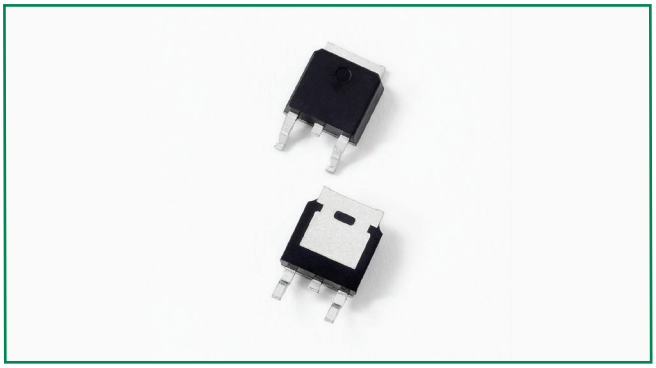
Littelfuse
Expertise Applied | Answers Delivered

Schottky Barrier Rectifier
MBRD10100CT 2x 5A, 100V, TO-252 Common Cathode

MBRD10100CT

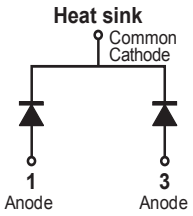
RoHS



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}	-	100	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	120	A

Electrical Characteristics

Parameters	Symbol	Test Conditions	Max	Unit
Forward Voltage Drop (per leg) *	V_{F1}	@ 5A, Pulse, T_J = 25 °C	0.85	V
	V_{F2}	@ 5A, Pulse, T_J = 125 °C	0.75	
Reverse Current (per leg) *	I_{R1}	@V_R = rated V_R T_J = 25 °C	1.0	mA
	I_{R2}	@V_R = rated V_R T_J = 125 °C	15	
Junction Capacitance (per leg)	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	300	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:11/09/15

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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	6.0	°C/W
Approximate Weight	wt		0.39	g
Case Style	DPAK(TO-252)			

Figure 1: Typical Forward Characteristics

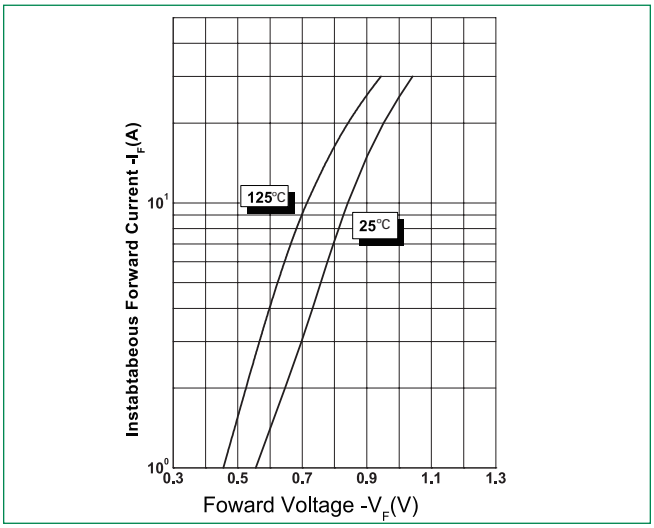


Figure 2: Typical Reverse Characteristics

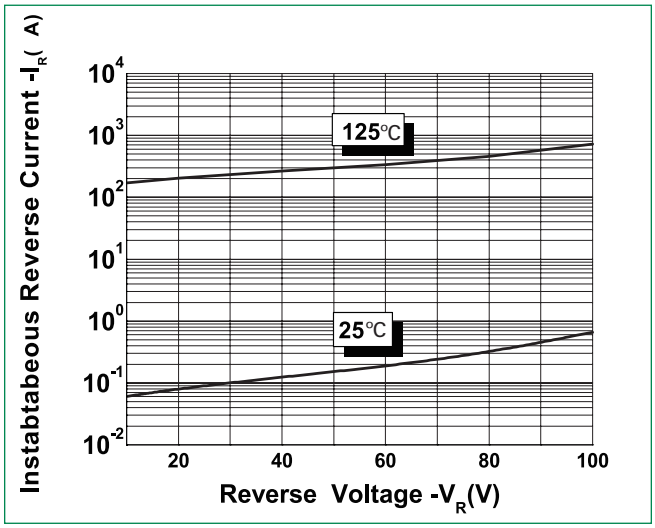
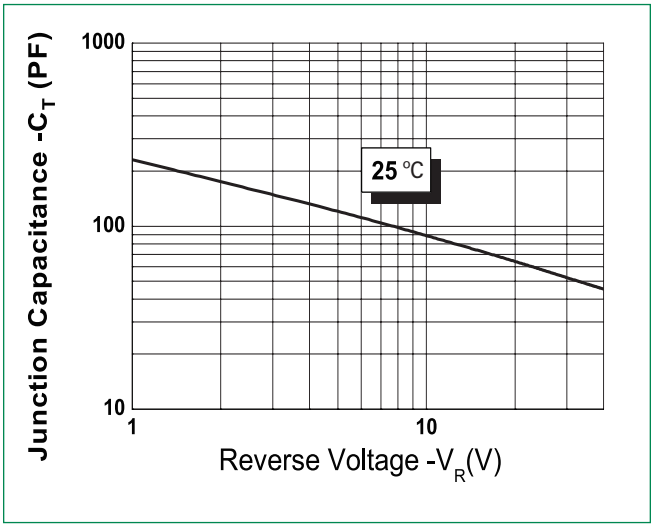


Figure 3: Typical Junction Capacitance



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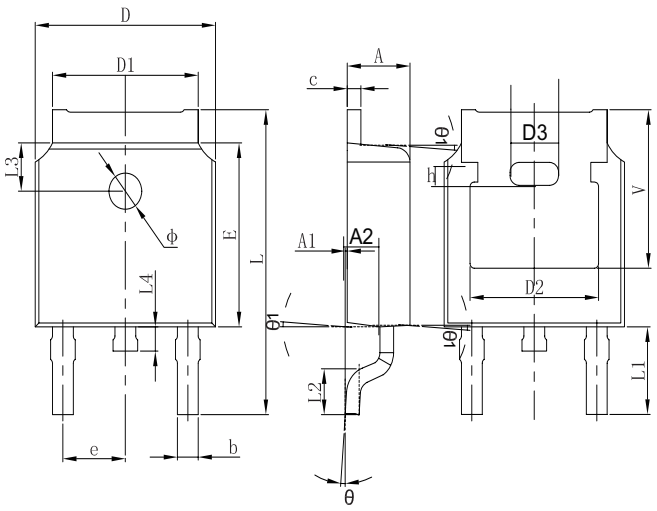
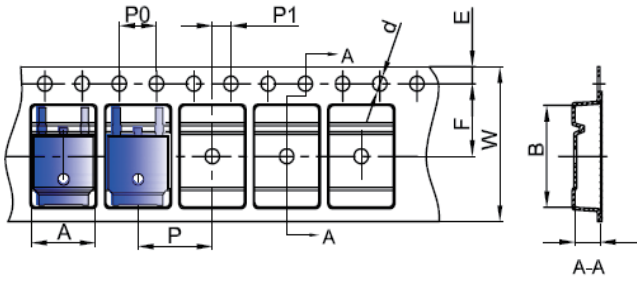
Dimensions-DPAK(TO-252)



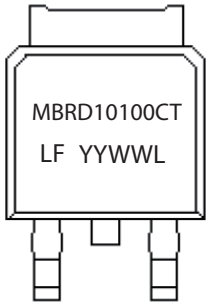
Symbol	Millimeters	
	Min	Max
A	2.20	2.38
A1	0	0.10
b	0.71	0.81
c	0.46	0.56
D	6.50	6.70
D1	5.13	5.46
D2	4.83 REF	
E	6.00	6.20
e	2.186	2.386
L	9.80	10.40
L1	2.90 REF	
L2	1.40	1.70
L3	1.60 REF	
L4	0.60	1.00
ø	1.10	1.30
θ	0°	8°
A2	0.91	1.11
V	5.35 REF	
D3	1.778 REF	
h	0.762 REF	
θ1	7°	

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	15.90	16.30

Part Numbering and Marking System



MBR	= Device Type
D	= Package type
10	= Forward Current (10A)
100	= Reverse Voltage (100V)
CT	= Configuration
LF	= Littelfuse
YY	= Year
WW	= Week
L	= Lot Number

Packing Options

Part Number	Marking	Packing Mode	M.O.Q
MBRD10100CT	MBRD10100CT	2500pcs / reel	2500

Revised:11/09/15