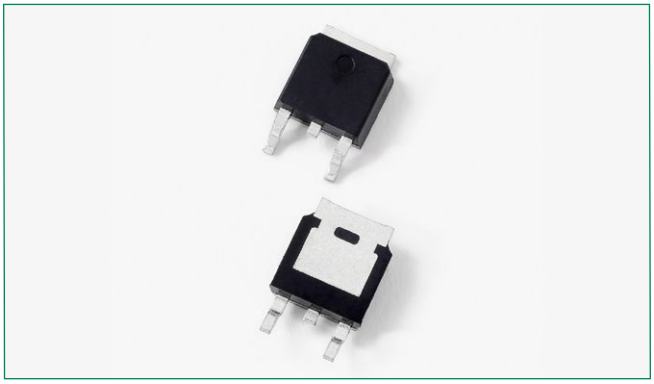
Littelfuse
Expertise Applied | Answers Delivered

Schottky Barrier Rectifier

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

MBRD10150CT

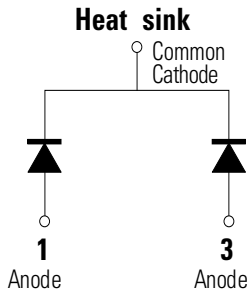
RoHS



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.

Pin out



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°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 °C	0.95	V
	V_{F2}	@ 5A, Pulse, T_J = 125 °C	0.80	
	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	mA
Reverse Current (per leg) *	I_{R2}	@V_R = rated V_R T_J = 125 °C	7.0	
	I_{R2}	@V_R = rated V_R T_J = 150 °C	30	
Junction Capacitance (per leg)	C_T	@V_R = 5V, T_C = 25 °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%

© 2020 Littelfuse, Inc.
Specifications are subject to change without notice.
Revised: 01/06/20

Schottky Barrier Rectifier

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

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

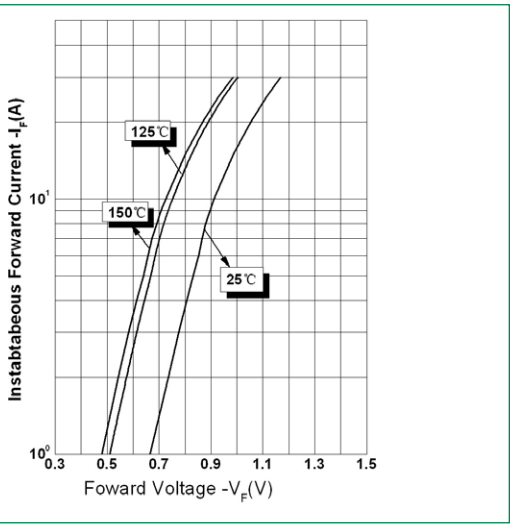


Figure 2: Typical Reverse Characteristics

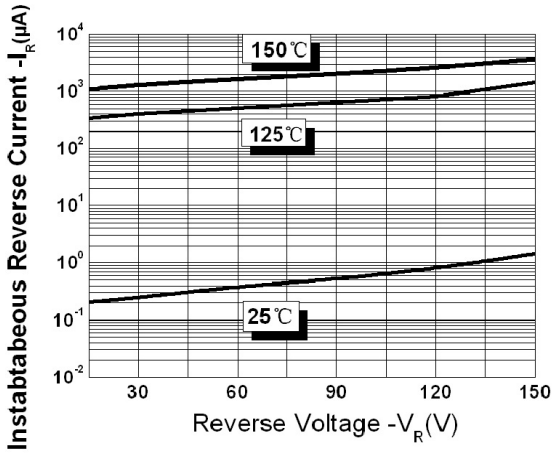
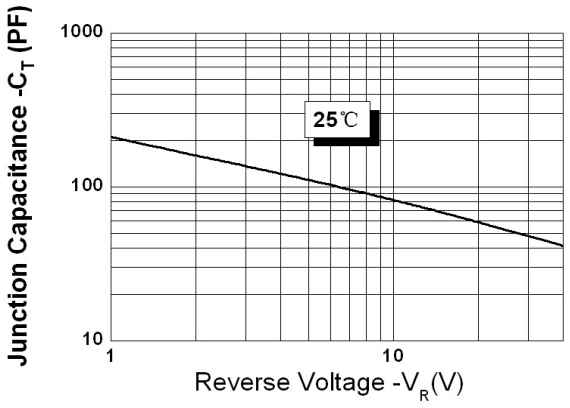


Figure 3: Typical Junction Capacitance



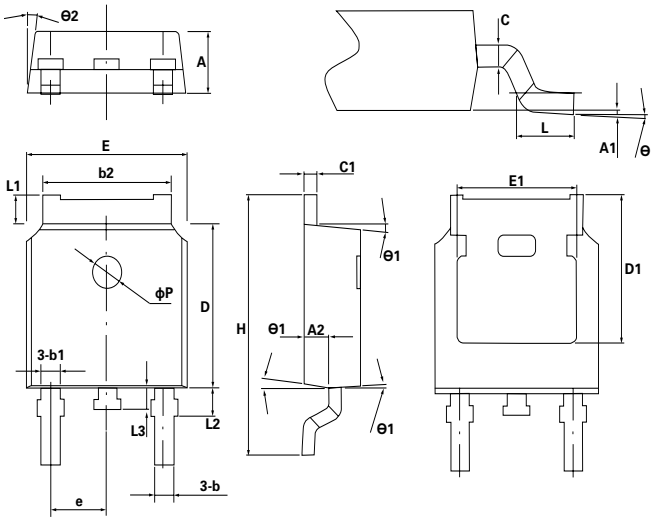
© 2020 Littelfuse, Inc.
Specifications are subject to change without notice.
Revised: 01/06/20

Littelfuse
Expertise Applied | Answers Delivered

Schottky Barrier Rectifier

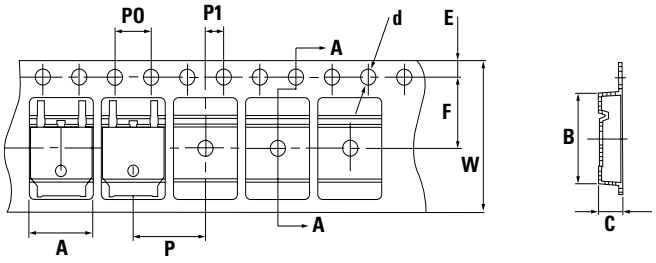
MBRD10150CT 2x 5A, 150V, TO-252 Common Cathode

Dimensions-DPAK(TO-252)



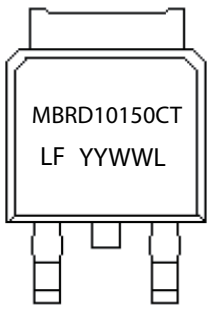
Symbol	Min.	Typ.	Max..
A	2.2	2.3	2.38
A1	0	-	0.1
A2	0.9	1.01	1.1
b	0.71	0.76	0.86
b1		0.76	
b2	5.13	5.33	5.46
c	0.47	0.5	0.6
c1	0.47	0.5	0.6
D	6	6.1	6.2
D1	-	5.3	-
E	6.5	6.6	6.7
E1	-	4.8	-
e		2.286BSC	
H	9.7	10.1	10.4
L	1.4	1.5	1.7
L1	0.9	-	1.25
L2		1.05	
L3		0.8	
øP		1.2	
θ	0°	-	8°
θ1	5°	7°	9°
θ2	5°	7°	9°

Carrier Tape & Reel Specification



Symbol	Millimeters	
	Min	Max
A	6.80	7.00
B	10.40	10.60
C	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 Current (10A)
150	= Reverse Voltage (150V)
CT	= Configuration
LF	= Littelfuse
YY	= Year
WW	= Week
L	= Lot Number

Packing Options

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

Disclaimer Notice - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at www.littelfuse.com/disclaimer-electronics.

© 2020 Littelfuse, Inc.
Specifications are subject to change without notice.
Revised: 01/06/20