Littelfuse
Expertise Applied | Answers Delivered

Schottky Barrier Rectifier

MBRD10200CT 2x 5A, 200V, TO-252 Common Cathode

MBRD10200CT

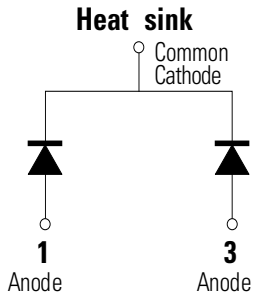
RoHS

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
- RoHS-compliant

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) 10 (total device)	A
Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3ms,half Sine pulse	128	A

Electrical Characteristics

Parameters	Symbol	Test Conditions	Max	Unit
Forward Voltage Drop (per leg) *	V_{F1}	@ 5A, Pulse, T_{VJ} = 25°C	0.9	V
	V_{F2}	@ 5A, Pulse, T_{VJ} = 125°C	0.74	
Reverse Current (per leg) *	I_{R1}	@V_R = rated V_R T_{VJ} = 25°C	1.0	mA
	I_{R2}	@V_R = rated V_R T_{VJ} = 125°C	25	
Junction Capacitance (per leg)	C_T	@V_R = 5V, T_C = 25°C, f_{SIG} = 1 MHz	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 < 300µs, Duty Cycle <2%

Revised: 10/19/23

Schottky Barrier Rectifier

MBRD10200CT 2x 5A, 200V, 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	3.5	°C/W
Maximum Thermal Resistance Junction to Case (per package)			2.0	
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

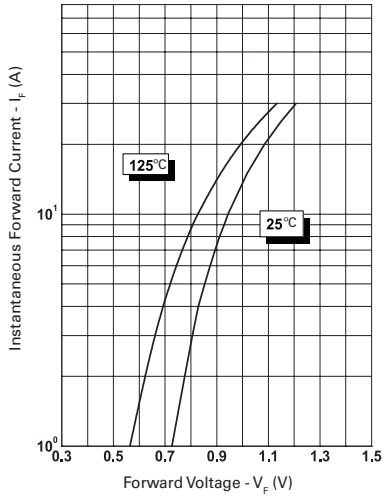


Figure 2: Typical Reverse Characteristics

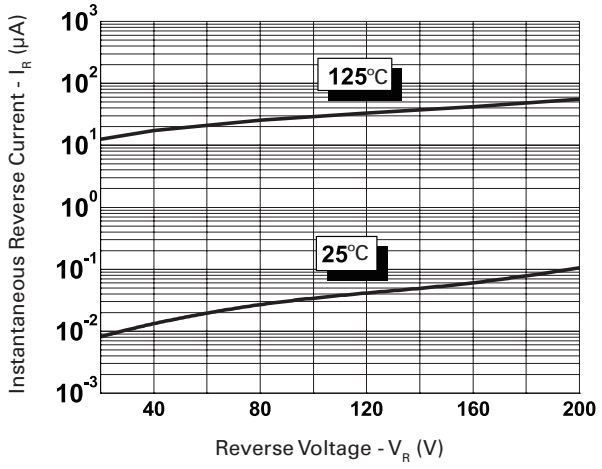
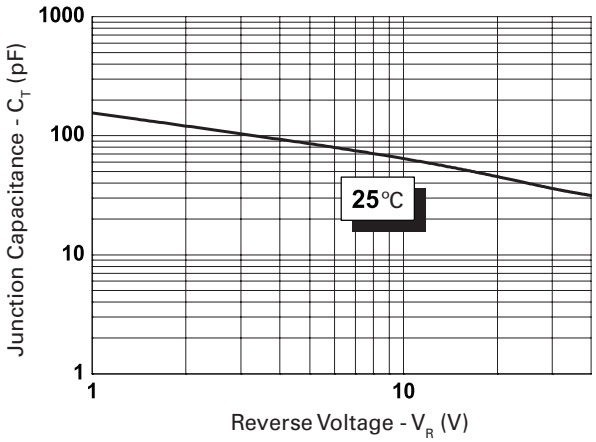


Figure 3: Typical Junction Capacitance



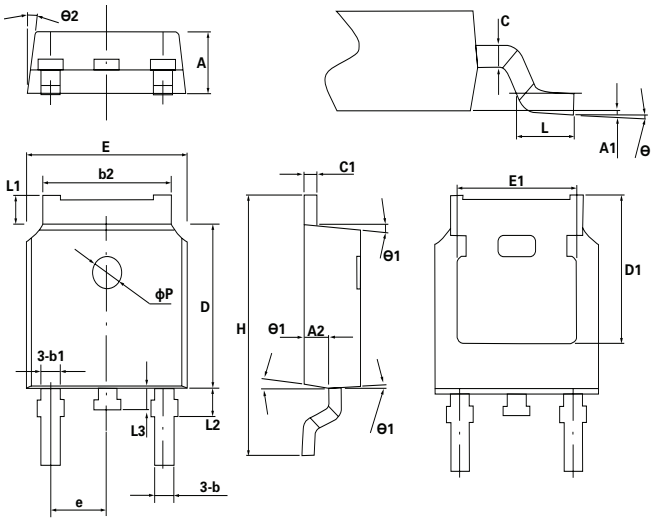
Revised: 10/19/23

Littelfuse
Expertise Applied | Answers Delivered

Schottky Barrier Rectifier

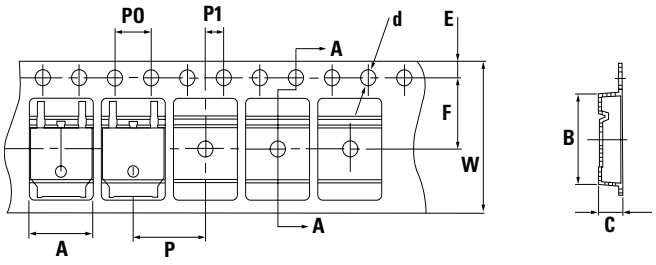
MBRD10200CT 2x 5A, 200V, TO-252 Common Cathode

Dimensions-DPAK(TO-252)



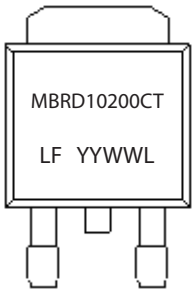
Symbol	Min.	Typ.	Max..
A	2.2	2.3	2.38
A1	0	-	0.1
A2	0.9	1.01	1.1
b	0.71	0.76	0.86
b1	-	0.76	-
b2	5.13	5.33	5.46
c	0.47	0.5	0.6
c1	0.47	0.5	0.6
D	6	6.1	6.2
D1	-	5.3	-
E	6.5	6.6	6.7
E1	-	4.8	-
e	2.286BSC		
H	9.7	10.1	10.4
L	1.4	1.5	1.7
L1	0.9	-	1.25
L2	-	1.05	-
L3	-	0.8	-
øP	-	1.2	-
Θ	0°	-	8°
Θ1	5°	7°	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)
200	= Reverse Voltage (200V)
CT	= Configuration
LF	= Littelfuse
YY	= Year
WW	= Week
L	= Lot Number

Packing Options

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