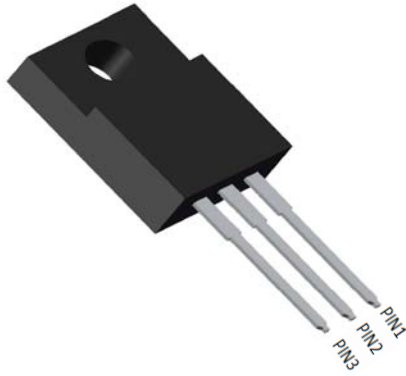


## Schottky Diodes



### 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:** ITO-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 (T<sub>j</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBR1045FCT
Device marking code			MBR1045FCT
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	V	45
Average Rectified Output Current @60Hz sine wave, R-load, T <sub>c</sub> (FIG.1)	I <sub>o</sub>	A	10
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T <sub>j</sub> =25°C	I <sub>FSM</sub>	A	100
Surge(Non-repetitive)Forward Current @1ms, square wave, 1 time, T <sub>j</sub> =25°C			200
Current Squared Time @1ms≤t≤8.3ms T <sub>j</sub> =25°C,	I <sup>2</sup> t	A <sup>2</sup> s	41
Typical junction capacitance @ 1MHz and Applied Reverse Voltage of 4.0 V.D.C.	C <sub>j</sub>	pF	273
Storage Temperature	T <sub>stg</sub>	°C	-55 ~ +150
Junction Temperature	T <sub>j</sub>	°C	-55 ~ +150
Mounting torque @recommend torque: 5kg·cm	Tor	kg·cm	8



# MBR1045FCT

## ■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> =5.0A T <sub>j</sub> =25°C	0.5	0.51	0.55
			I <sub>FM</sub> =5.0A T <sub>j</sub> =100°C	-	0.46	0.50
Maximum DC reverse current at rated DC blocking voltage per diode	I <sub>RRM1</sub>	μA	V <sub>RM</sub> =V <sub>RRM</sub> T <sub>j</sub> =25°C	-	-	50
	I <sub>RRM2</sub>	mA	V <sub>RM</sub> =V <sub>RRM</sub> T <sub>j</sub> =100°C	-	-	20

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

Note2:Pulse test:pulse width 40mS

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

PARAMETER		SYMBOL	UNIT	MBR1045FCT
Thermal Resistance	Between junction and case	R <sub>θJ-C</sub>	°C/W	4.0

## ■Ordering Information (Example)

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MBR1045FCT	Approximate 1.6	50	1000	5000	Tube

## ■Characteristics (Typical)

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

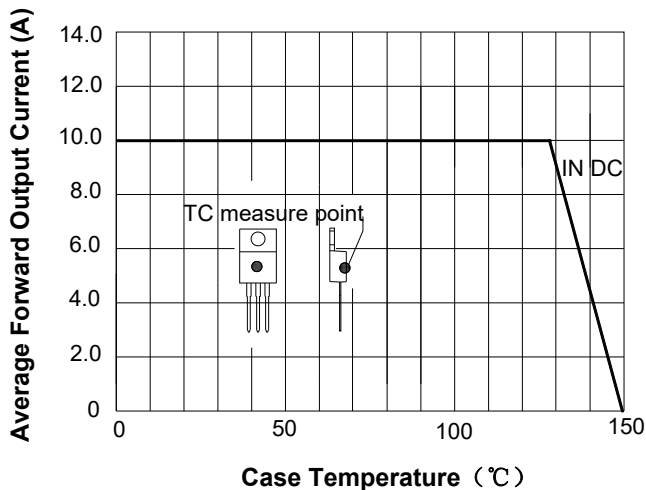


FIG2:Surge Forward Current Capability

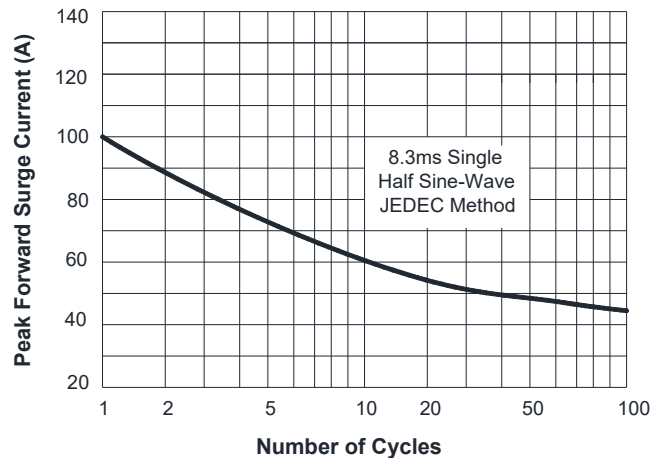


FIG3: Forward Voltage

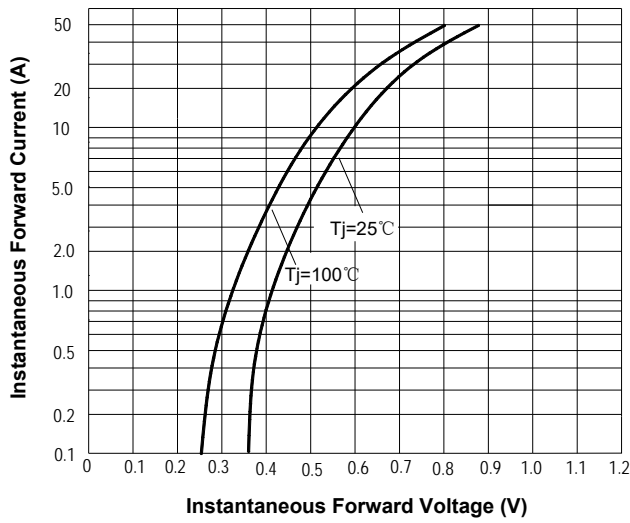
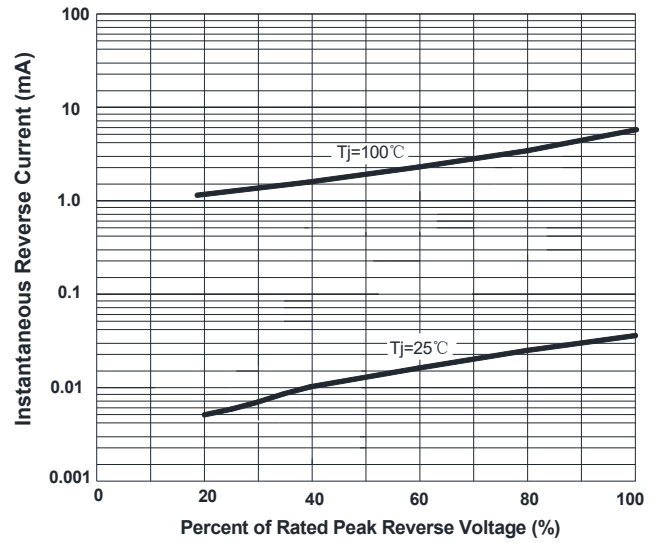
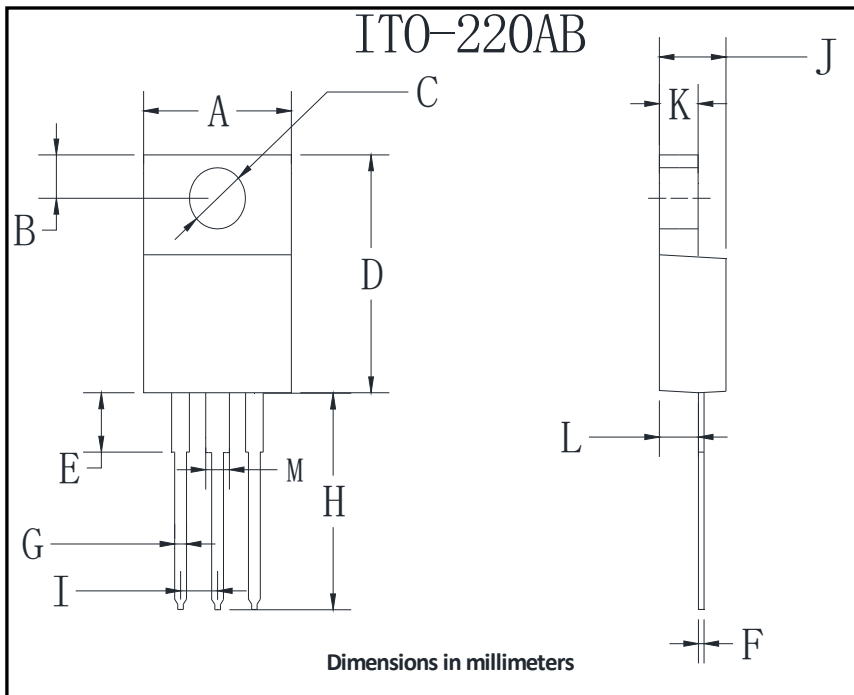


FIG.4: Typical Reverse Characteristics



## ■ Outline Dimensions



ITO-220AB		
Dim	Min	Max
A	9.8	10.2
B	2.25	2.75
C	2.95	3.45
D	14.75	15.25
E	3.05	3.95
F	0.45	0.75
G	0.45	0.75
H	13.4	14.2
I	2.35	2.75
J	4.3	4.8
K	2.58	2.82
L	2.58	2.82
M	1.47	1.77



# MBR1045FCT

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