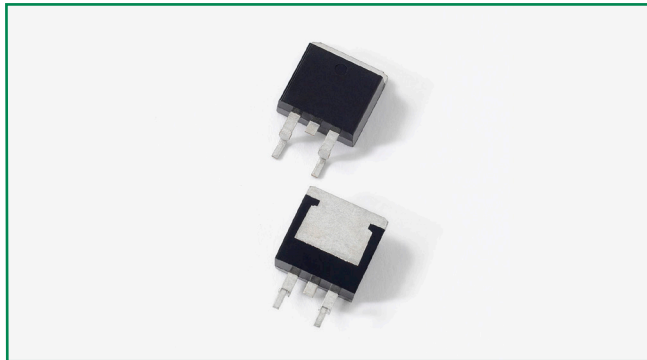
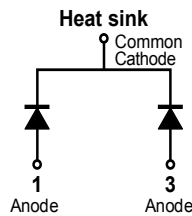


**MBRB10100CT**



**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	$I_{F(AV)}$	50% duty cycle @ $T_C = 105^\circ\text{C}$ , rectangular wave form	5 (per leg) 10 (total device)	A
Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	8.3ms, half Sine pulse	120	A

**Electrical Characteristics**

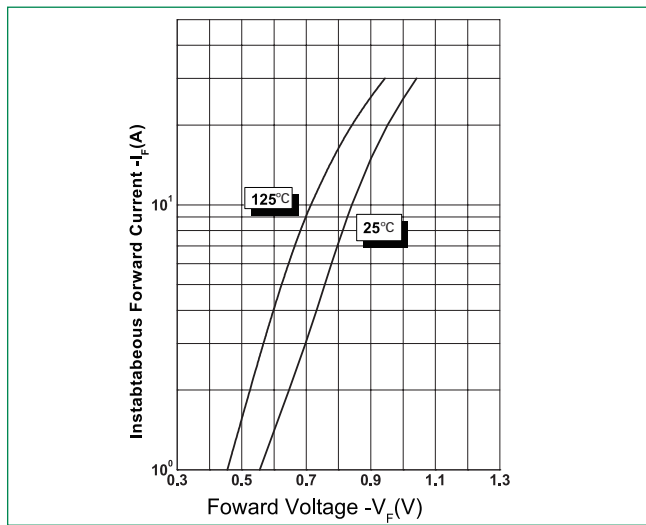
Parameters	Symbol	Test Conditions	Max	Unit
Forward Voltage Drop (per leg) *	$V_{F1}$	@ 5A, Pulse, $T_J = 25^\circ\text{C}$	0.85	V
	$V_{F2}$	@ 5A, Pulse, $T_J = 125^\circ\text{C}$	0.75	
Reverse Current at DC condition (per leg)	$I_{R1}$	@ $V_R = \text{rated } V_R, T_J = 25^\circ\text{C}$	1.0	mA
Reverse Current (per leg) *	$I_{R2}$	@ $V_R = \text{rated } V_R, T_J = 125^\circ\text{C}$	15	
Junction Capacitance (per leg)	$C_T$	@ $V_R = 5\text{V}, T_C = 25^\circ\text{C}, f_{SIG} = 1\text{MHz}$	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%

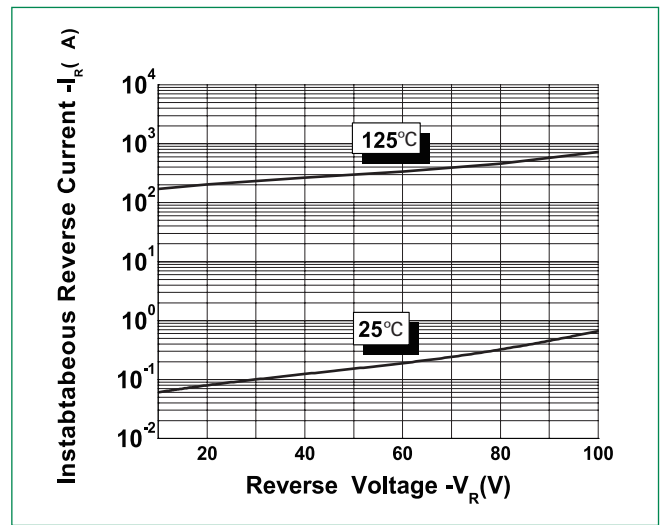
**Thermal-Mechanical Specifications**

Parameters	Symbol	Test Conditions	Max	Unit
Junction Temperature	$T_J$		-55 to +150	°C
Storage Temperature	$T_{stg}$		-55 to +150	°C
Thermal Resistance Junction to Case (per leg)	$R_{thJC}$	DC operation	6.0	°C/W
Approximate Weight	wt		1.85	g
Case Style	D <sup>2</sup> PAK (TO-263)			

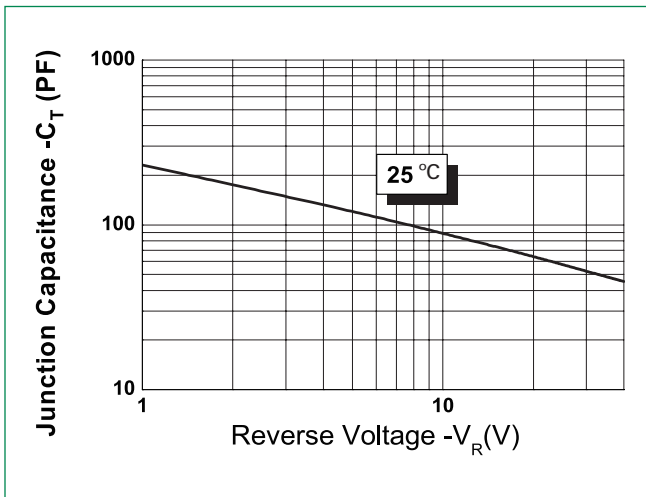
**Figure 1: Typical Forward Characteristics**



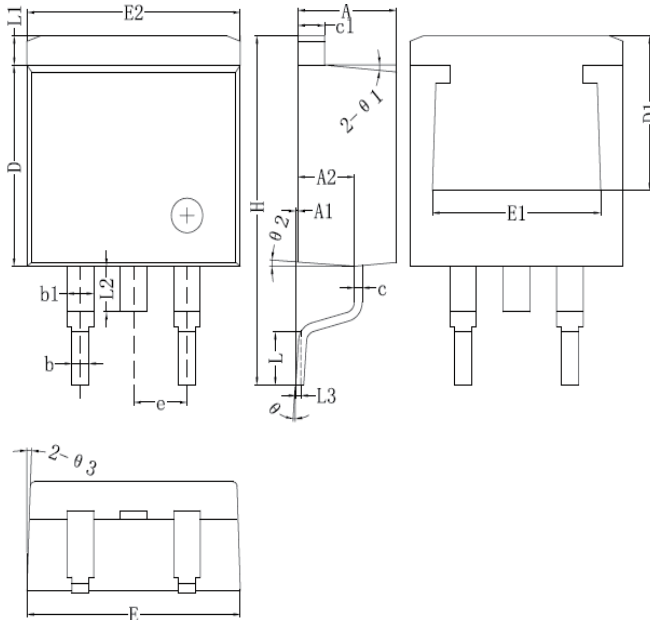
**Figure 2: Typical Reverse Characteristics**



**Figure 3: Typical Junction Capacitance**



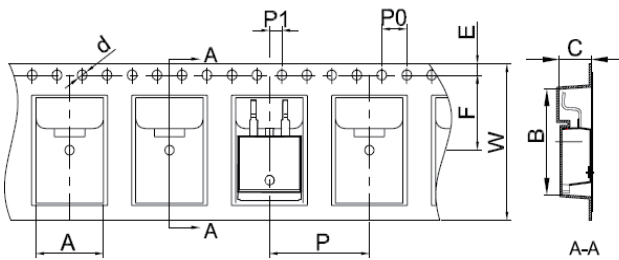
### Dimensions-D<sup>2</sup>PAK(TO-263)



	Millimeters	
	Min	Max
<b>A</b>	4.06	4.83
<b>A1</b>	0.00	0.25
<b>b</b>	0.51	0.99
<b>b1</b>	1.14	1.78
<b>c</b>	0.31*	0.74
<b>c1</b>	1.14	1.65
<b>D</b>	8.38	9.65
<b>D1</b>	6.40*	-
<b>E</b>	9.65	10.67
<b>E1</b>	6.22	-
<b>E2</b>	9.65	10.67
<b>e</b>	2.54 BSC	
<b>H</b>	14.60*	15.88
<b>L</b>	1.78	2.79
<b>L1</b>	-	1.68
<b>L2</b>	-	1.78
<b>L3</b>	0.254 BSC	

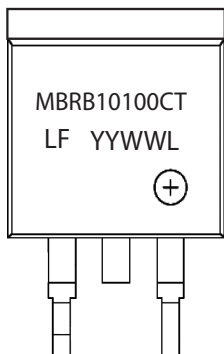
Footnote \*: The spec. does not comply with JEDEC spec.

### 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  
**10** = Forward Current (10A)  
**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
MBRB10100CT	MBRB10100CT	800pcs / reel	800