

MBR20U45CT/FCT

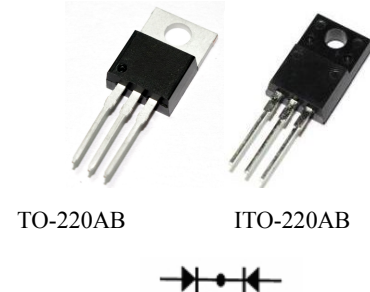
Low Trench Mos Barrier Schottky Rectifier

Voltage	45 Volts	Current	20 Amperes
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Features

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

DRAWING



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	MBR20U45CT/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) Rated VR) $T_C = 130^\circ\text{C}$ (Per Device)	$I_F(AV)$	10 20	A
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	150	A
Isolation Voltage (ITO-220AB Only) From terminal to heatsink $t = 3$ 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	$^\circ\text{C}/\text{W}$
		4.0	
Storage Temperature Range	T_{STG}	-55 to +175	$^\circ\text{C}$
Operating Temperature Range	T_J	-55 to +150	

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

Parameter	Test conditions		Symbol	Typ	Max	Unit
Forward Voltage Drop	IF=10A	TJ =25℃	VF		0.45	V
	IF=20A				0.55	
	IF=10A	TJ =125℃			0.43	
	IF=20A				0.50	
Leakage Current (Note 1)	VR=100V	TJ =25℃	IR		0.1	mA
		TJ =125℃			15	

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

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

FIG. 1-FORWARD CURRENT DERATING CURVE

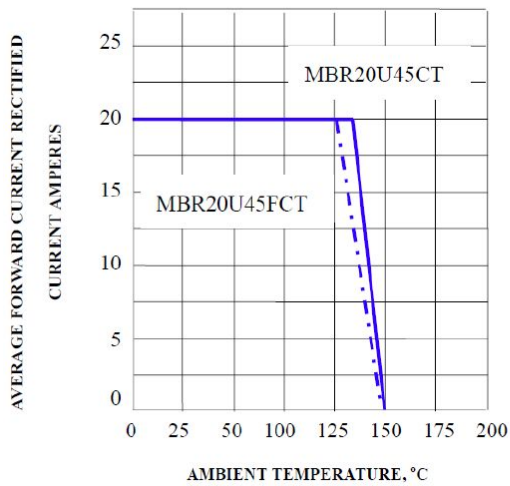


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE RATING

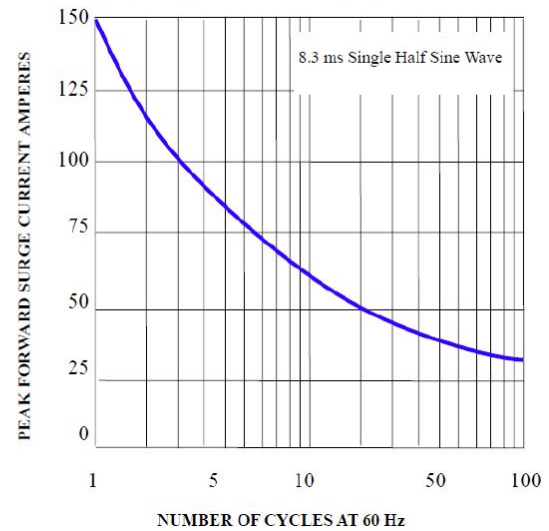


FIG. 3- TYPICAL REVERSE CHARACTERISTICS

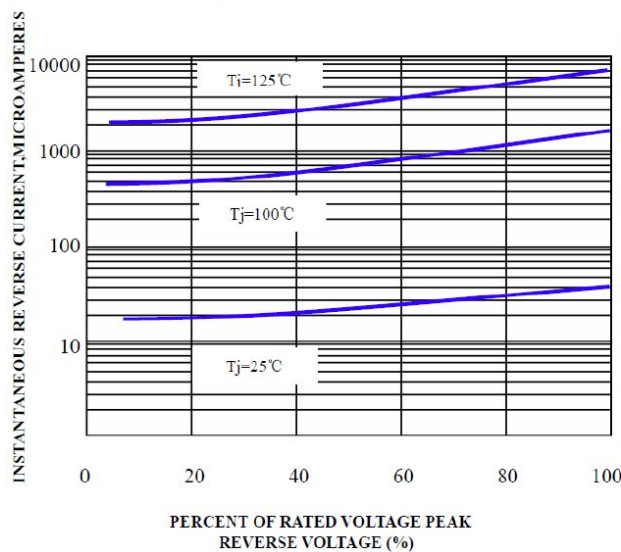
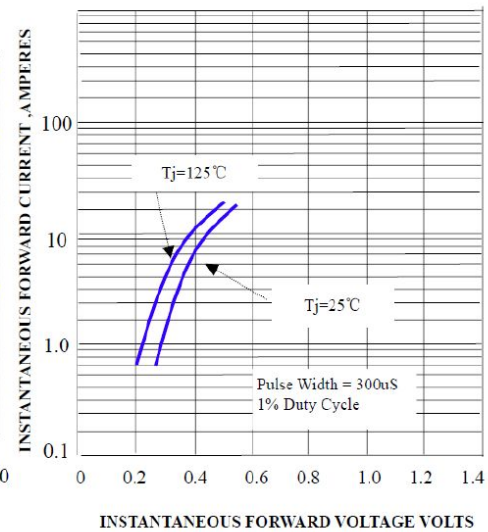
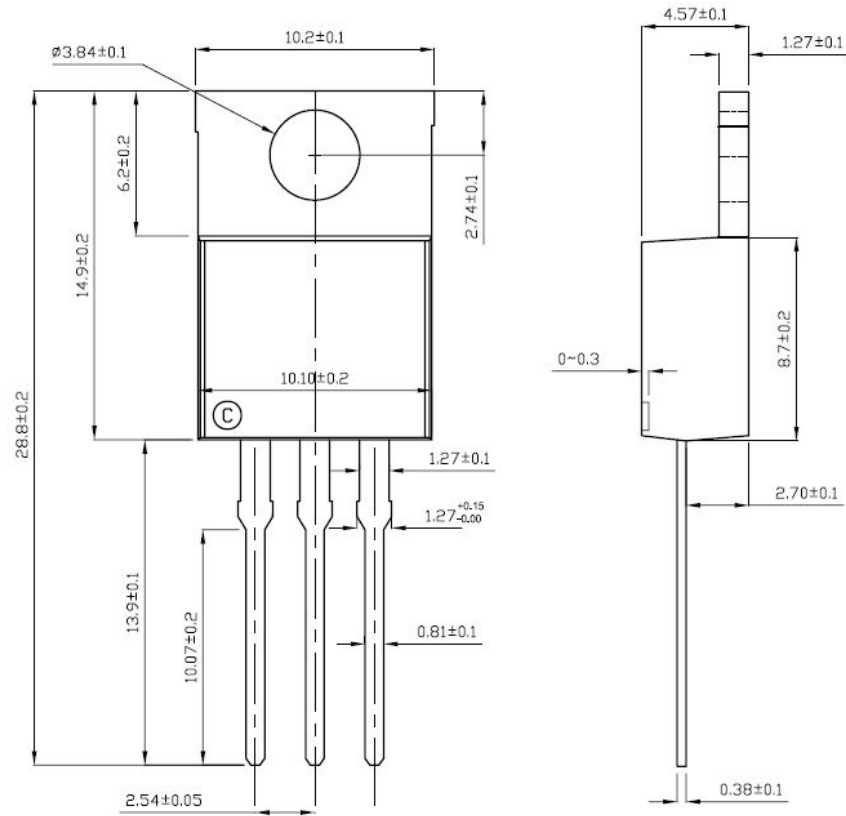


FIG. 4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



Mechanical Dimensions

TO-220AB



ITO-220AB

