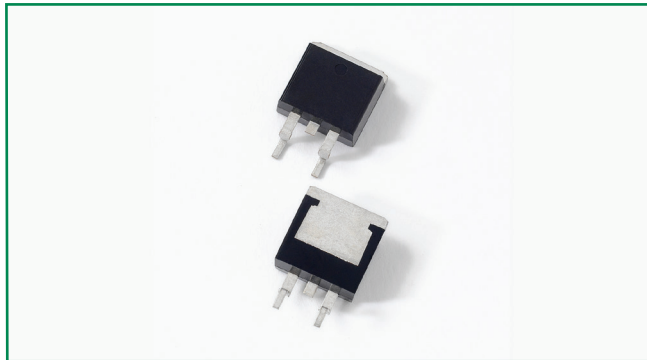
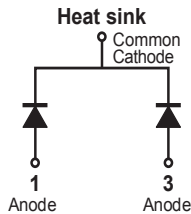


MBRB20100CT



### 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
- Guard ring for enhanced ruggedness and long term reliability
- Low forward voltage drop
- High frequency operation
- Common cathode configuration in surface mount TO-263 package

### Applications

- Switching mode power supply
- Free-wheeling diodes
- DC/DC converters
- 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)	$I_{FSM}$	8.3ms, half Sine pulse	150	A

### Electrical Characteristics

Parameters	Symbol	Test Conditions	Max	Unit
Forward Voltage Drop (per leg) *	$V_{F1}$	@ 5A, Pulse, $T_J = 25^\circ\text{C}$	0.80	V
		@ 10A, Pulse, $T_J = 125^\circ\text{C}$	0.90	
	$V_{F2}$	@ 5A, Pulse, $T_J = 25^\circ\text{C}$	0.70	
		@ 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)	$C_T$	@ $V_R = 5\text{V}, T_C = 25^\circ\text{C}, f_{SIG} = 1\text{MHz}$	250	pF
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	2.0	°C/W
Approximate Weight	wt		1.41	g
Case Style		D <sup>2</sup> PAK (TO-263)		

Figure 1: Typical Forward Characteristics

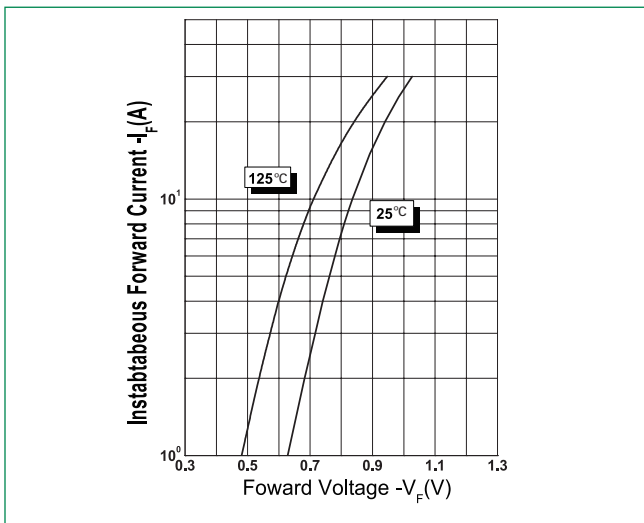


Figure 2: Typical Reverse Characteristics

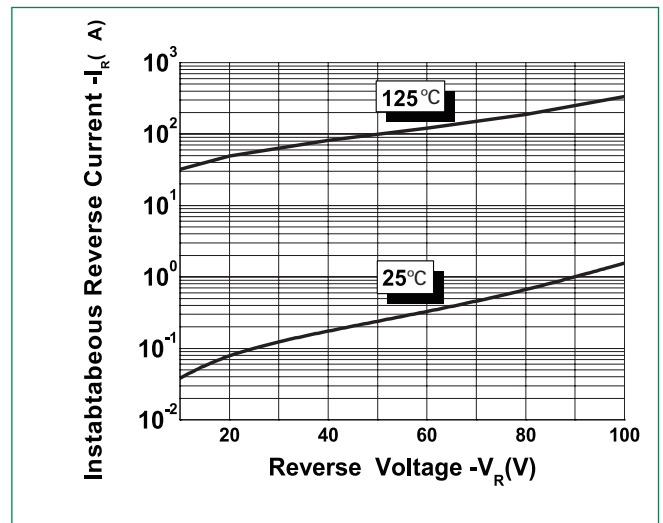
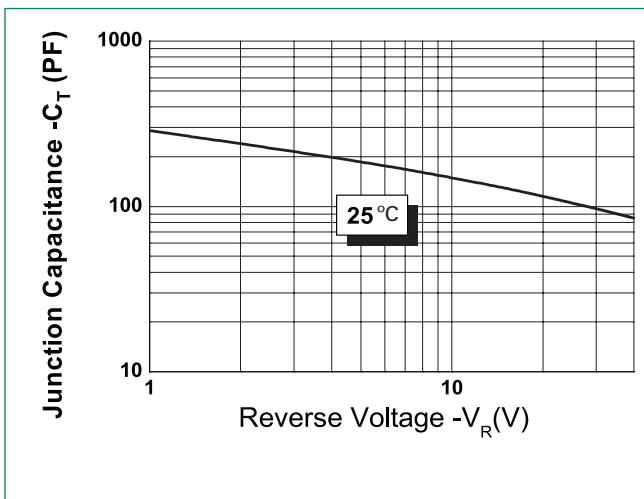
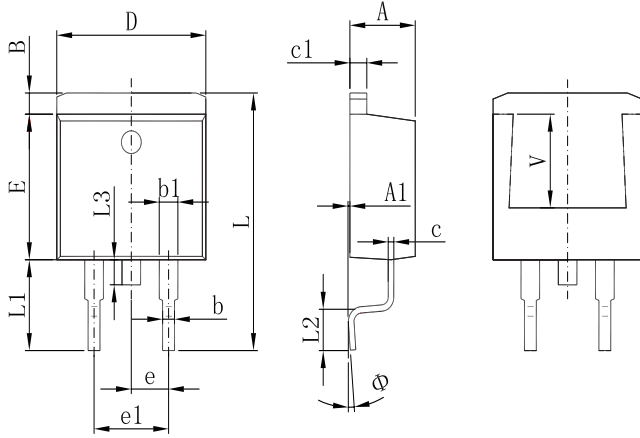


Figure 3: Typical Junction Capacitance

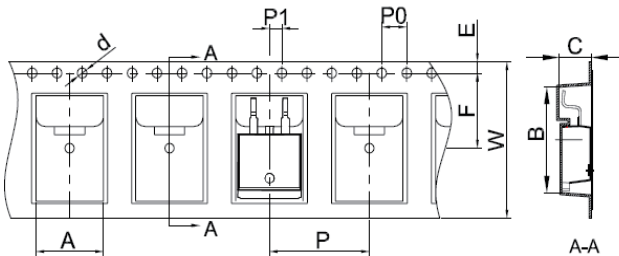


### Dimensions-D<sup>2</sup>PAK(TO-263)



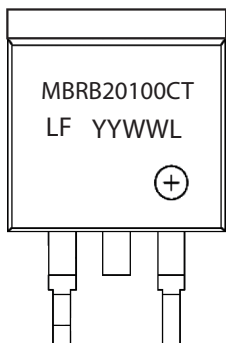
Symbol	Millimeters	
	Min	Max
<b>A</b>	4.47	4.67
<b>A1</b>	0	0.15
<b>B</b>	1.12	1.42
<b>b</b>	0.71	0.91
<b>b1</b>	1.17	1.37
<b>c</b>	0.31	0.53
<b>c1</b>	1.17	1.37
<b>D</b>	10.01	10.31
<b>E</b>	8.50	8.90
<b>e</b>	2.54 TYP	
<b>e1</b>	4.98	5.18
<b>L</b>	14.94	15.5
<b>L1</b>	4.95	5.45
<b>L2</b>	2.34	2.74
<b>L3</b>	1.30	1.7
<b>Ø</b>	0°	8°
<b>V</b>	5.60 REF	

### Carrier Tape & Reel Specification



Symbol	Millimeters	
	Min	Max
<b>A</b>	10.70	10.90
<b>B</b>	16.03	16.23
<b>C</b>	5.11	5.31
<b>d</b>	Ø1.45	Ø1.65
<b>E</b>	1.65	1.85
<b>F</b>	11.40	11.60
<b>P0</b>	3.90	4.10
<b>P</b>	15.90	16.10
<b>P1</b>	1.90	2.10
<b>W</b>	23.90	24.30

### Part Numbering and Marking System



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

### Packing Options

Part Number	Marking	Packing Mode	M.O.Q
MBRB20100CT	MBRB20100CT	800pcs / reel	800