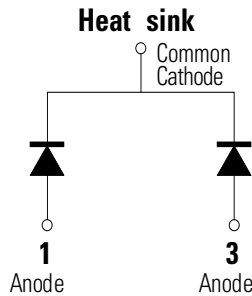


# MBRD10200CT



## 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
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- Common cathode configuration in compact surface mount TO-252 package
- Low forward voltage drop

## Applications

- Switching mode power supply
- DC/DC converters
- Free-wheeling diodes
- 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 @ $T_C = 105^\circ\text{C}$ , 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

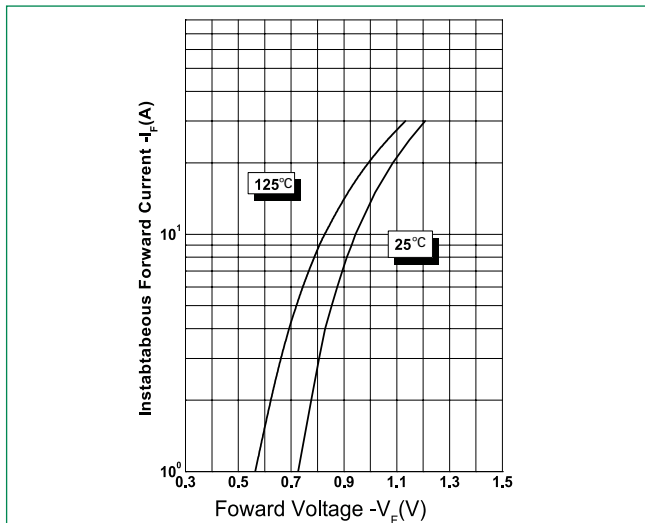
Parameters	Symbol	Test Conditions	Max	Unit
Forward Voltage Drop (per leg) *	$V_{F1}$	@ 5A, Pulse, $T_J = 25^\circ\text{C}$	0.9	V
	$V_{F2}$	@ 5A, Pulse, $T_J = 125^\circ\text{C}$	0.74	
Reverse Current (per leg) *	$I_{R1}$	@ $V_R = \text{rated } V_R, T_J = 25^\circ\text{C}$	1.0	mA
	$I_{R2}$	@ $V_R = \text{rated } V_R, T_J = 125^\circ\text{C}$	25	
Junction Capacitance (per leg)	$C_T$	@ $V_R = 5\text{V}, T_C = 25^\circ\text{C}, f_{SI} = 1\text{MHz}$	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/ $\mu\text{s}$

\* Pulse Width < 300 $\mu\text{s}$ , Duty Cycle < 2%

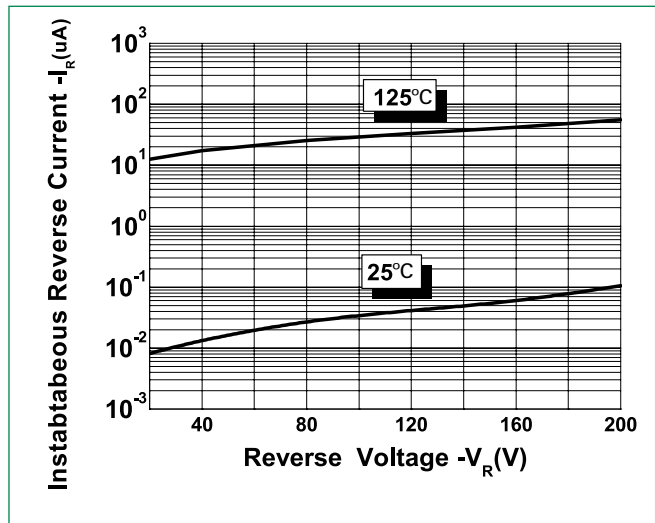
### Thermal-Mechanical Specifications

Parameters	Symbol	Test Conditions	Max	Unit
Max. Junction Temperature	$T_J$		-55 to +150	°C
Max. 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**

