Schottky Barrier Rectifier

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

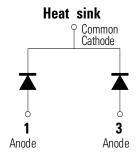
MBRD10150CT







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_E 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	1	50% duty cycle @T _c = 105°C,	5 (per leg)	^
Average Forward Current	F(AV)	rectangular wave form	10 (total device)	
Peak One Cycle Non-Repetitive Surge Current (per leg)	I _{FSM}	8.3ms,half Sine pulse	100	А

Electrical Characteristics

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

^{*} 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 _{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

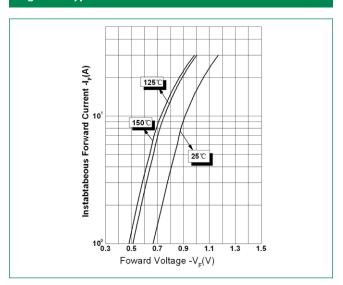


Figure 2: Typical Reverse Characteristics

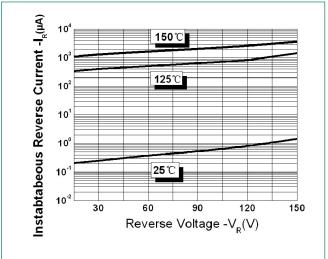
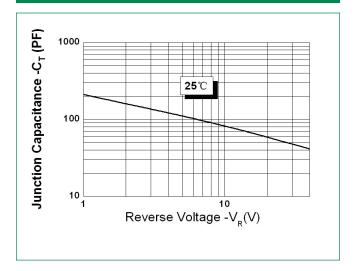


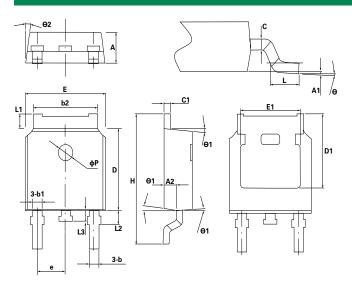
Figure 3: Typical Junction Capacitance



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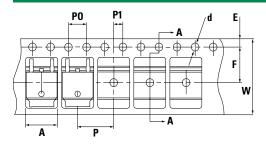
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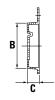
Dimensions-DPAK(TO-252)



Symbol	Min.	Тур.	Мах		
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°		
θ1	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		
P	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 Curr

= Package type = Forward Current (10A) = Reverse Voltage (150V)

= Configuration= Littelfuse

LF = Littelfus YY = Year WW = Week

150

CT

= Lot Number

Packing Options

Part Number	Marking	Packing Mode	D.O.M
MBRD10150CT	MBRD10150CT	2500pcs / reel	2500

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