BORN SEMICONDUCTOR

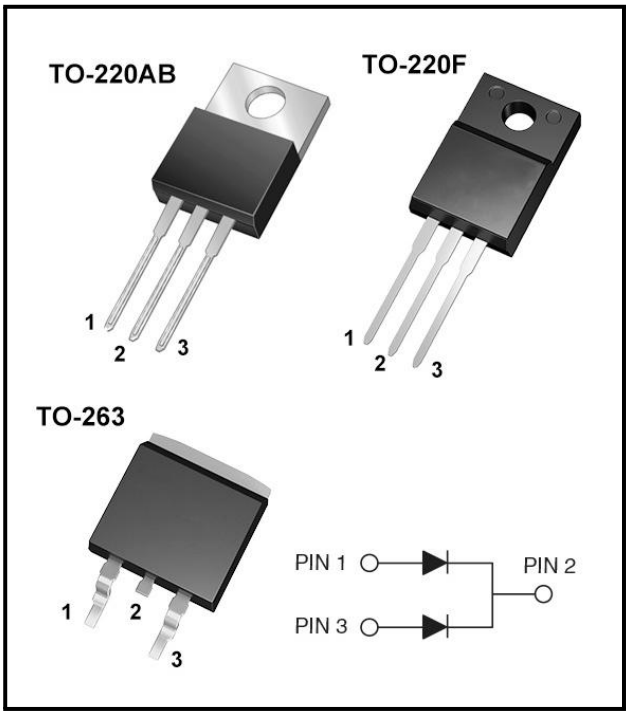
MBR30200xx

Schottky Barrier Rectifier

Features

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

Package



Applications

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

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
MBR30200CT	TO-220AB	50pcs/tube	1000pcs/box 5000pcs/carton
MBR30200FCT	TO-220F	50pcs/tube	1000pcs/box 5000pcs/carton
MBR30200BCT	TO-263	50pcs/tube	1000pcs/box 5000pcs/carton
MBR30200BCT-R	TO-263	800pcs/reel	800pcs/box 4000pcs/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		200	V
V_{RWM}	Working Peak Reverse Voltage		200	V
V_{DC}	Maximum DC Blocking Voltage		200	V
I_O	Maximum Average Forward Rectified Current	Per Leg	15	A
		Total	30	
I_{FSM}	Non-repetitive Peak Forward Surge Current 8.3ms Single half-sine-wave		320	A
$R_{\theta JC}$	Typical Thermal Resistance[1]	TO-220AB,TO-263	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	0.71	–	V
			T_A = 125°C	0.56	–	
		at I_F=5A	T_A = 25°C	0.75	–	
			T_A = 125°C	0.61	–	
		at I_F=15A	T_A = 25°C	0.84	0.90	
			T_A = 125°C	0.72	–	
I_R	Maximum Reverse Current	V_R=200V	T_A = 25°C	1.5	10	uA
			T_A = 125°C	1.5	–	mA

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

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Typical Performance Characteristics(T_J = 25 °C, unless otherwise noted)

Figure 1: Max. Forward Current Derating Curve

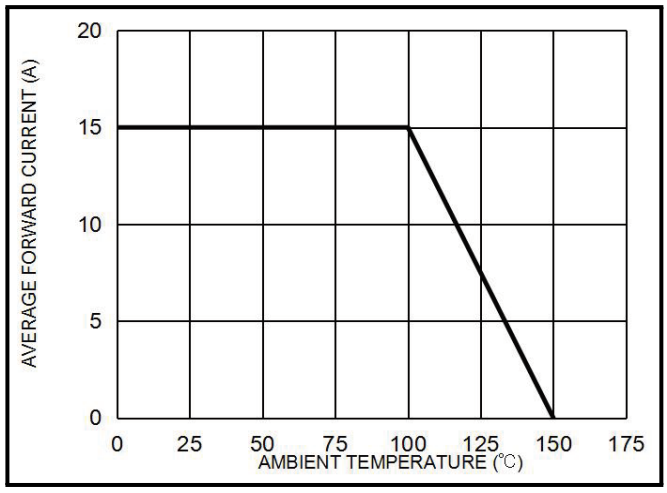


Figure 2: Max. Non-Repetitive Foward Surge Current

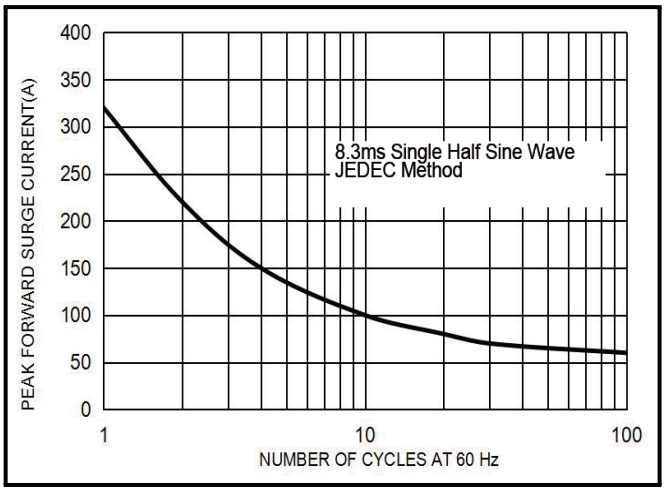


Figure 3: Typical Foward Characteristics

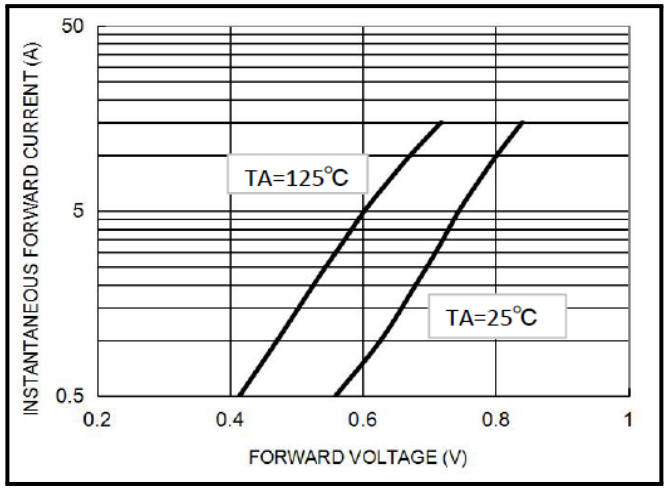
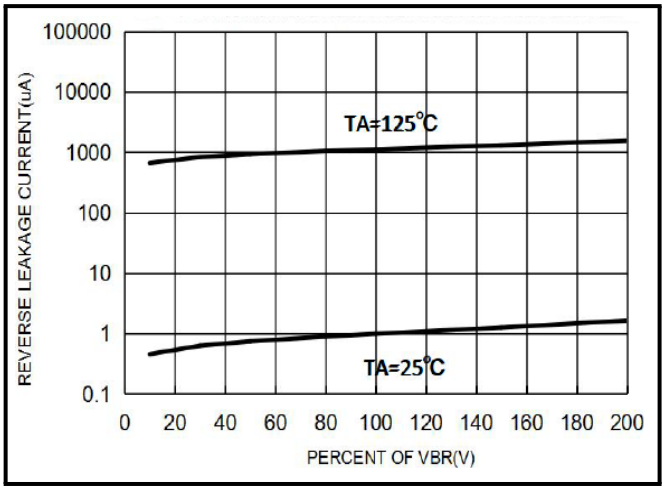


Figure 4: Typical Reverse Characteristics



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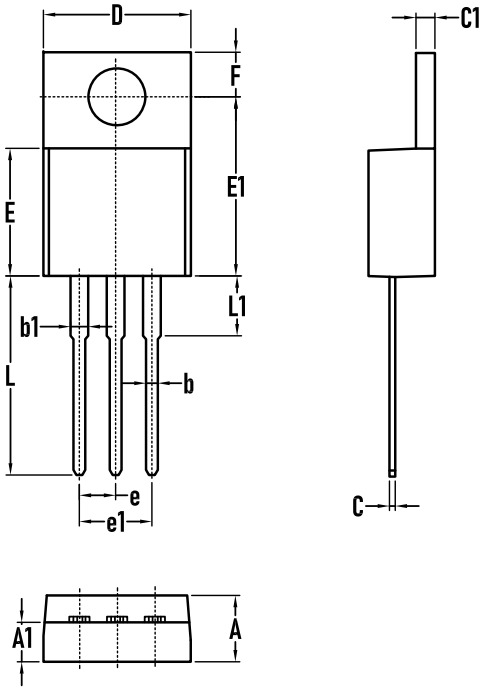
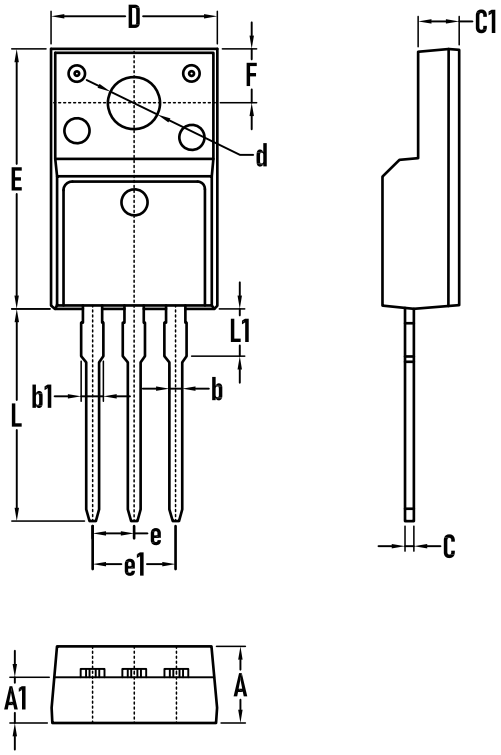
Packaging Tape - TO-220AB



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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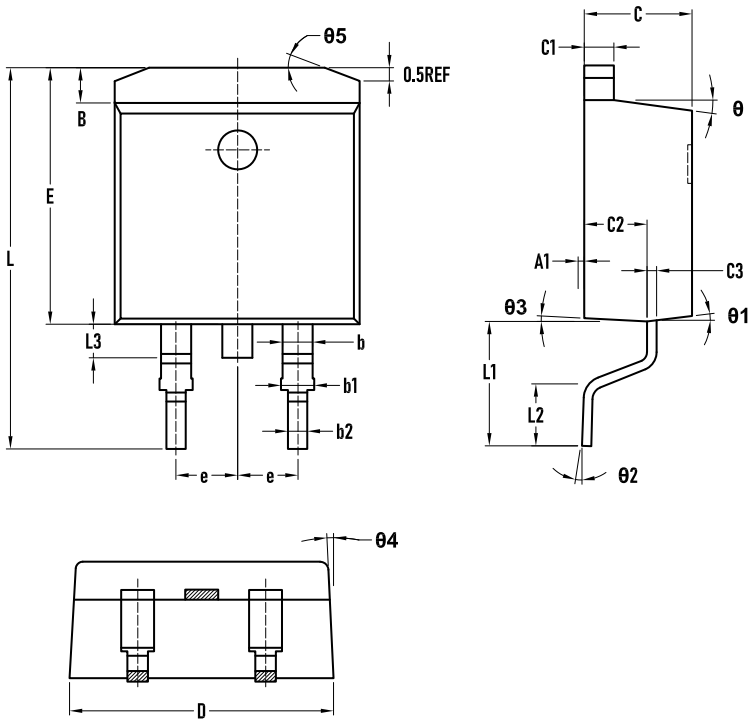
Packaging Tape - TO-263



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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