

**MBR20U100CT/FCT**

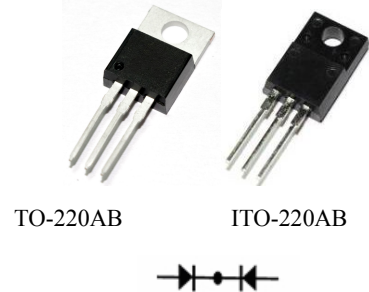
**Low Trench Mos Barrier Schottky Rectifier**

Voltage	100 Volts	Current	20 Amperes
---------	-----------	---------	------------

**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	MBR20U100CT/FCT	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	100	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
Average Rectified Forward Current (Per Leg)	$I_F(AV)$	10	A
(Total)		20	
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	200	A
Peak Repetitive Reverse Surge Current (2 $\mu$ S - 1kHz)	$I_{RRM}$	3	A
Non-Repetitive Avalanche Energy ( $T_J = +25^{\circ}\text{C}$ , $I_{AS} = 5\text{A}$ , $L = 8.5\text{mH}$ )	$E_{AS}$	140	mJ
Isolation Voltage (ITO-220AB Only) From terminal to heatsink $t = 3\text{sec}$ .	$V_{AC}$	2000	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	TO-220AB	$R_{\theta JC}$	2.0	°C/W
	ITO-220AB		4.0	
Operating and Storage Temperature Range		$T_J, T_{STG}$	-65 to +175	°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=10A	$T_J = 25^\circ\text{C}$	$V_F$	0.57	0.68	V
	IF=20A				0.82	
	IF=10A	$T_J = 125^\circ\text{C}$			0.63	
Leakage Current (Note 1)	$V_R = 100\text{V}$	$T_J = 25^\circ\text{C}$	$I_R$		0.5	mA
		$T_J = 125^\circ\text{C}$			25	

- 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)**

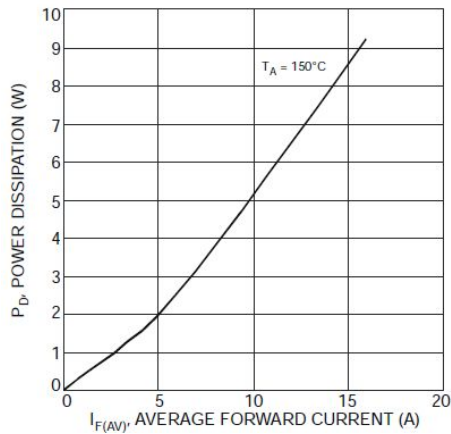


Figure 1 Forward Power Dissipation

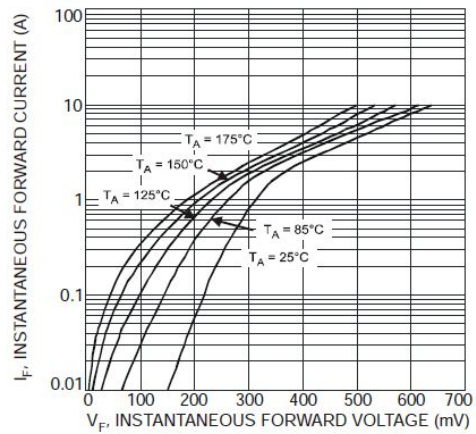


Figure 2. Typical Forward Characteristics

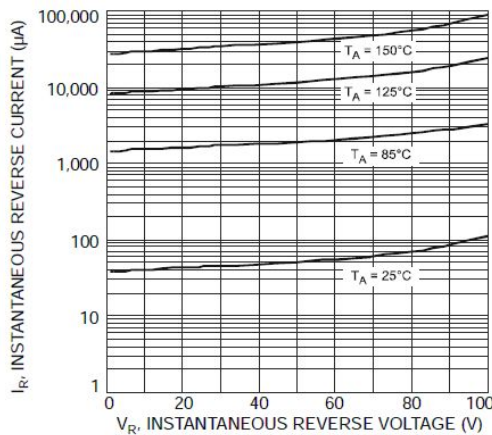


Figure 3. Typical Reverse Characteristics

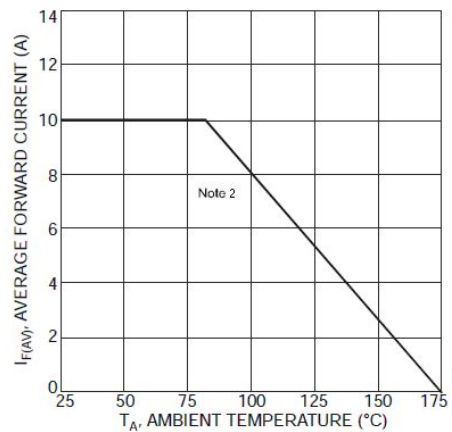


Figure 4. Forward Current Derating Curve

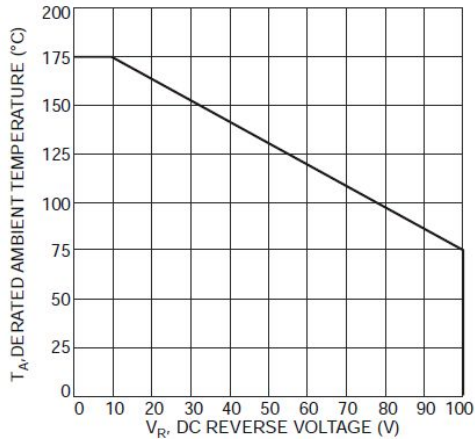


Figure 5. Operating Temperature Derating

Mechanical Dimensions

TO-220AB

