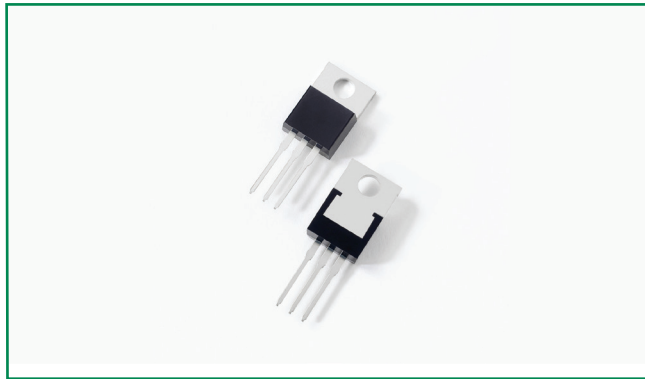
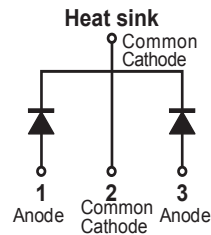


## MBR20100CTP



### Pin out



### Description

Littelfuse MBR series Schottky Barrier Rectifier is designed to meet the general requirements of commercial applications by providing high temperature, low leakage and low  $V_F$  products.

It is suitable for high frequency switching mode power Supply, free-wheeling diodes and polarity protection diodes.

### Features

- High junction temperature capability
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- Common cathode configuration in TO-220AB package
- Low forward voltage drop

### Applications

- Switching mode power supply
- DC/DC converters
- Free-wheeling diodes
- Polarity protection diodes

### Maximum Ratings

Parameters	Symbol	Test Conditions	Max	Unit
Peak Inverse Voltage	$V_{RWM}$	-	100	V
Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 105^\circ\text{C}$ rectangular wave form	10 (per leg) 20 (total device)	A
Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	8.3 ms, half Sine pulse	150	A

### Electrical Characteristics

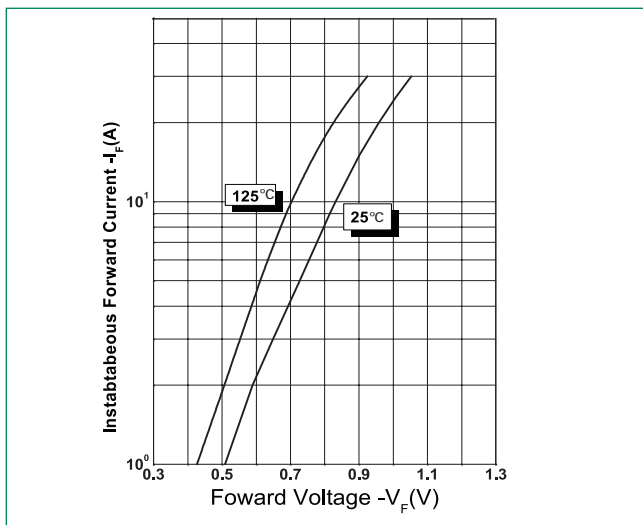
Parameters	Symbol	Test Conditions	Max	Unit
Forward Voltage Drop (per leg) *	$V_{F1}$	@ 10A, Pulse, $T_J = 25^\circ\text{C}$	0.90	V
	$V_{F2}$	@10A, Pulse, $T_J = 125^\circ\text{C}$	0.80	
Reverse Current at DC condition (per leg)	$I_{R1}$	@ $V_R = \text{rated } V_R$ , $T_J = 25^\circ\text{C}$	1.0	mA
Reverse Current (per leg) *	$I_{R2}$	@ $V_R = \text{rated } V_R$ , $T_J = 125^\circ\text{C}$	6.0	
Junction Capacitance (per leg)	$C_T$	@ $V_R = 5\text{V}$ , $T_C = 25^\circ\text{C}$ , $f_{SI} = 1\text{MHz}$	300	pF
Typical Series Inductance (per leg)	$L_S$	Measured lead to lead 5 mm from package body	8.0	nH
Voltage Rate of Change	$dv/dt$		10,000	V/ $\mu\text{s}$

\* Pulse Width < 300 $\mu\text{s}$ , Duty Cycle <2%

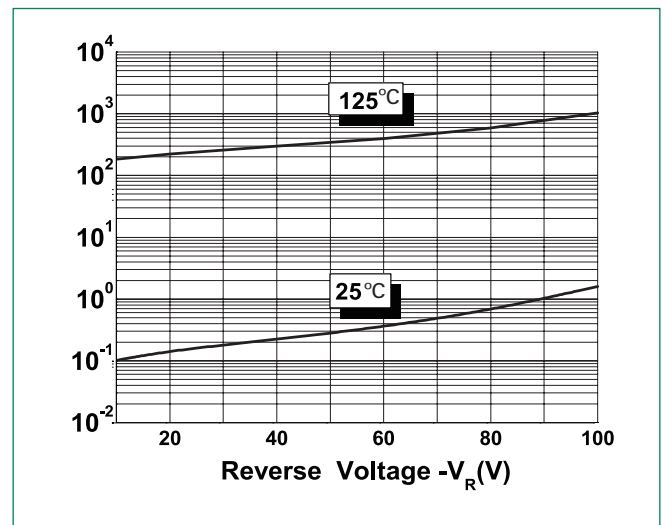
**Thermal-Mechanical Specifications**

Parameters	Symbol	Test Conditions	Max	Unit
Junction Temperature	$T_J$		-55 to +150	°C
Storage Temperature	$T_{stg}$		-55 to +150	°C
Maximum Thermal Resistance Junction to Case (per leg)	$R_{thJC}$	DC operation	3.5	°C/W
Approximate Weight	wt		2	g
Case Style	TO-220AB			

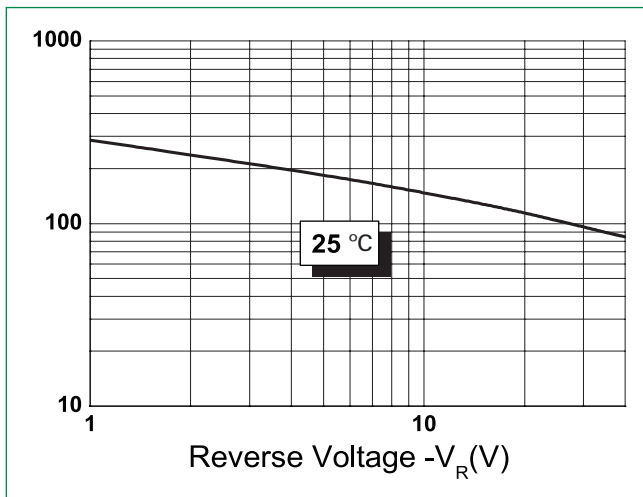
**Figure 1: Typical Forward Characteristics**



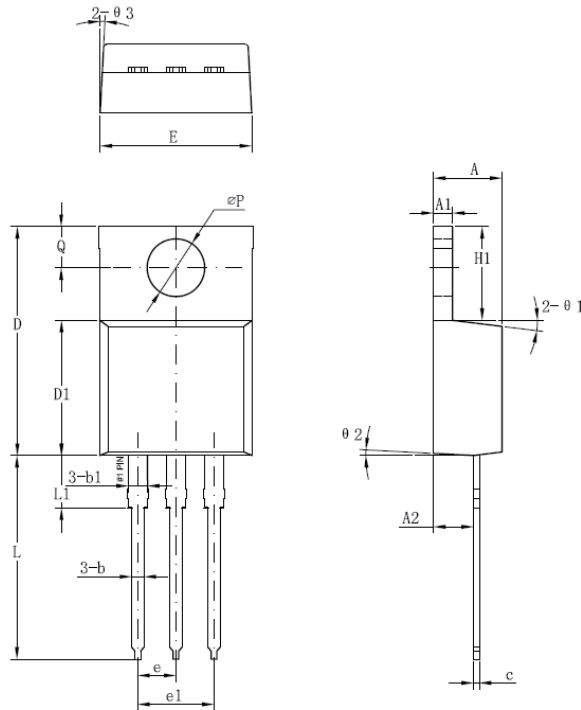
**Figure 2: Typical Reverse Characteristics**



**Figure 3: Typical Junction Capacitance**



**Dimensions- TO-220AB**



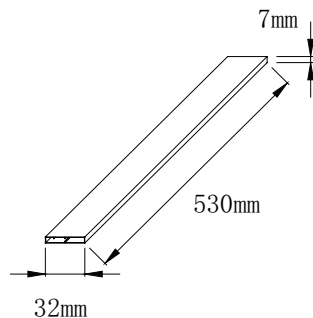
Symbol	Millimeters	
	Min	Max
<b>A</b>	3.56	4.83
<b>A1</b>	0.51	1.40
<b>A2</b>	2.03	2.92
<b>b</b>	0.38	1.02
<b>b1</b>	1.14	1.78
<b>c</b>	0.31*	0.61
<b>D</b>	14.22	16.51
<b>D1</b>	8.38	9.15*
<b>E</b>	9.65	10.67
<b>e</b>	2.54	-
<b>e1</b>	4.98*	-
<b>H1</b>	5.84	6.86
<b>L</b>	12.70	14.73
<b>L1</b>	-	6.35
<b>ØP</b>	3.53	4.09
<b>Q</b>	2.54	3.43

Footnote \*: The spec. does not comply with JEDEC spec.

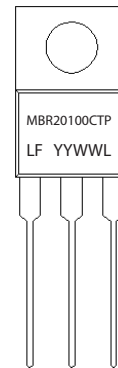
**Packing Options**

Part Number	Marking	Packing Mode	M.O.Q
MBR20100CTP	MBR20100CTP	50pcs / Tube	1000

**Tube Specification**



**Part Numbering and Marking System**



MBR = Device Type  
 20 = Forward Current (20A)  
 100 = Reverse Voltage (100V)  
 CTP = Configuration  
 LF = Littelfuse  
 YY = Year  
 WW = Week  
 L = Lot Number