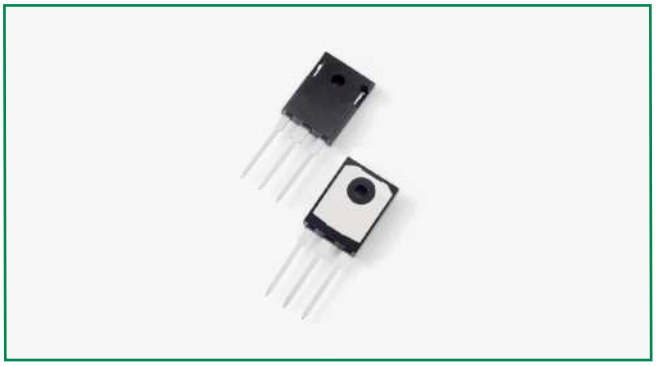
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Schottky Barrier Rectifier
MBR40100WT 2x 20A, 100V, TO-247AD Common Cathode

MBR40100WT

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.

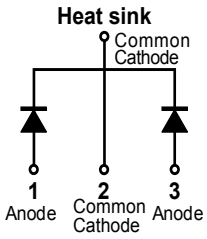
Features

- High junction temperature capability
- Guard ring for enhanced ruggedness and long term reliability
- Low forward voltage drop
- High frequency operation
- Common cathode configuration in TO-247AD package

Applications

- Switching mode power supply
- Free-wheeling diodes
- DC/DC converters
- Polarity protection diodes

Pin out



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 =135°C rectangular wave form	20 (per leg)	A
			40 (total device)	
Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	280	A

Electrical Characteristics

Parameters	Symbol	Test Conditions	Max	Unit
Forward Voltage Drop (per leg) *	V_{F1}	@ 20A, Pulse, T_J = 25 °C	0.88	V
	V_{F2}	@ 20A, Pulse, T_J = 125 °C	0.74	
Reverse Current (per leg) *	I_{R1}	@V_R = rated V_{DC} T_J = 25 °C	1.0	mA
	I_{R2}	@V_R = rated V_{DC} T_J = 125 °C	6.0	
Junction Capacitance (per leg)	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	400	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%

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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		6.7	g
Case Style		TO-247AD		

Figure 1: Typical Forward Characteristics

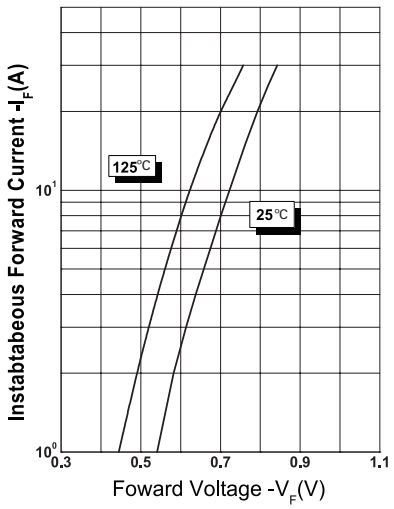


Figure 2: Typical Reverse Characteristics

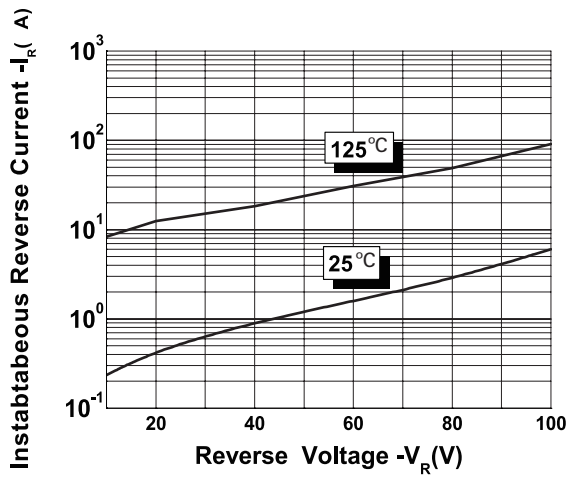
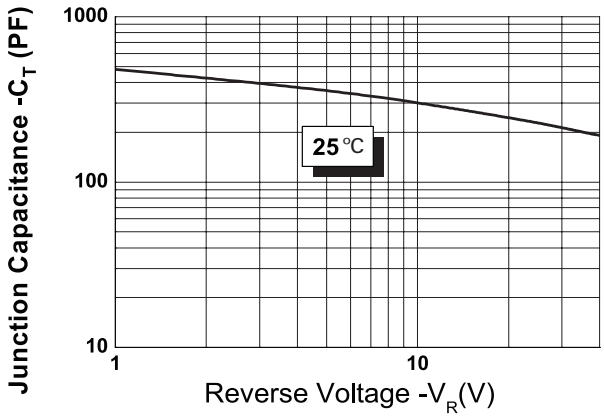


Figure 3: Typical Junction Capacitance

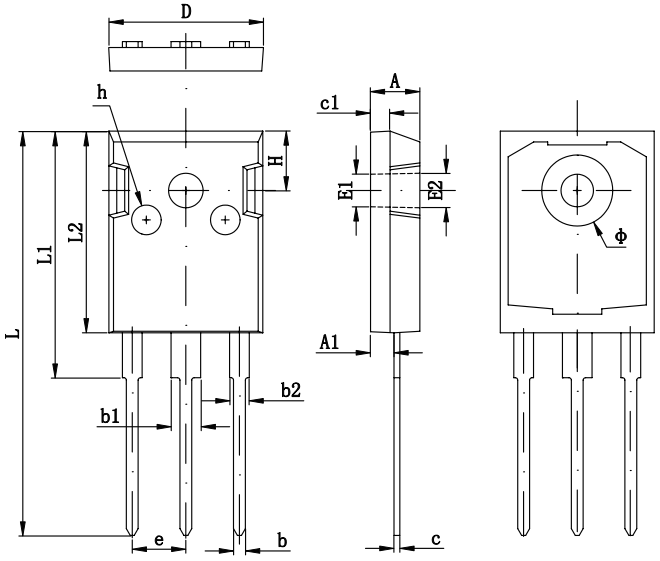


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Dimensions- TO-247AD



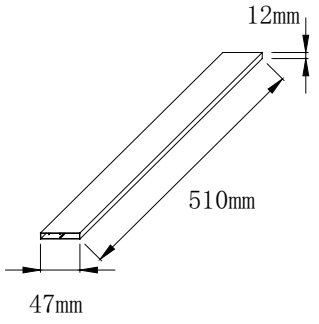
Symbol	Millimeters	
	Min	Max
A	4.70	5.31
A1	2.21	2.61*
A2	1.50	2.49
b	0.99	1.40
b1	1.65	2.39
b2	2.59	3.43
c	0.38	0.89
D	20.30*	21.46
D1	13.08	-
D2	0.51	1.35
E	14.80*	16.26
E1	13.46	-
E2	4.32	5.49
E3	1.45*	2.74
e	5.461 BSC	
L	19.42*	20.85*
L1	-	4.60*
P	3.35*	3.70*
P1	-	7.40*
Q	5.38	6.20
S	5.83*	6.25*

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

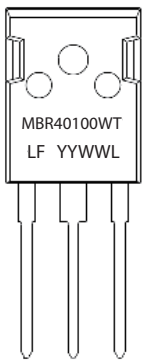
Packing Options

Part Number	Marking	Packing Mode	M.O.Q
MBR40100WT	MBR40100WT	30pcs / Tube	300

Tube Specification



Part Numbering and Marking System



MBR = Device Type
40 = Forward Current (40A)
100 = Reverse Voltage (100V)
WT = Configuration
LF = Littelfuse
YY = Year
WW = Week
L = Lot Number

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