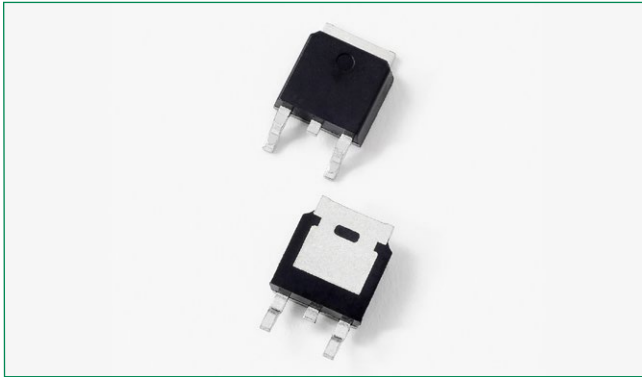
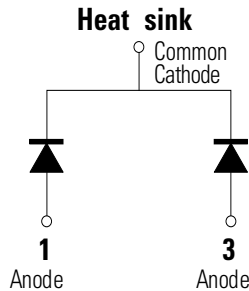


### MBRD10150CT



#### 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 compact surface mount TO-252 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	$V_{RWM}$	-	150	V
Average Forward Current	$I_{F(AV)}$	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	100	A

#### Electrical Characteristics

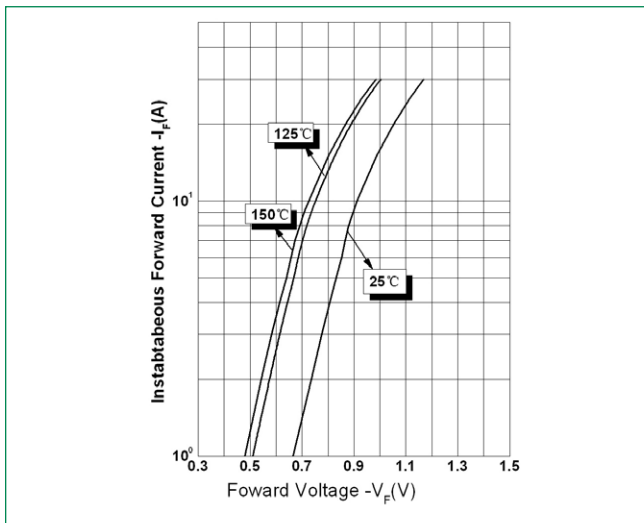
Parameters	Symbol	Test Conditions	Max	Unit
Forward Voltage Drop (per leg) *	$V_{F1}$	@ 5A, Pulse, $T_J = 25^\circ\text{C}$	0.95	V
	$V_{F2}$	@ 5A, Pulse, $T_J = 125^\circ\text{C}$	0.80	
	$V_{F3}$	@ 5A, Pulse, $T_J = 150^\circ\text{C}$	0.75	
Reverse Current at DC condition (per leg)	$I_{R1}$	@ $V_R = \text{rated } V_R, T_J = 25^\circ\text{C}$	1.0	mA
Reverse Current (per leg) *	$I_{R2}$	@ $V_R = \text{rated } V_R, T_J = 125^\circ\text{C}$	7.0	
	$I_{R3}$	@ $V_R = \text{rated } V_R, T_J = 150^\circ\text{C}$	30	
Junction Capacitance (per leg)	$C_T$	@ $V_R = 5\text{V}, T_C = 25^\circ\text{C}, f_{IS} = 1\text{MHz}$	200	pF
Max. Voltage Rate of Change (per leg)	dv/dt		10,000	V/ $\mu\text{s}$

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

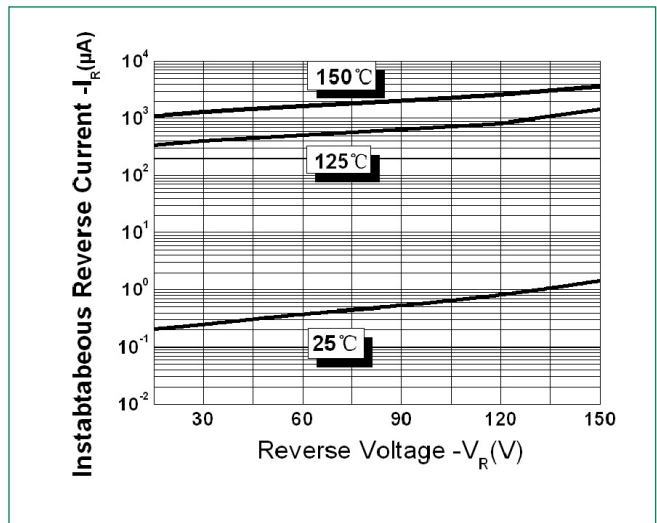
**Thermal-Mechanical Specifications**

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	4.5	°C/W
Approximate Weight	wt		0.39	g
Case Style	DPAK(TO-252)			

**Figure 1: Typical Forward Characteristics**



**Figure 2: Typical Reverse Characteristics**



**Figure 3: Typical Junction Capacitance**

