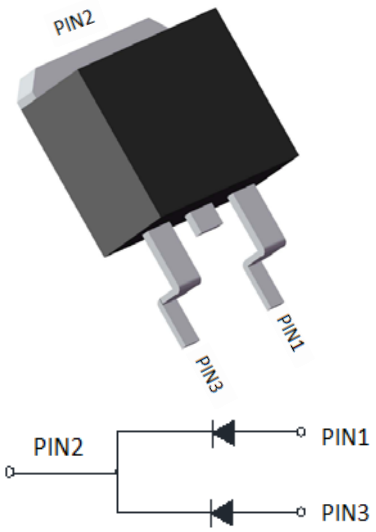
Schottky Diodes



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
- Part no. with suffix “Q” means AEC-Q101 qualified

Typical Applications

Typical applications are in switching power supplies, converters, automotive, 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℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBRB20200CTQ
Device marking code			MBRB20200CT
Repetitive peak reverse voltage	V_{RRM}	V	200
Average Rectified Output Current @60Hz -sine wave, TC=130℃	I_O	A	20
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Ta=25℃	I_{FSM}	A	200
Current Squared Time @1ms≤t≤8.3ms TJ=25℃	I^2t	A^2s	167
Storage Temperature	T_{stg}	℃	-55 ~ +175
Junction Temperature	T_J	℃	-55 ~ +175

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS		Typ	Max
Instantaneous forward voltage	V_F	V	I_F=10A	T_A=25℃	0.85	0.9
			I_F=10A	T_A=125℃	0.73	0.82
Typical junction capacitance	C_J	pF	V_R=4V, f=1 MHz		180	-
Leakage Current	I_R	mA	V_R=200V	T_A=25℃	-	0.1
				T_A=125℃	-	20

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

PARAMETER	SYMBOL	UNIT	MBRB20200CTQ
Typical Thermal Resistance	$R_{\theta J-A}$	℃/W	50
	$R_{\theta J-C}$	℃/W	2

■Ordering Information (Example)

PREFERED P/N	UNIT WEIGHT(g)	MINIIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MBRB20200CTQ	Approximate 1.43	1000	2000	10000	Reel

■Characteristics (Typical)

Fig.1:Forward Current Derating Curve

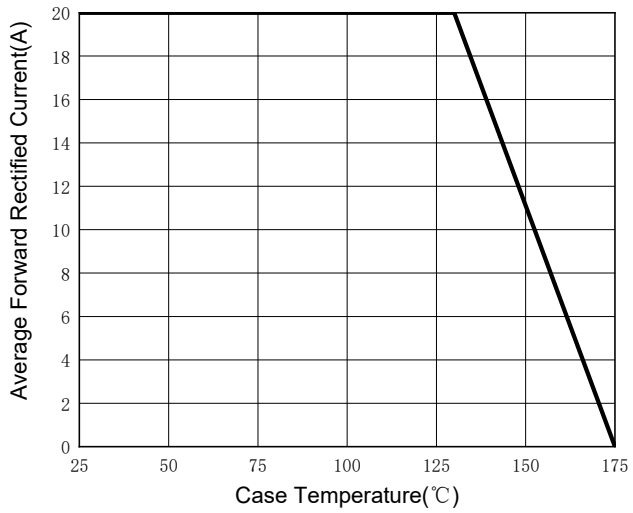


Fig.2: Forward Surge Current Capability

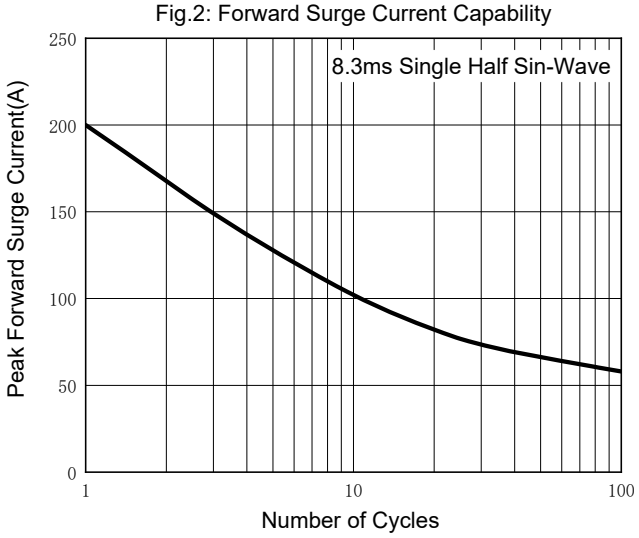


Fig.3:Typical Instantaneous Forward Characteristics

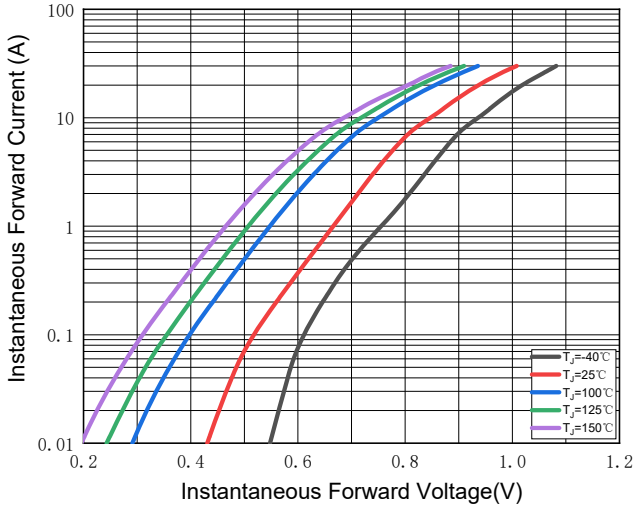
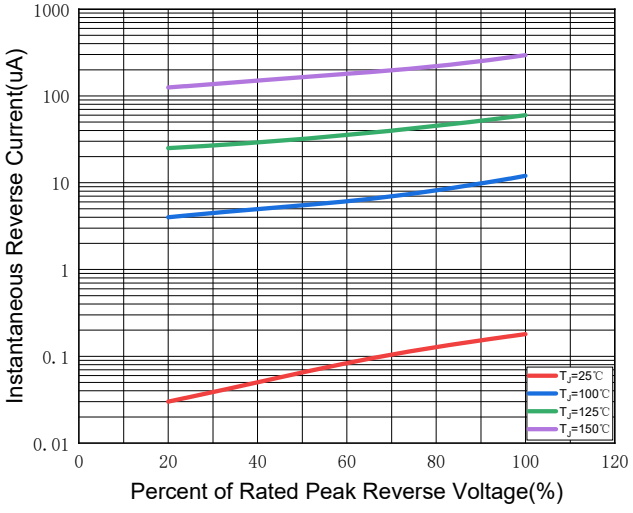
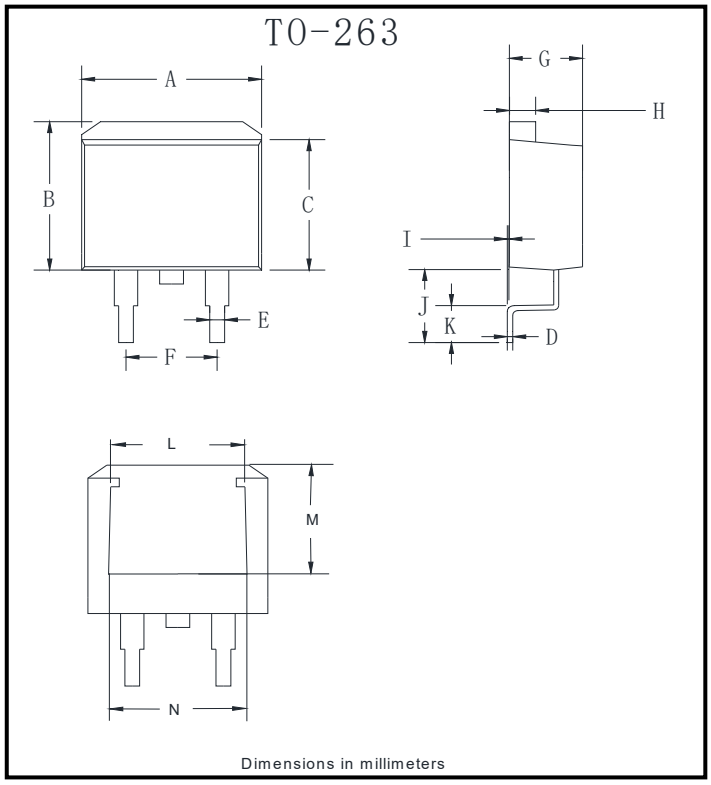


Fig.4:Typical Reverse Leakage Characteristics

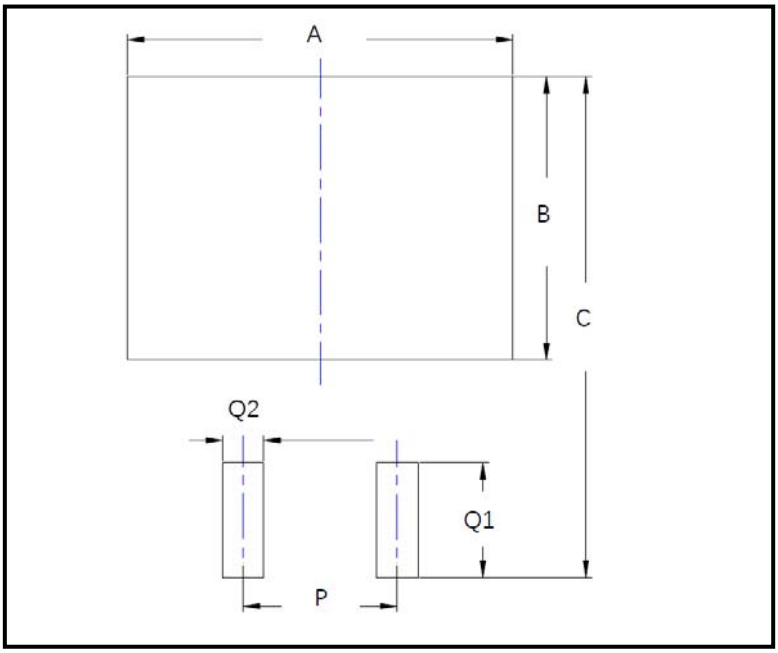


■Outline Dimensions



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
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

Disclaimer

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