Schottky Barrier Rectifier — MBR1090

FEATURES

- Guard -Ring for Stress Protection
- Low Forward Voltage
- Low Power Loss/High Efficiency
- High Surge Capacity
- Low Stored Charge Majority Carrier Conduction
- Pb-Free Packages are Available
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

PIN: 1 Cathode
3 Anode
TO-220 Package

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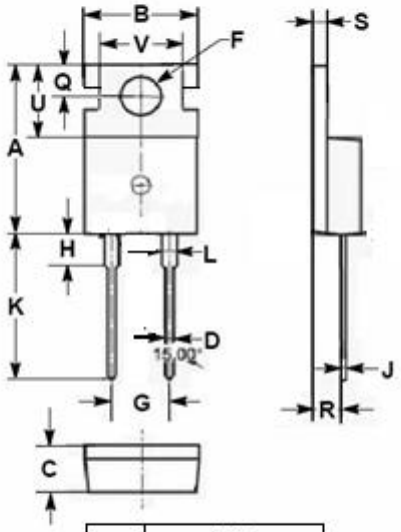
MECHANICAL CHARACTERISTICS

- Case: Epoxy, Molded
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260℃ Max. for 10 Seconds



DIM	mm MIN	mm MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

ABSOLUTE MAXIMUM RATINGS(Ta=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{RRM} V_{RWM} V_R	Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	90	V
$I_{F(AV)}$	Average Rectified Forward Current (Rated V_R) T_C= 133℃	10	A
I_{FRM}	Peak Repetitive Forward Current (Rated V_R,Square Wave,20kHz) T_C= 133℃	20	A
I_{FSM}	Nonrepetitive Peak Surge Current (Surge applied at rated load conditions half-wave, single phase, 60Hz)	150	A
T_J	Junction Temperature	-65~175	℃
T_{stg}	Storage Temperature Range	-65~175	℃
dv/dt	Voltage Rate of Change (Rated V_R)	10,000	V/μs

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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	2.0	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance,Junction to Ambient	60	℃/W

ELECTRICAL CHARACTERISTICS (Pulse Test: Pulse Width=300μs,Duty Cycle≤2%)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V_F	Maximum Instantaneous Forward Voltage	I_F= 10A ; T_C= 25℃ I_F= 10A ; T_C= 125℃ I_F= 20A ; T_C= 25℃ I_F= 20A ; T_C= 125℃	0.8 0.7 0.95 0.85	V
I_R	Maximum Instantaneous Reverse Current	Rated DC Voltage, T_C= 25℃ Rated DC Voltage, T_C= 125℃	0.1 6.0	mA