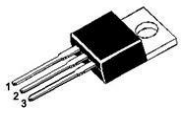
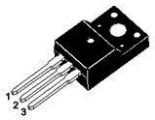
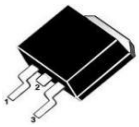
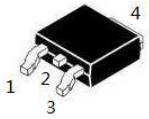
Schottky Barrier Rectifiers

Using the Schottky Barrier principle with a Refractory metal capable of high temperature operation metal. The proprietary barrier technology allows for reliable operation up to 150℃ junction temperature. Typical application are in switching Mode Power Supplies such as adaptors, charger, DC/DC converters and polarity protection diodes.

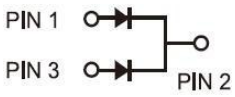

TO-220AB


TO-220F


TO-263



TO-252



Features

- Low Forward Voltage.
- Low Switching noise.
- High Current Capacity.
- Guarantee Reverse Avalanche.
- Guard-Ring for Stress Protection.
- Low Power Loss & High efficiency.
- 150℃ Operating Junction Temperature.
- Low Stored Charge Majority Carrier Conduction.
- Flammability Classification 94V-O.
- Lead free in compliance with EU RoHS 2011/65/EU directive.

Maximum Ratings (Per Leg) at Ta=25°C unless otherwise specified

Characteristics	Symbol	MBR10100	MBR10150	MBR10200	Unit
Maximum Repetitive Peak Reverse Voltage Working Peak Reverse Voltage Maximum DC Blocking Voltage	V_{RRM} V_{RWM} V_R	100	150	200	V
RMS Reverse Voltage	$V_{R(RMS)}$	70	105	140	V
Average Rectifier Forward Current (per diode) Total Device (Rated VR), T_C=125℃	I_O	5 10			A
Peak Forward Surge Current,8.3 ms Single Half Sine-wave	I_{FSM}	200	150	130	A
Operating and Storage Jemperature Temperature Range	T_J, T_{stg}	-40 to +150			°C
Typical Thermal Resistance junction to case (per device)	$R_{\theta j-c}$	3.2			°C/W

Electrical Characteristics (Per Leg) unless otherwise specified

Characteristics		Symbol	MBR10100		MBR10150		MBR10200		Unit
			Type	MAX	Type	MAX	Type	MAX	
Maximum Instantaneous Forward Voltage (per diode) (IF =5.0 Amp TC = 25℃)		V_F	0.76	0.85	0.84	0.88	0.85	0.92	V
Maximum Instantaneous Reverse Current	TA=25°C	I_R	1	50	1	50	1	50	μA
	TA=125°C		0.6	30	1	30	0.5	30	μA

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

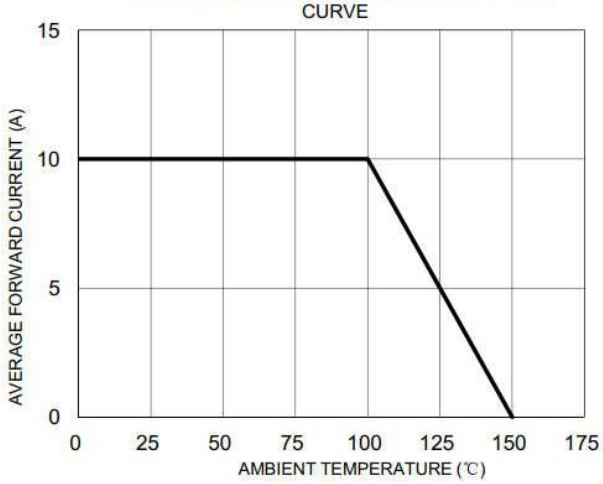


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

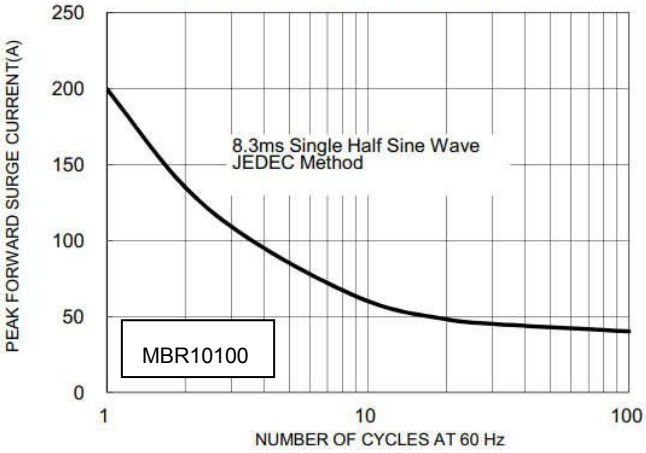


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

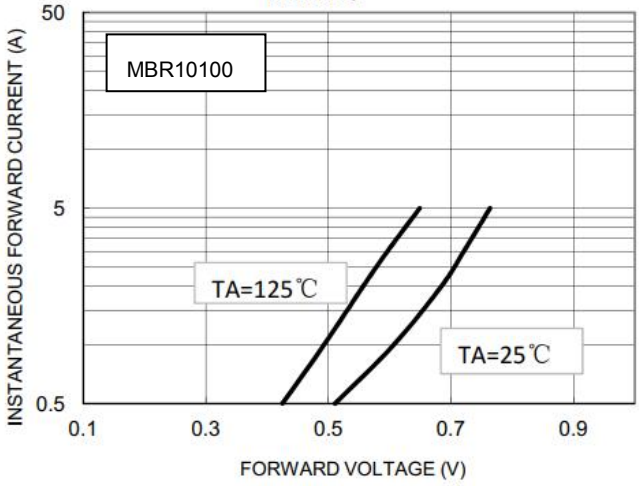
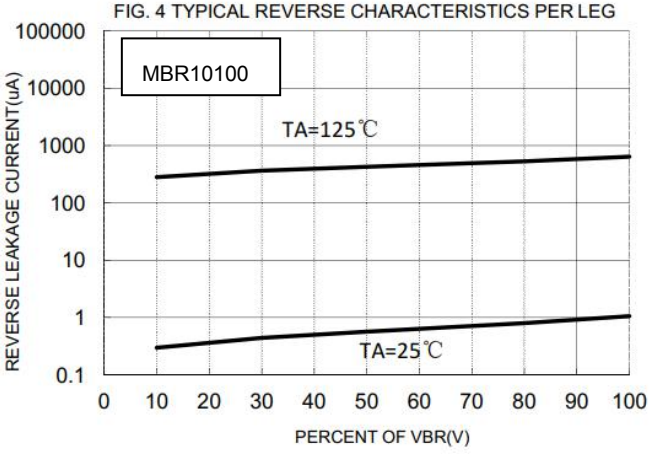


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



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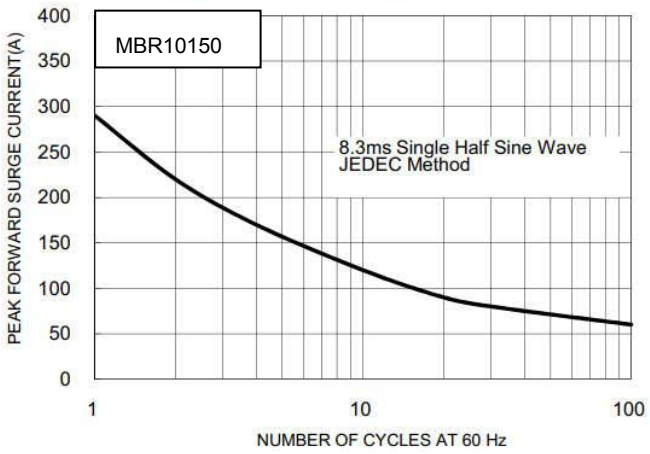

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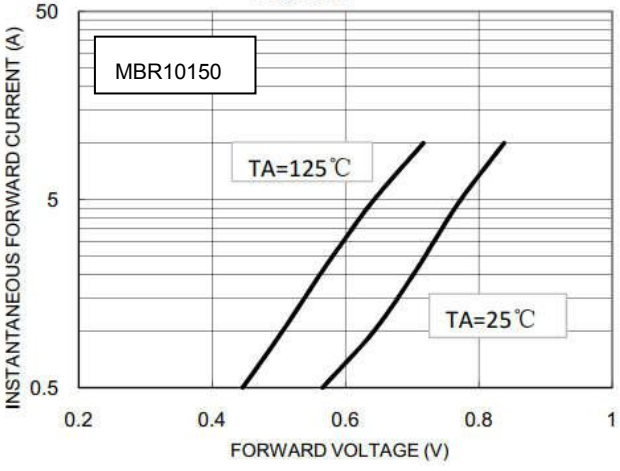

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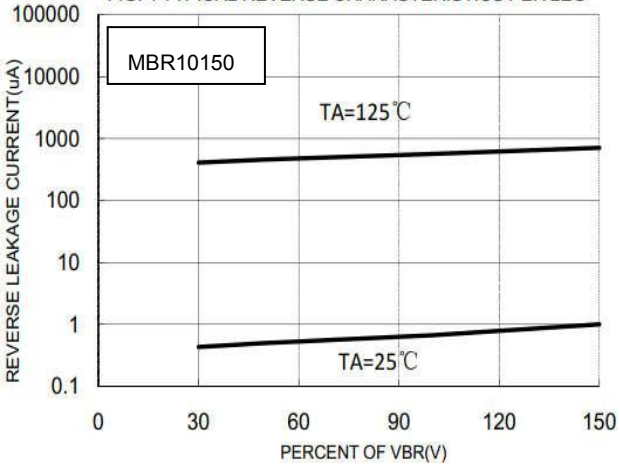

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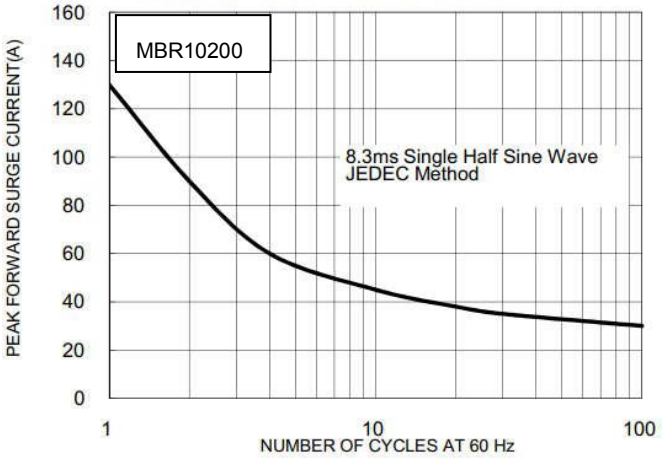

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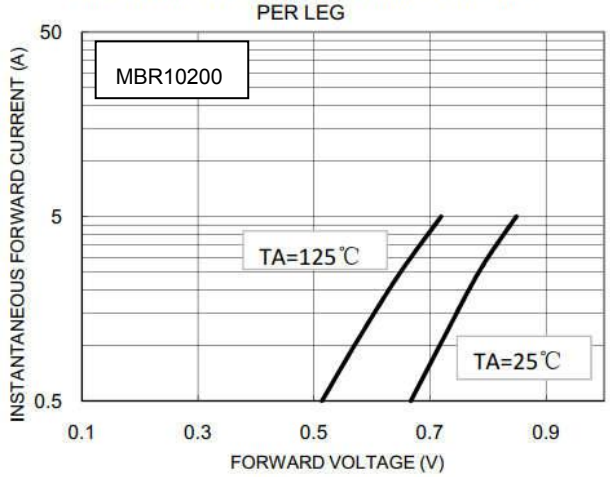

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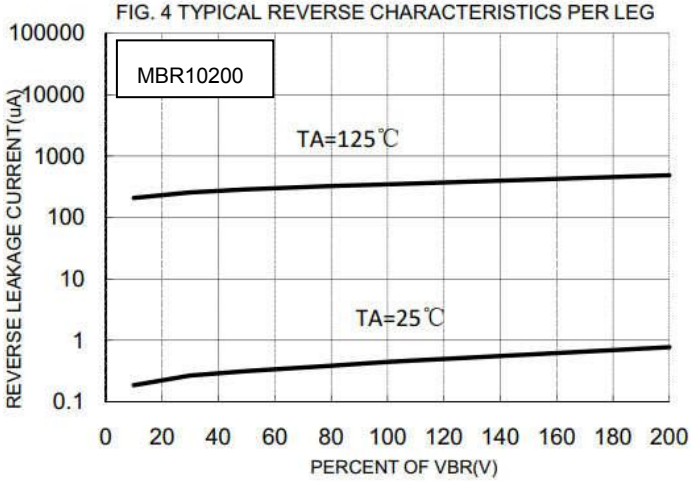


Marking on the body

Diode tube naming convention

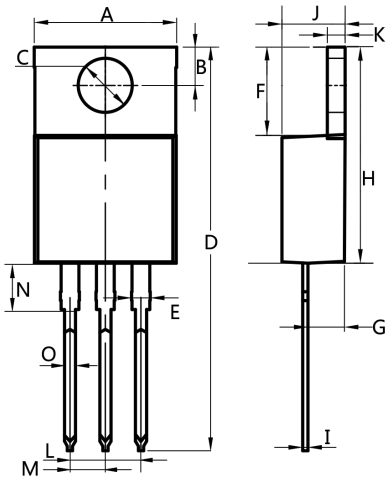
MBR xx xxx L C T

6 5 4 3 2 1

1: MBR: Schottky MUR: Recovery
2: Mean forward current(A)
3: Schottky: Maximum withstand voltage (V)
Recovery: Maximum withstand voltage *10(V)
4：Blank: Regular product
L: Low Vf products
S: Ultra-low Vf products
5: Package
FC：TO-220F C：TO-220AB B: TO-263
D：TO-252 U：TO-251 W：TO-3P/TO-247
6:Series no. :
T: Regular products B: big chips

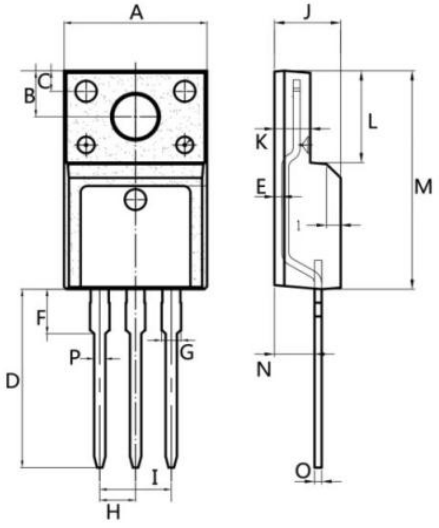
Package Outline Dimensions millimeters

TO-220AB



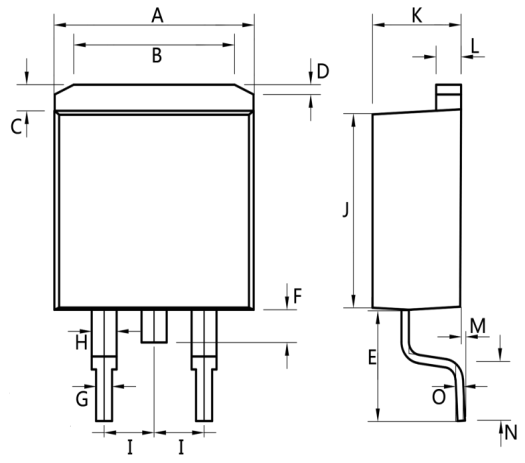
DIM	Min.	Max.
A	10.15	10.35
B	2.65	3.0
C	3.7	3.9
D	28.5	29
E	1.3	1.45
F	6.35	6.55
G	2.9	3.3
H	15.0	16.
I	0.38	0.4
J	4.45	4.55
K	1.25	1.35
L	Typ 5.08	
M	Typ 2.54	
N	3.1	3.3
O	0.76	0.84
All Dimensions in millimeter		

TO-220F



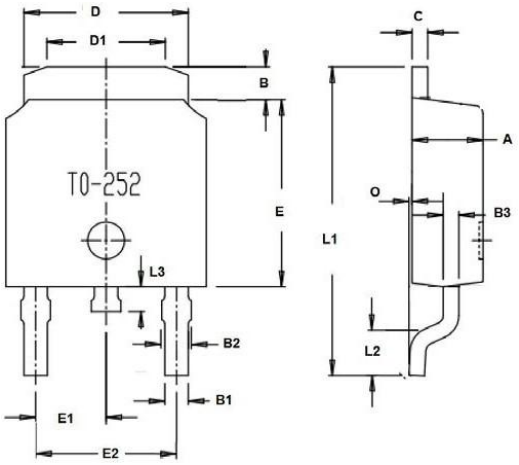
DIM	Min.	Max.
A	9.9	10.3
B	2.9	3.5
C	1.15	1.45
D	12.75	13.45
E	0.55	0.75
F	3.1	3.5
G	1.25	1.45
H	Typ 2.54	
I	Typ 5.08	
J	4.55	4.75
K	2.4	2.7
L	6.35	6.75
M	15.0	16.0
N	2.75	3.15
O	0.45	0.60
P	0.7	0.9
All Dimensions in millimeter		

TO-263



DIM	Min.	Max.
A	10.1	10.2
B	7.4	7.6
C	1.3	1.5
D	0.55	0.75
E	5.0	6.0
F	1.4	1.6
G	0.78	0.86
H	1.2	1.3
I	Typ 2.54	
J	8.4	8.6
K	4.45	4.55
L	1.25	1.35
M	0.02	0.1
N	2.4	2.8
O	0.36	0.4
All Dimensions in millimeter		

TO-252



DIM	Min.	Max.
A	2.1	2.5
B	0.95	1.55
C	0.4	0.6
D	6.4	6.7
D1	5.1	5.8
E	5.8	6.4
E1	Typ 2.3	
E2	Typ 4.6	
B1	0.6	0.8
B2	0.75	0.95
O	--	0.15
L1	9.0	11.0
L2	1.3	1.7
L3	0.7	0.95
All Dimensions in millimeter		

Statement:

- We reserve the right to change the manual without prior notice! Customers should obtain the latest version of the information before placing an order, and verify that the relevant information is complete and up-to-date.
- Any semiconductor product has the possibility of failure or failure under specific conditions. The buyer has the responsibility to comply with safety standards and take safety measures when using Silan product for system design and complete machine manufacturing, so as to avoid the occurrence of personal injury or property loss caused by potential failure risk!
- Product promotion will never end, our company will wholeheartedly provide customers with more excellent products!