

MBR10U45CT/10U45FCT

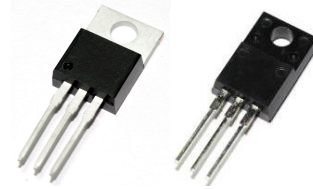
Low Trench Mos Barrier Schottky Rectifier

Voltage	45 Volts	Current	10 Amperes
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Features

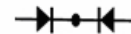
- Low Forward Voltage Drop
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier Technology
- Soft, Fast Switching Capability

DRAWING



TO-220AB

ITO-220AB



Mechanical Data

Case: TO-220AB, ITO-220AB
 Case Material: Molded Plastic, UL Flammability Classification Rating 94V-0
 Terminals: Matte Tin Finish annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
 Weight: TO-220AB – 1.85 grams (approximate)
 ITO-220AB – 1.65 grams (approximate)

Typical Applications

- Power Supply – Output Rectification
- Power Management
- Instrumentation

Maximum Ratings (Per Leg) ($T_A = +25^\circ\text{C}$, unless otherwise specified.)

Parameter	Symbol	MBR10U45CT/FCT	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	45	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
Average Rectified Forward Current (Per Leg)	$I_{F(AV)}$	5	A
Rated VR) $T_C = 130^\circ\text{C}$ (Per Device)		10	
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	125	A
Isolation Voltage (ITO-220AB Only) From terminal to heatsink $t = 1$ sec.	V_{AC}	1500	V

Single phase, half wave, 60Hz, resistive or inductive load. For capacitance load, derate current by 20%.

Thermal Characteristics (Per Leg)

Parameter	Symbol	Value	Unit
Typical Thermal Resistance	$R_{\theta JC}$	2.2	$^\circ\text{C/W}$
		4.0	
Storage Temperature Range	T_{STG}	-55 to +175	$^\circ\text{C}$
Operating Temperature Range	T_J	-55 to +150	$^\circ\text{C}$

Electrical Characteristics (Per Leg) ($T_A = +25^\circ\text{C}$, unless otherwise specified.)

Parameter	Test conditions		Symbol	Typ	Max	Unit
Forward Voltage Drop	IF=5A	$T_J = 25^\circ\text{C}$	V_F		0.43	V
	IF=10A				0.55	
	IF=5A	$T_J = 125^\circ\text{C}$			0.40	
	IF=10A				0.50	
Leakage Current (Note 1)	$V_R = 100\text{V}$	$T_J = 25^\circ\text{C}$	I_R		0.1	mA
		$T_J = 125^\circ\text{C}$			15	

Notes: 1. Short duration pulse test used to minimize self-heating effect.

2. Using heatsink (by Black Aluminum 45mm*20mm*12mm)

Ratings And Characteristics Curves($T_C = 25^\circ\text{C}$ unless otherwise noted)

FIG. 1-FORWARD CURRENT DERATING CURVE

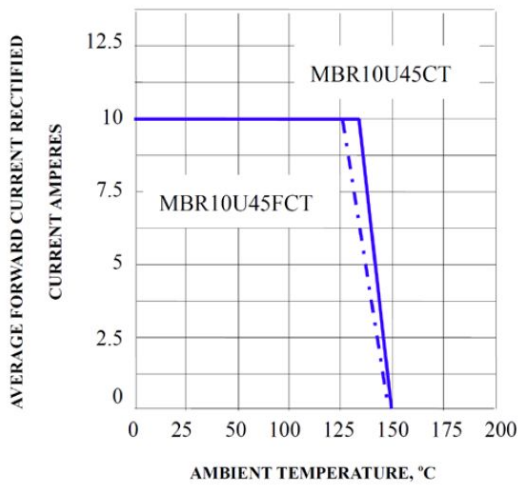


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE RATING

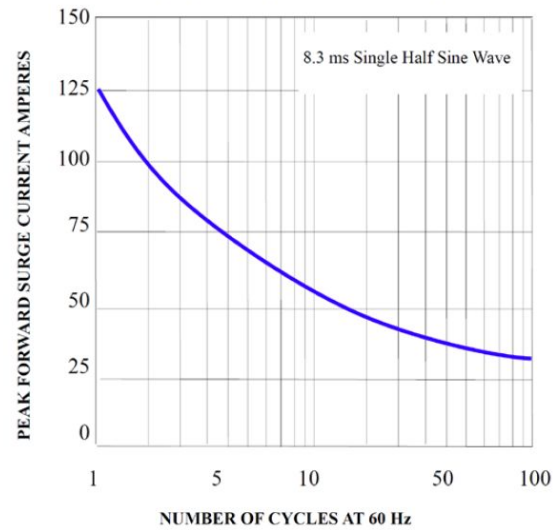


FIG. 3- TYPICAL REVERSE CHARACTERISTICS

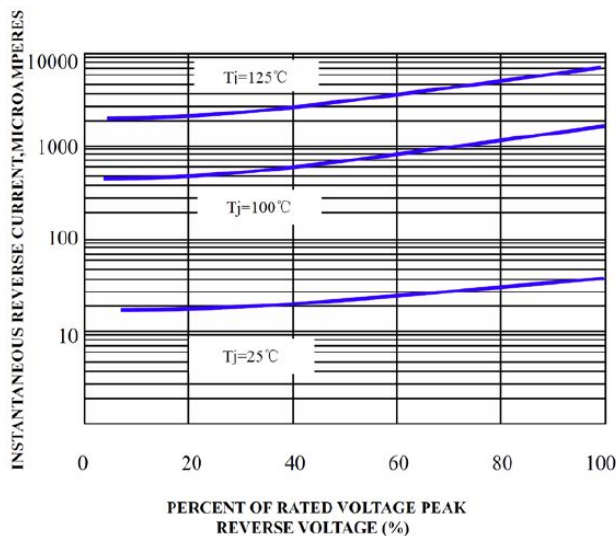
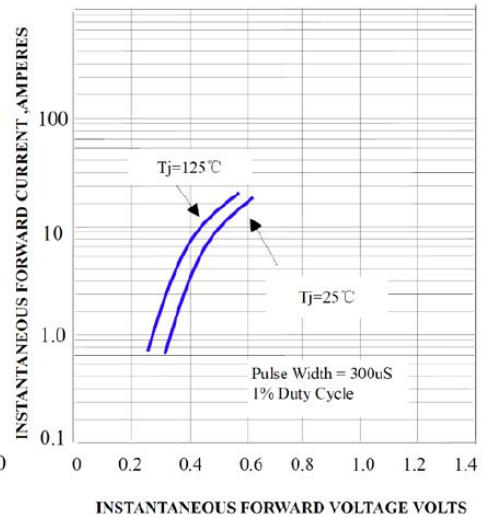
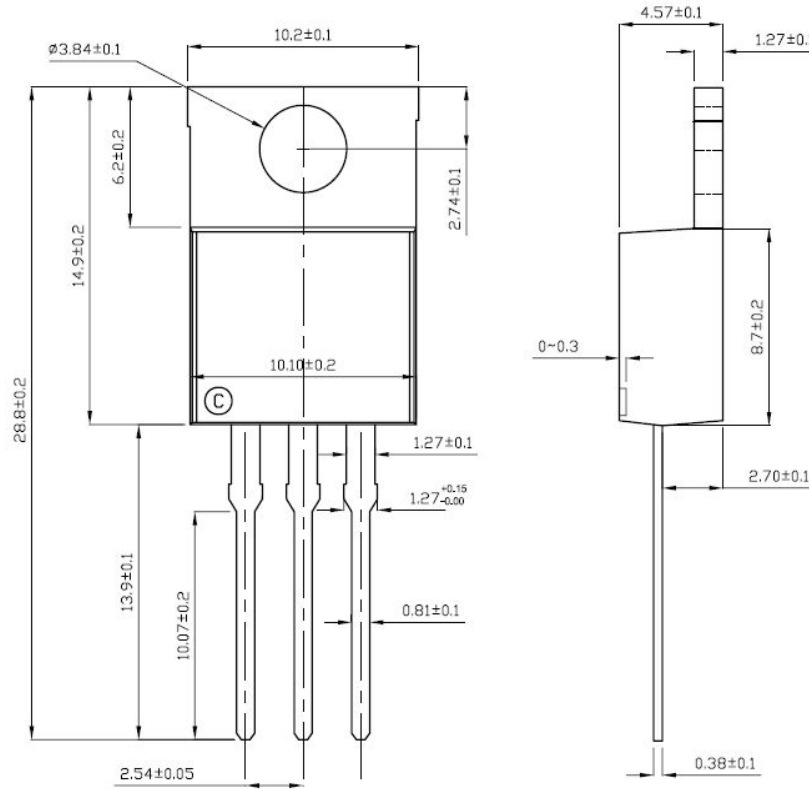


FIG. 4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



Mechanical Dimensions

TO-220AB



ITO-220AB

