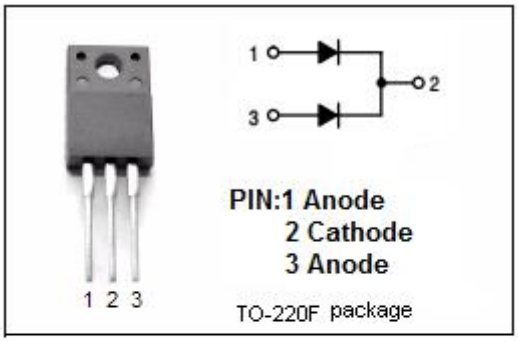
Schottky Barrier Rectifier

MBR40120

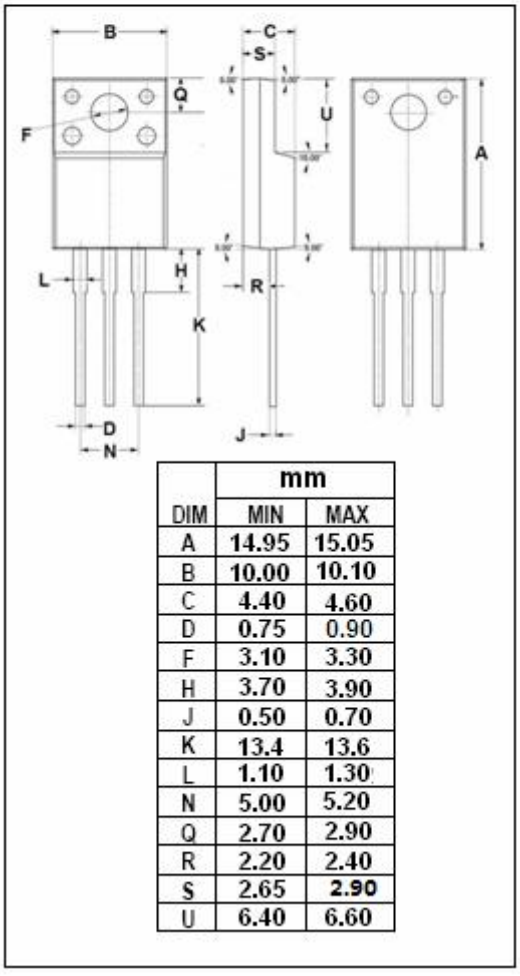


FEATURES

- Low forward voltage
- High surge capacity
- Low Power Loss,High Efficiency
- Guard ring for stress protection
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Power supply-output rectification
- Power management
- Instrumentation



DIM	mm MIN	mm MAX
A	14.95	15.05
B	10.00	10.10
C	4.40	4.60
D	0.75	0.90
F	3.10	3.30
H	3.70	3.90
J	0.50	0.70
K	13.4	13.6
L	1.10	1.30
N	5.00	5.20
Q	2.70	2.90
R	2.20	2.40
S	2.65	2.90
U	6.40	6.60

ABSOLUTE MAXIMUM RATINGS(Ta=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{RRM} V_{RMS} V_R	Peak Repetitive Reverse Voltage RMS Voltage DC Blocking Voltage	120	V
$I_{F(AV)}$	Average Rectified Forward Current	40	A
I_{FSM}	Nonrepetitive Peak Surge Current 8.3ms single half sine-wave superimposed on rated load conditions	330	A
T_J	Junction Temperature	-65~150	℃
T_{stg}	Storage Temperature Range	-65~175	℃
dv/dt	Voltage Rate of Change (Rated V_R)	1000	V/μs

Schottky Barrier Rectifier — MBR40120

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.2	℃/W

ELECTRICAL CHARACTERISTICS (Pulse Test: Pulse Width=300 μ s,Duty Cycle≤1%)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V_F	Maximum Instantaneous Forward Voltage	I_F= 20A ; Tc= 25℃	0.95	V
		I_F= 20A ; Tc= 125℃	0.92	
		I_F= 40A ; Tc= 25℃	1.02	
		I_F= 40A ; Tc= 125℃	0.98	
I_R	Maximum Instantaneous Reverse Current	V_R= $V_{RWM;}$Tc= 25℃	1	mA
		V_R= $V_{RWM;}$Tc= 125℃	100	