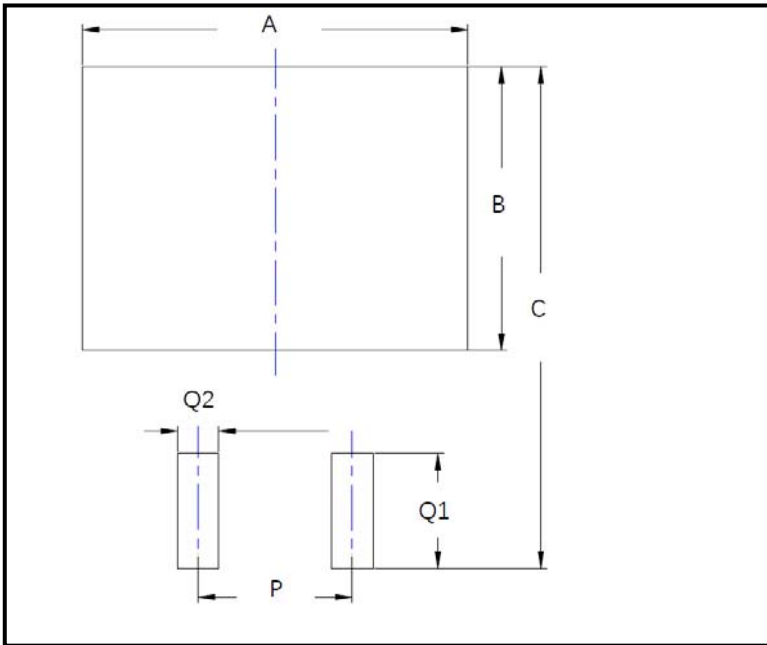


■ Outline Dimensions



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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