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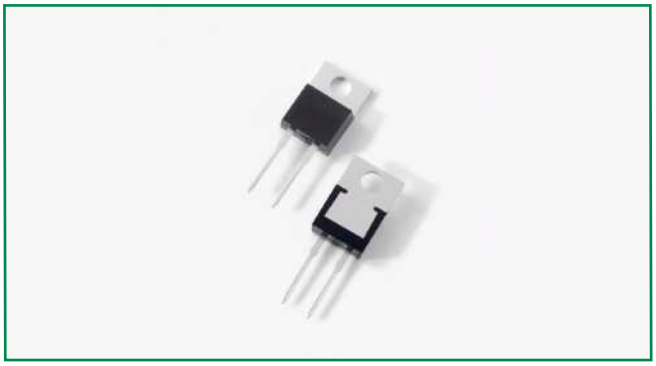
Schottky Barrier Rectifier
MBR1045 10A, 45V, TO-220AC

MBR1045

RoHS



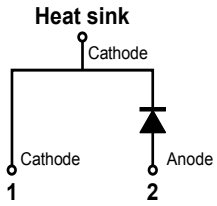
Description

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.

Features

- High junction temperature capability
- Guard ring for enhanced ruggedness and long term reliability
- Low forward voltage drop
- High frequency operation
- Single die in true two-leaded TO-220AC package (no center pin)

Pin out



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}	-	45	V
Average Forward Current (per leg)	$I_{F(AV)}$	50% duty cycle @T_C =115°C rectangular wave form	10	A
Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	150	A

Electrical Characteristics

Parameters	Symbol	Test Conditions	Max	Unit
Forward Voltage Drop	V_{F1}	@10A, Pulse, T_J = 25 °C	0.65	V
Reverse Current	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	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	400	pF
Voltage Rate of Change	dv/dt		10,000	V/µs

* Pulse Width < 300µs, Duty Cycle <2%

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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	R_{thJC}	DC operation	2.0	°C/W
Approximate Weight	wt		1.85	g
Case Style		TO-220AC		

Figure 1: Typical Forward Characteristics

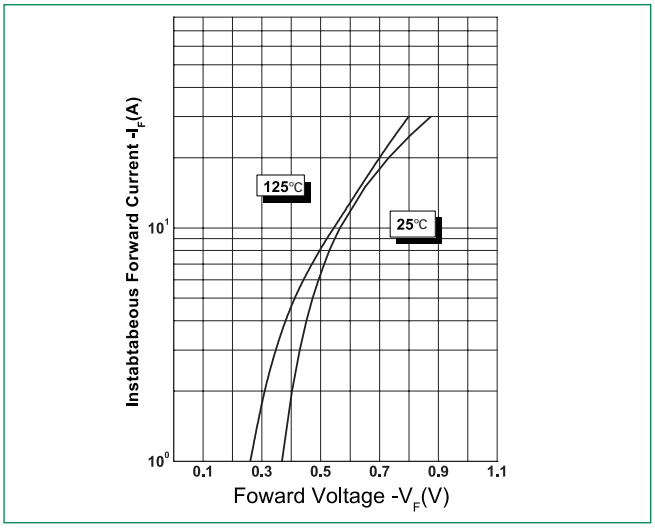


Figure 2: Typical Reverse Characteristics

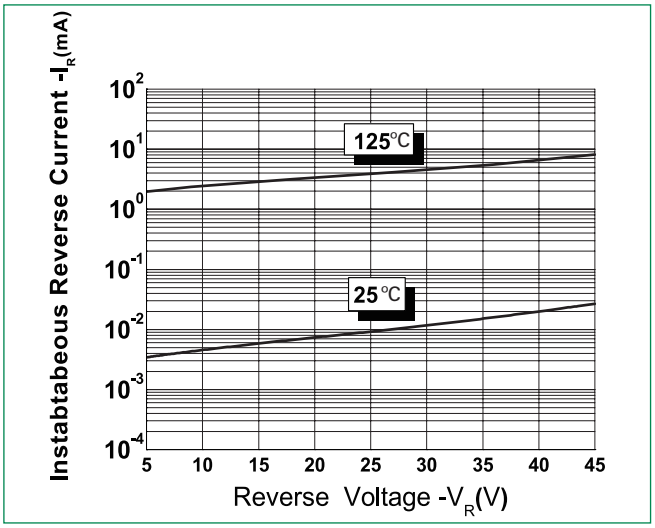
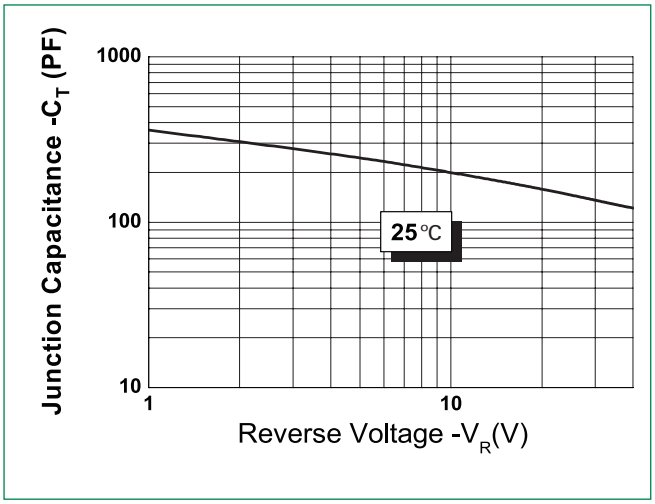


Figure 3: Typical Junction Capacitance



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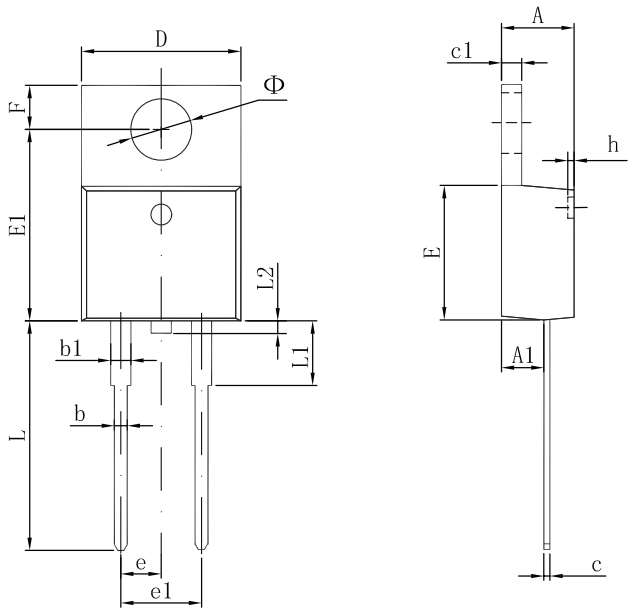
Dimensions- TO-220AC



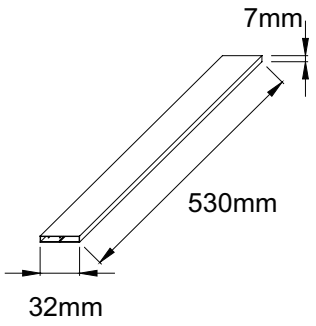
Symbol	Millimeters	
	Min	Max
A	3.56	4.83
A1	0.51	1.40
A2	2.03	2.92
b	0.38	1.02
b1	1.14	1.78
c	0.31*	0.61
D	14.22	16.51
D1	8.38	9.02
E	9.65	10.67
H1	5.84	6.86
L	12.70	14.73
L1	-	6.35
øP	3.53	4.09
Q	2.54	3.43

Footnote *: The spec. does not comply with JEDEC spec.

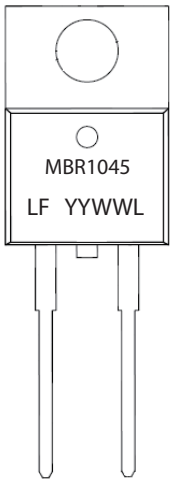
Packing Options

Part Number	Marking	Packing Mode	M.O.Q
MBR1045	MBR1045	50pcs / Tube	1000

Tube Specification



Part Numbering and Marking System



MBR = Device Type
10 = Forward Current (10A)
45 = Reverse Voltage (45V)
LF = Littelfuse
YY = Year
WW = Week
L = Lot Number

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