

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_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

Applications

- Switching mode power supply

• High frequency operation

RoHS PO

- Common cathode configuration in compact surface mount TO-252 package
- DC/DC converters
- Polarity protection diodes
- Free-wheeling diodes

Maximum Ratings

Parameters	Symbol	Test Conditions	Мах	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
			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 Voltage Drop (per leg) *	V _{F1}	@ 5A, Pulse, T _J = 25 °C	0.9	V
Forward voltage Drop (per leg) "	V _{F2}	V_{F1} @ 5A, Pulse, $T_J = 25 \text{ °C}$ V_{F2} @ 5A, Pulse, $T_J = 125 \text{ °C}$ I_{R1} $@V_R = \text{rated } V_R T_J = 25 \text{ °C}$ I_{R2} $@V_R = \text{rated } V_R T_J = 125 \text{ °C}$ C_T $@V_R = 5V, T_C = 25 \text{ °C}, _{fSI}G = 1MHz$	0.74	V
Reverse Current (per leg) *	I _{R1}	$@V_{R} = rated V_{R}T_{J} = 25 \text{ °C}$	1.0	mA
neverse Current (per leg)	I _{R2}	$@V_{R} = rated V_{R}T_{J} = 125 \ ^{\circ}C$	25	ПА
Junction Capacitance (per leg)	C _T	$@V_{_{R}} = 5V, T_{_{C}} = 25 \ ^{\circ}C, _{_{fSI}}G = 1MHz$	150	pF
Typical Series Inductance (per leg)	Ls	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 μs , Duty Cycle <2%

Thermal-Mechanical Specifications

Parameters	Symbol	Test Conditions	Мах	Unit	
Max. Junction Temperature	T		-55 to +150	°C	
Max. Storage Temperature	T _{stg}		-55 to +150	°C	
Maximum Thermal Resistance Junction to Case (per leg)	P		3.5	°C/W	
Maximum Thermal Resistance Junction to Case (per package)	– R _{thJC}	DC operation	2.0	0,00	
Maximum Thermal Resistance, Case to Heat Sink	R _{thCS}	Mounting surface, smooth and greased	1.0	°C/W	
Approximate Weight	wt		0.39	g	
Case Style	DPAK(TO-252)				

Figure 1: Typical Forward Characteristics



Figure 3: Typical Junction Capacitance



Figure 2: Typical Reverse Characteristics





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

Dimensions-DPAK(TO-252)



Symbol	Min.	Тур.	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	-	
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		
øP		1.2		
θ	0°	-	8°	
Ə1	5°	7°	9°	
02	5°	7°	9°	

Carrier Tape & Reel Specification



Symbol	Millimeters		
	Min	Мах	
Α	6.80	7.00	
В	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	
Р	7.90	8.10	
P1	1.90	2.10	
w	15.50	16.50	

Part Numbering and Marking System

MBR

D 10

200

СТ

LF

YΥ

L

WW



- = Device Type
- = Package type
- = Forward Current (10A)
- = Reverse Voltage (200V)
- = Configuration = Littelfuse
- = Year
- = Week
- = Lot Number

Packing Options

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

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