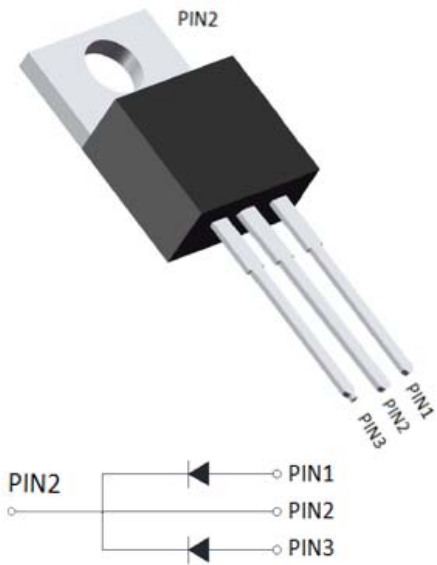


## Schottky Diodes



### 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-220AB  
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°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBR40150CT
Device marking code			MBR40150CT
Repetitive Peak Reverse Voltage	$V_{RRM}$	V	150
Average Rectified Output Current @60Hz sine wave, R-load, Tc=107°C	$I_o$	A	40
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, Ta=25°C	$I_{FSM}$	A	300
Surge(Non-repetitive)Forward Current @1ms, square wave, 1 time, Ta=25°C			600
Current Squared Time @1ms≤t≤8.3ms Tj=25°C,	$I^2t$	A <sup>2</sup> 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 (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER		SYMBOL	UNIT	MBR40150CT
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

## ■ Characteristics (Typical)

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

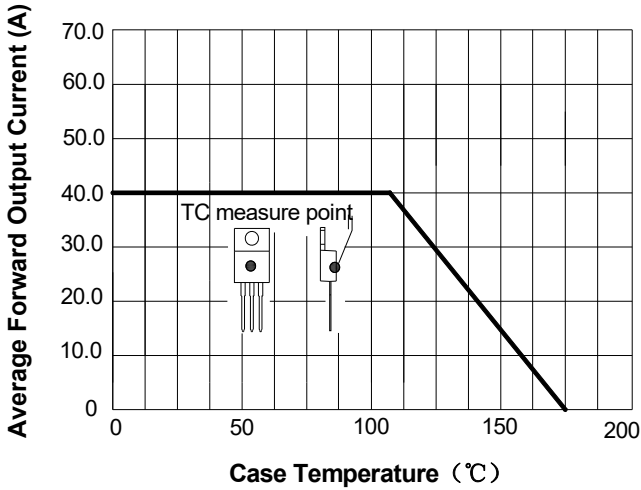


FIG2: Surge Forward Current Capability

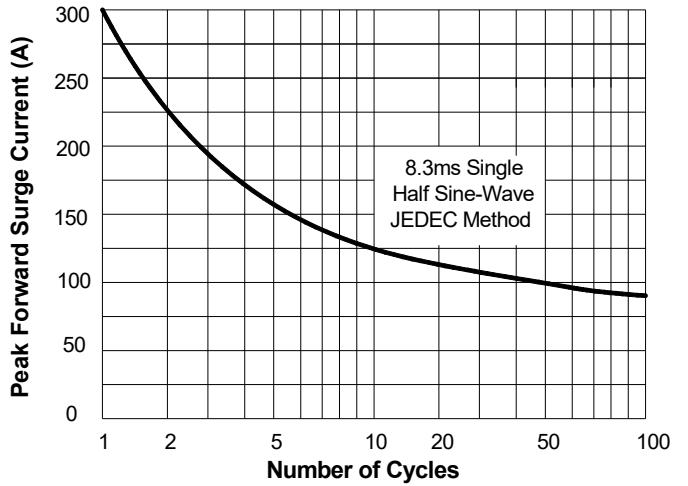


FIG3: Forward Voltage

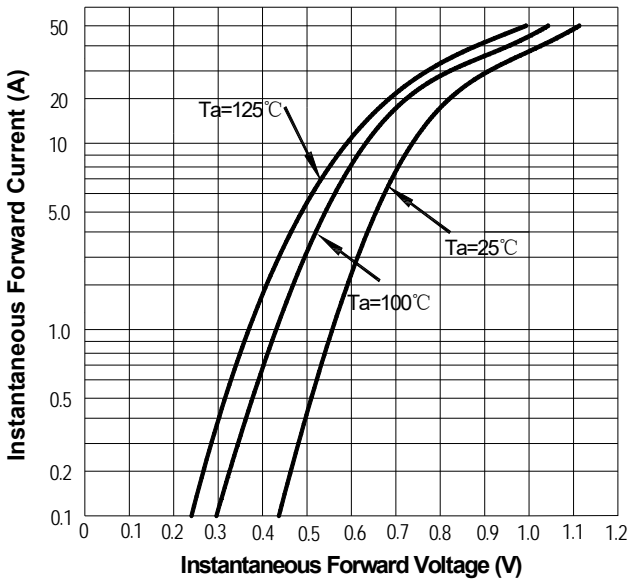


FIG4: Instantaneous Reverse Characteristics

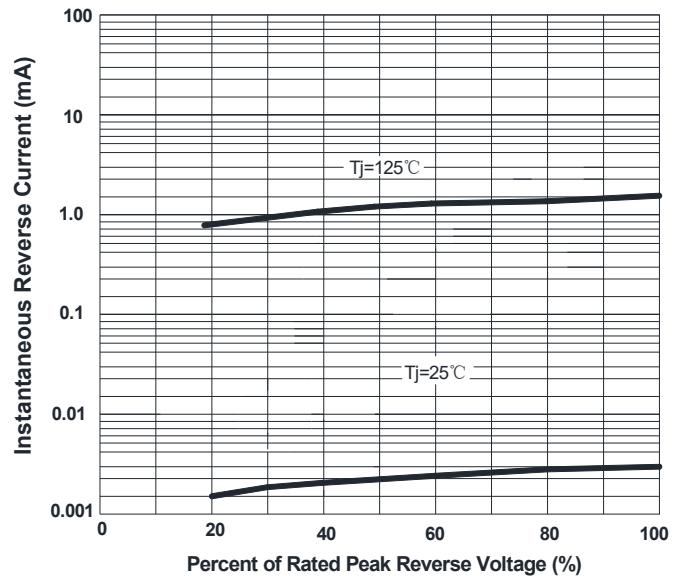
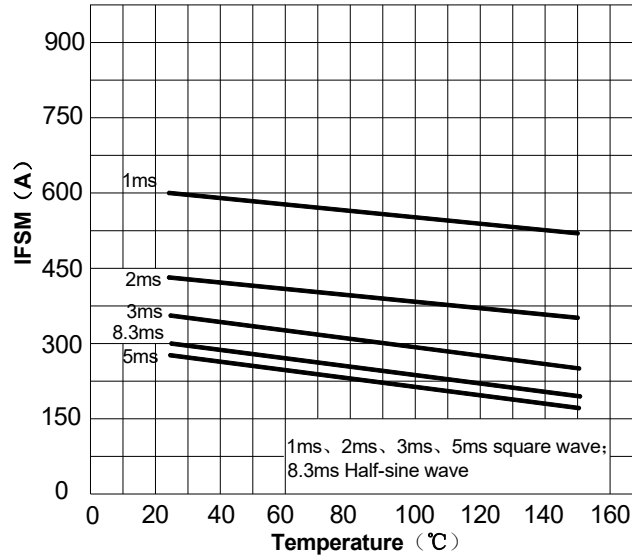
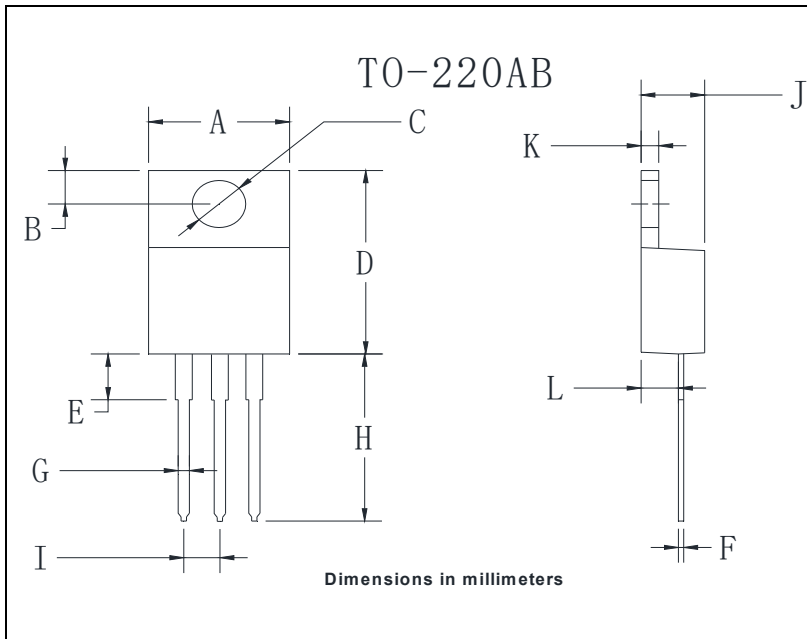


FIG.5: Maximum Non-Repetitive Peak Forward



## ■ Outline Dimensions



TO-220AB		
Dim	Min	Max
A	9.95	10.35
B	2.55	2.95
C	3.8	4.0
D	14.95	15.25
E	3.75	4.25
F	0.26	0.5
G	0.68	0.94
H	13.4	13.9
I	2.35	2.65
J	4.38	4.78
K	1.14	1.4
L	2.37	2.79



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