

MBR20100xx

Schottky Barrier Rectifier

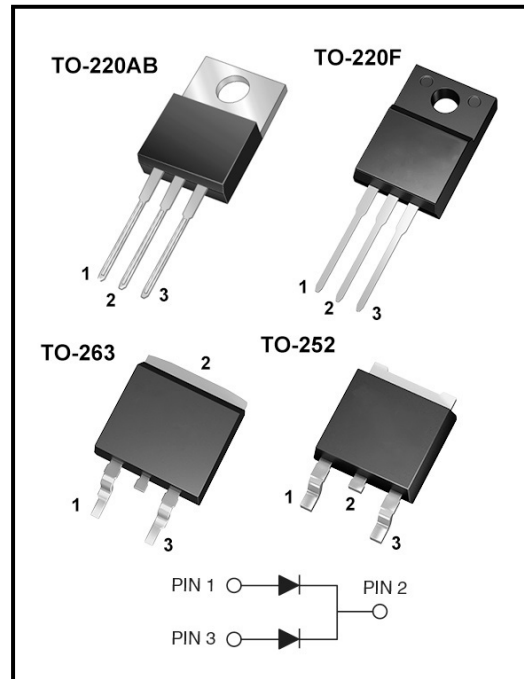
Features

- Low forward voltage drop
- High current capability
- High forward surge capability
- Low power losses, High efficiency
- Guarding for over voltage protection

Applications

Low VF Schottky barrier rectifier are designed for high frequency, miniature switched mode power supplies such as adapters ,lighting and on-board DC/DC conerters.

Package



Mechanical Data

- Molded Plastic: UL Flammability Classification Rating 94V-0
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Solder bath temperature 275°C maximum, 10s per JESD 22-B106
- Case: Molded plastic
- Polarity: As marked
- Mounting Position: Any

Ordering information

Order code	Package	Base qty	Delivery mode
MBR20100CT	TO-220AB	50pcs/tube	1000pcs/box 5000pcs/carton
MBR20100FCT	TO-220F	50pcs/tube	1000pcs/box 5000pcs/carton
MBR20100BCT	TO-263	50pcs/tube	1000pcs/box 5000pcs/carton
MBR20100BCT-R	TO-263	800pcs/reel	800pcs/box 4000pcs/carton
MBR20100DCT	TO-252	2500pcs/reel	2500pcs/box 12500pcs/carton



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Maximum Ratings (@T_A=25°C unless otherwise noted)

Symbol	Parameters	Value	Unit	
V _{RRM}	Maximum Repetitive Peak Reverse Voltage	100	V	
V _{RWM}	Working Peak Reverse Voltage	100	V	
V _{DC}	Maximum DC Blocking Voltage	100	V	
I _O	Maximum Average Forward Rectified Current	Per Leg	10	A
		Total	20	
I _{FSM}	Non-repetitive Peak Forward Surge Current 8.3ms Single half-sine-wave	340	A	
R _{θJC}	Typical Thermal Resistance ¹	TO-220AB,TO-263,TO-252	2	°C/W
		TO-220F	4	
T _J	Operating Junction Temperature Range	150	°C	
T _{STG}	Storage Temperature Range	-55 to +150	°C	

Note1:Therma lresistance from Junction to case per leg mounted on he atsink.

Electrical Characteristics (@T_A=25°C unless otherwise noted)

Symbol	Parameters	Text Condition	Typ	Max	Unit	
V _F	Forward Voltage Drop ²	at I _F =3A	T _A = 25°C	0.63	–	V
			T _A = 125°C	0.51	–	
		at I _F =5A	T _A = 25°C	0.69	–	
			T _A = 125°C	0.56	–	
		at I _F =10A	T _A = 25°C	0.76	0.82	
			T _A = 125°C	0.63	–	
I _R	Maximum Reverse Current	V _R =100V	T _A = 25°C	3	10	uA
			T _A = 125°C	2	–	mA

Note2:Pulsetest:300 μs pulse width,1%duty cycle.



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Typical Performance Characteristics ($T_J = 25^\circ\text{C}$, unless otherwise noted)

Figure 1: Max. Forward Current Derating Curve

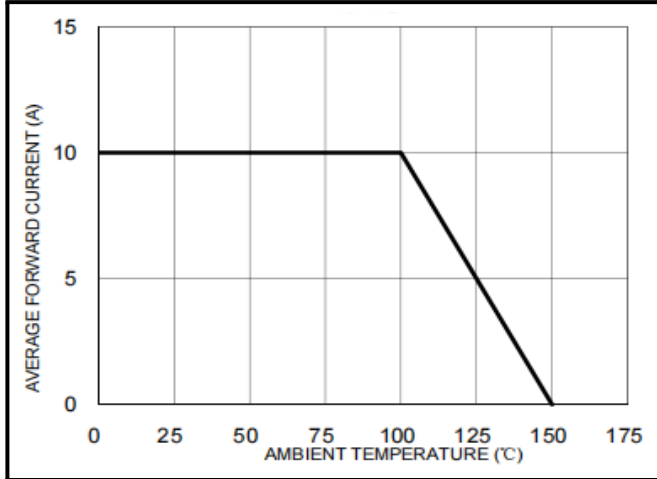


Figure 2: Max. Non-Repetitive Forward Surge Current

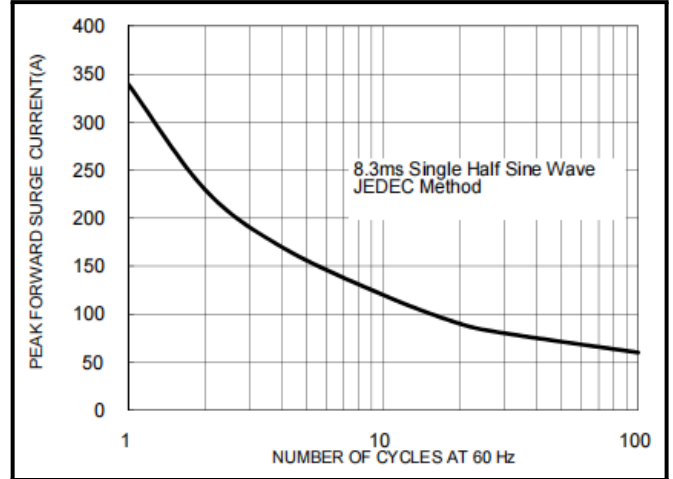


Figure 3: Typical Forward Characteristics

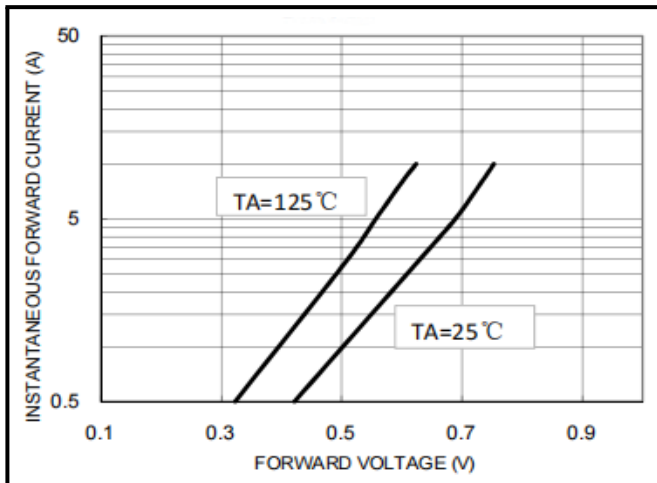
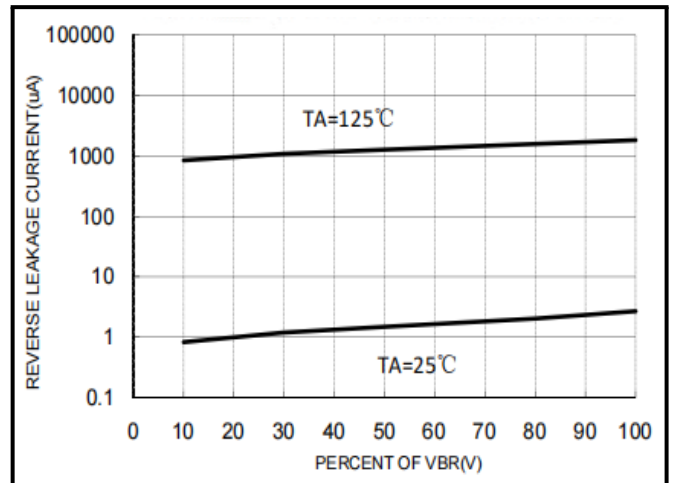


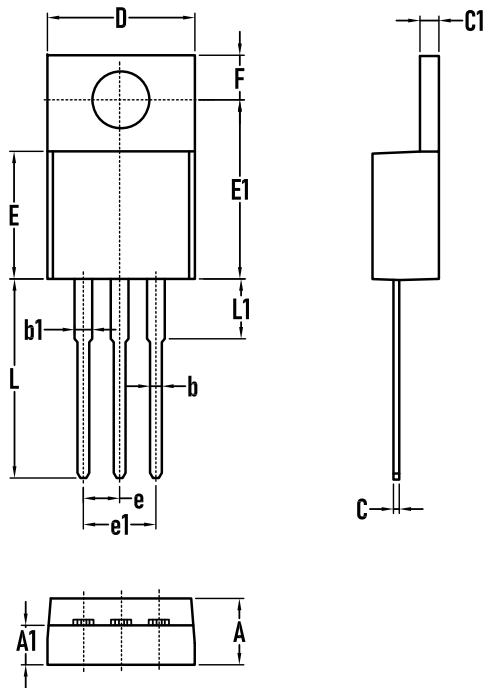
Figure 4: Typical Reverse Characteristics



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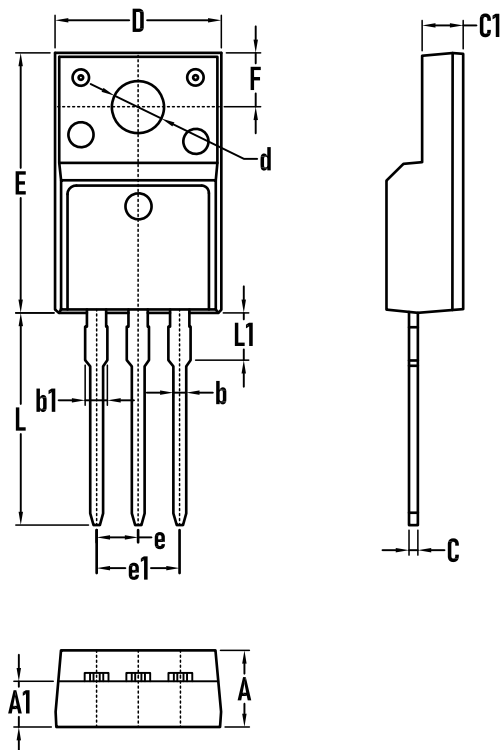
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Packaging Tape - TO-220AB



Symbol	Millimeters		
	MIN.	TYP.	MAX.
A	4.30	4.50	4.70
A1	2.52	2.67	2.82
b	0.71	0.81	0.91
b1	1.17	1.27	1.37
C	0.30	0.40	0.50
C1	1.17	1.27	1.37
D	9.90	10.00	10.20
E	8.50	8.70	8.90
E1	12.00	12.25	12.50
e	2.44	2.54	2.64
e1	4.88	5.08	5.26
F	2.60	2.75	2.80
L	13.00	13.50	14.00
L1	3.80	4.00	4.20

Packaging Tape - TO-220F



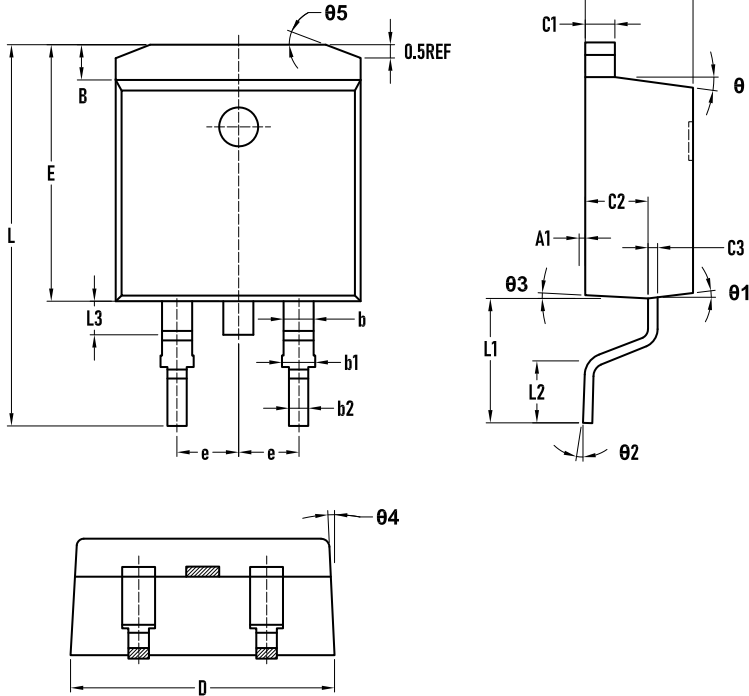
Symbol	Millimeters		
	MIN.	TYP.	MAX.
A	4.30	4.60	4.80
A1	2.70	2.80	2.90
b	0.70	0.80	0.90
b1	1.20	1.30	1.40
C	0.40	0.50	0.60
C1	2.40	2.60	2.80
D	9.90	10.00	10.20
E	15.20	15.60	16.00
e	2.44	2.54	2.64
e1	4.88	5.08	5.26
F	3.00	3.30	3.60
L	12.70	13.20	13.70
L1	2.70	2.90	3.10
d	3.10	3.20	3.30



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Packaging Tape - TO-263



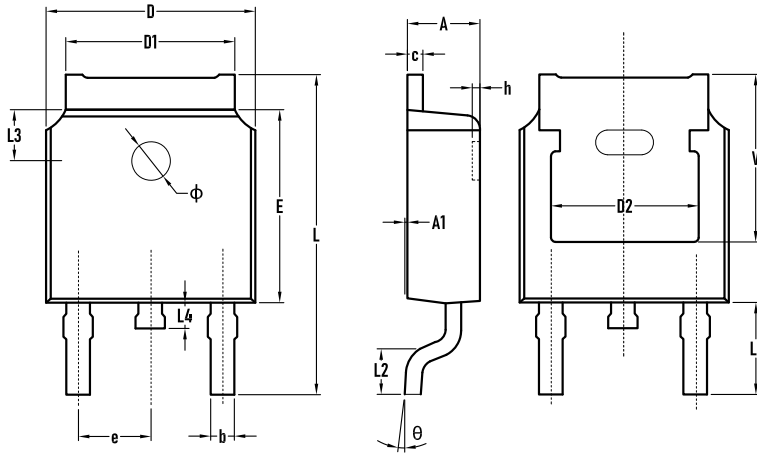
Symbol	Millimeters		
	MIN.	TYP.	MAX.
A1	0	–	0.25
B	1.32	1.37	1.42
b	–	1.27	–
b1	1.30	1.40	1.45
b2	–	0.81	–
C	4.52	4.57	4.62
C1	–	1.27	–
C2	2.64	2.69	2.74
C3	–	0.38	–
D	10.11	10.16	10.21
E	10.02	10.07	10.12
e	–	2.54	–0
L	14.65	14.95	15.25
L1	4.60	4.90	5.20
L2	2.25	2.45	2.65
L3	1.10	1.30	1.50
Θ	6°	7°	8°
Θ1	6°	7°	8°
Θ2	0°	–	8°
Θ3	2°	3°	4°
Θ4	2°	3°	4°
Θ5	–	–	20°



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Packaging Tape - TO-252



Symbol	Millimeters		Inches	
	MIN.	MAX.	MIN.	MAX.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.660	0.860	0.026	0.034
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 TYP.		0.190 TYP.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.800	10.400	0.386	0.409
L1	2.900 TYP.		0.114 TYP.	
L2	1.400	1.700	0.055	0.067
L3	1.600 TYP.		0.063 TYP.	
L4	0.600	1.000	0.024	0.039
phi	1.100	1.300	0.043	0.051
theta	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.350 TYP.		0.211 TYP.	

