

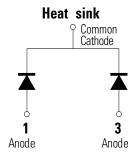
MBRD10150CT







## 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<sub>E</sub> 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 <sub>RWM</sub>	-	150	V
Average Forward Current	1	50% duty cycle @T <sub>C</sub> = 105°C,	5 (per leg)	۸
Average Forward Current	F(AV)	rectangular wave form	10 (total device)	
Peak One Cycle Non-Repetitive Surge Current (per leg)	I <sub>FSM</sub>	8.3ms,half Sine pulse	100	А

## **Electrical Characteristics**

Parameters	Symbol	Test Conditions	Max	Unit
	V <sub>F1</sub>	@ 5A, Pulse, T <sub>J</sub> = 25 °C	0.95	
Forward Voltage Drop (per leg) *	V <sub>F2</sub>	@ 5A, Pulse, T <sub>J</sub> = 125 °C	0.80	V
	V <sub>F3</sub>	@ 5A, Pulse, T <sub>J</sub> = 150 °C	0.75	
Reverse Current at DC condition (per leg)	I <sub>R1</sub>	$@V_R = rated V_R T_J = 25 °C$	1.0	
Reverse Current (per leg) *	I <sub>R2</sub>	$@V_R = rated V_R T_J = 125  ^{\circ}C$	7.0	mA
neverse Current (per leg)	I <sub>R2</sub>	$@V_R = rated V_R T_J = 150  ^{\circ}C$	30	
Junction Capacitance (per leg)	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C, <sub>fSI</sub> G = 1MHz	200	pF
Max. Voltage Rate of Change (per leg)	dv/dt		10,000	V/µs

<sup>\*</sup> Pulse Width < 300µs, Duty Cycle <2%



## **Thermal-Mechanical Specifications**

Parameters	Symbol	Test Conditions	Max	Unit
Junction Temperature	$T_{_{J}}$		-55 to +150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C
Maximum Thermal Resistance Junction to Case (per leg)	R <sub>thJC</sub>	DC operation	4.5	°C/W
Approximate Weight	wt		0.39	g
Case Style	DPAK(TO-252)			

Figure 1: Typical Forward Characteristics

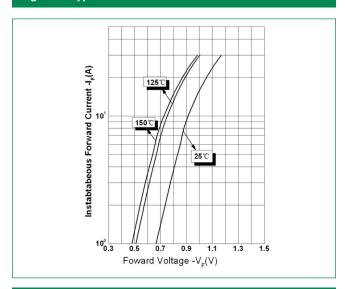


Figure 2: Typical Reverse Characteristics

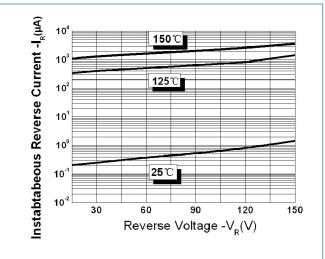
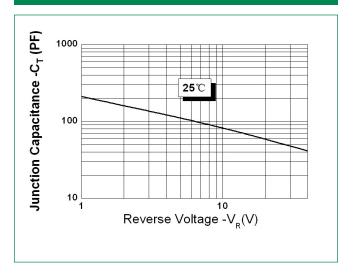


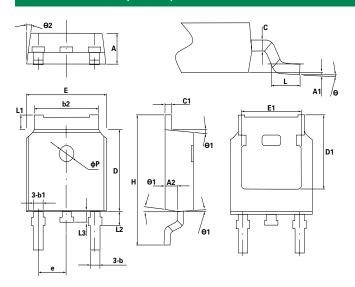
Figure 3: Typical Junction Capacitance





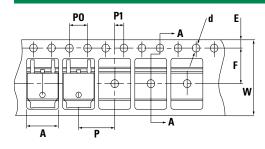
## MBRD10150CT 2x 5A, 150V, TO-252 Common Cathode

## **Dimensions-DPAK(TO-252)**



Symbol	Min.	Тур.	Max
Α	2.2	2.3	2.38
A1	0	-	0.1
A2	0.9	1.01	1.1
b	0.71	0.76	0.86
b1		0.76	
b2	5.13	5.33	5.46
С	0.47	0.5	0.6
c1	0.47	0.5	0.6
D	6	6.1	6.2
D1	-	5.3	-
E	6.5	6.6	6.7
E1	-	4.8	-
е		2.286BSC	
Н	9.7	10.1	10.4
L	1.4	1.5	1.7
L1	0.9	-	1.25
L2		1.05	
L3		0.8	
øΡ		1.2	
Θ	0°	-	8°
⊖1	5°	7°	9°
⊖2	5°	7°	9°

## **Carrier Tape & Reel Specification**





Symbol	Millimeters		
	Min	Max	
Α	6.80	7.00	
В	10.40	10.60	
С	2.60	2.80	
d	ø1.45	ø1.65	
E	1.65	1.85	
F	7.40	7.60	
P0	3.90	4.10	
Р	7.90	8.10	
P1	1.90	2.10	
W	15.50	16.50	

## **Part Numbering and Marking System**



MBR = Device Type
D = Package type
10 = Forward Current (10A)

= Reverse Voltage (150V)

= Configuration= Littelfuse

LF = Littelfus YY = Year WW = Week

150

= Lot Number

## **Packing Options**

Part Number	Marking	Packing Mode	М.О.Q
MBRD10150CT	MBRD10150CT	2500pcs / reel	2500

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