Schottky Barrier Rectifier

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

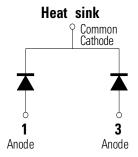
MBRD10200CT







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}	-	200	V
Average Forward Current	I _{F(AV)}	50% duty cycle @T _c = 105°C, rectangular wave form	5 (per leg)	- A
Average Forward Current			10 (total device)	
Peak One Cycle Non-Repetitive Surge Current (per leg)	I _{FSM}	8.3ms,half Sine pulse	128	А

Electrical Characteristics

Parameters	Symbol	Test Conditions	Max	Unit
Forward Valtage Dress (nor less) *	V _{F1}	@ 5A, Pulse, T _J = 25 °C	0.9	\/
Forward Voltage Drop (per leg) *	V _{F2}	@ 5A, Pulse, T _J = 125 °C	0.74	V
Poverse Current (per leg) *	I _{R1}	$@V_R = rated V_R T_J = 25 °C$	1.0	mA
Reverse Current (per leg) *	I _{R2}	$@V_R = rated V_R T_J = 125 ^{\circ}C$	25	i ma
Junction Capacitance (per leg)	C _T	$@V_R = 5V, T_C = 25 ^{\circ}C, _{fSI}G = 1MHz$	150	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/µs

^{*} Pulse Width < 300 μ s, Duty Cycle <2%



Thermal-Mechanical Specifications Symbol **Parameters Test Conditions** Unit Τ, -55 to +150 °C Max. Junction Temperature °C Max. Storage Temperature $\mathsf{T}_{\mathrm{stg}}$ -55 to +150 Maximum Thermal Resistance Junction to Case (per leg) $\mathsf{R}_{\mathsf{thJC}}$ DC operation °C/W Maximum Thermal Resistance Junction to Case (per package) 2.0 °C/W Maximum Thermal Resistance, Case to Heat Sink R_{thCS} 1.0 Mounting surface, smooth and greased Approximate Weight 0.39 wt Case Style DPAK(TO-252)

Figure 1: Typical Forward Characteristics

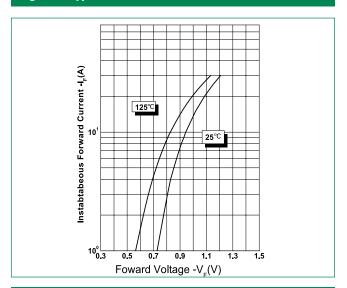


Figure 3: Typical Junction Capacitance

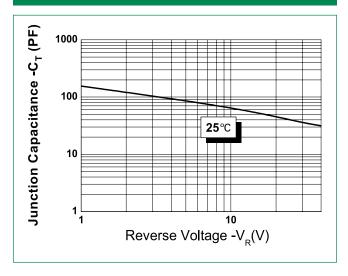
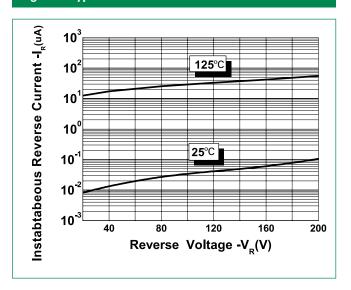
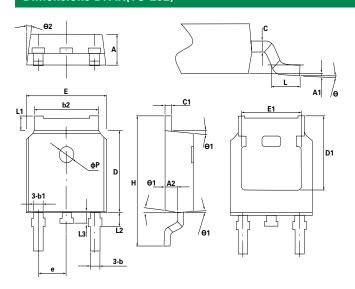


Figure 2: Typical Reverse Characteristics



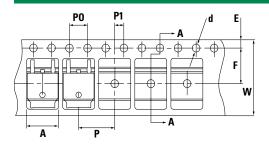
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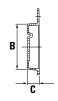
Dimensions-DPAK(TO-252)



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°
⊖1	5°	7°	9°
⊖2	5°	7°	9°

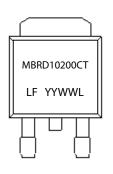
Carrier Tape & Reel Specification





Symbol	Millimeters		
Зушьог	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 Current (10A) 200 = Reverse Voltage (200V)

CT = Configuration LF = Littelfuse YY = Year WW = Week

= Lot Number

Packing Options

Part Number	Marking	Packing Mode	M.O.Q	
MBRD10200CT	MBRD10200CT	2500pcs / reel	2500	