

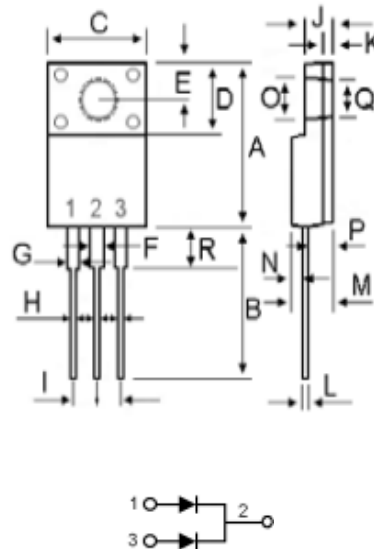
**FEATURES**

- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss, high efficiency
- High current capability, low VF
- High surge capacity
- Plastic package has UL flammability classification 94V-0

**MECHANICAL DATA**

- Case : TO-220F molded plastic
- Polarity : As marked on the body
- Mounting position : Any

**TO-220F PACKAGE**



DIM	MILLIMETERS	
	MIN	MAX
A	15.67	16.07
B	12.90	13.30
C	9.96	10.36
D	6.50	6.90
E	2.65	2.75
F	1.20	1.24
G	1.26	1.46
H	0.70	0.90
I	2.34	2.74
J	2.32	2.72
K	0.60	0.90
L	0.45	0.60
M	4.53	4.93
N	1.30	1.70
O	3.35	3.45
P	2.56	2.96
Q	3.15	3.25
R	2.20	2.45

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60HZ, resistive or inductive load.  
For capacitive load, derate current by 20%



**Lead Free**

CHARACTERISTICS	SYMBOL	MBR2045FCT	UNIT
Maximum Recurrent Peak Reverse Voltage	VRRM	45	V
Maximum RMS Voltage	VRMS	31.5	V
Maximum DC Blocking Voltage	V <sub>CC</sub>	45	V
Maximum Average Forward Rectified Current	I(AV)	20	A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC METHOD)	IFSM	200	A
Maximum Forward Voltage at 10A DC VF		0.55	V
Maximum DC Reverse Current @TC=25°C at Rated DC Blocking Voltage @TC=125°C	IR	0.5 50	MA
Typical Junction Capacitance	CJ	360	pF
Typical Thermal Resistance	ROJC	4.0	°C/W
Operating Temperature Range	TJ	-55to+150	°C
Storage Temperature Range	TSTG	-55to+150	°C

## RATINGS AND CHARACTERISTIC CURVES

FIG-1 FORWARD CURRENT DERATING CURVE

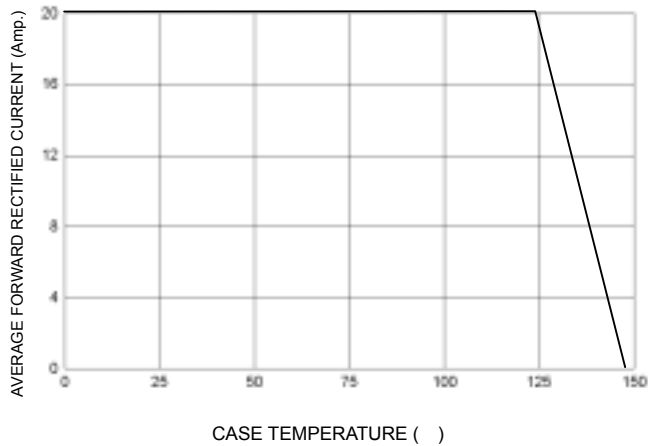


FIG-2 TYPICAL FORWARD CHARACTERISTICS

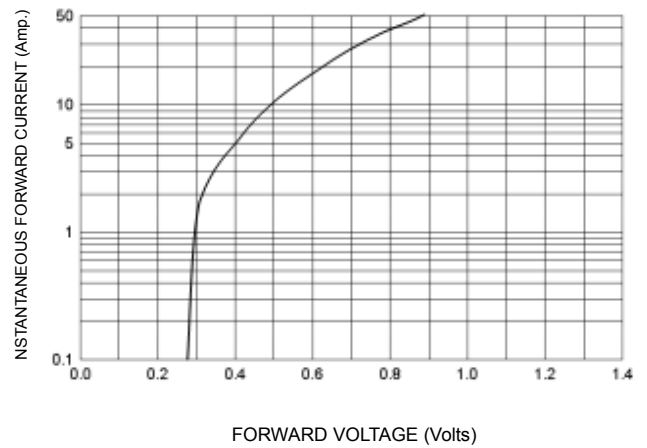


FIG-3 TYPICAL REVERSE CHARACTERISTICS

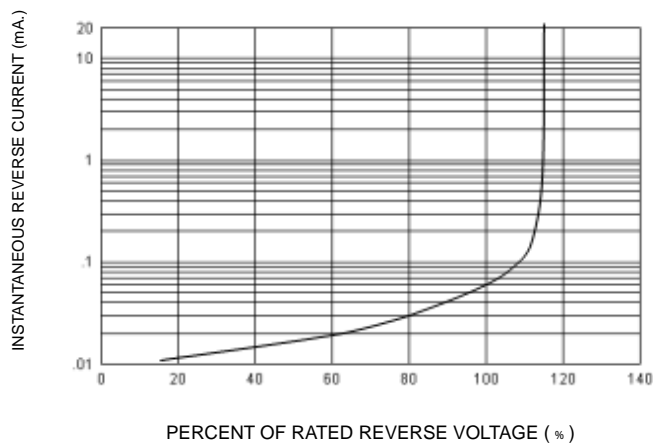


FIG-4 TYPICAL JUNCTION CAPACITANCE

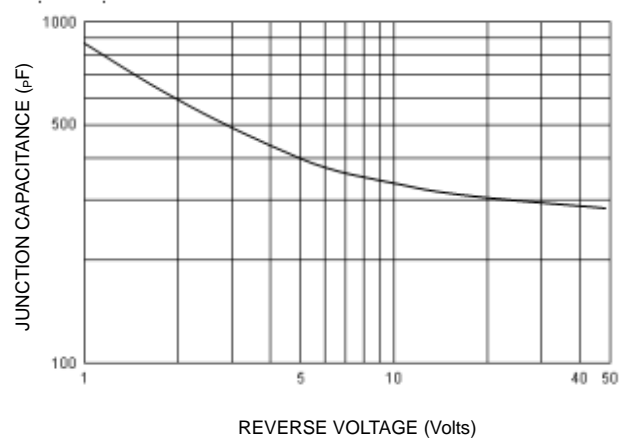


FIG-5 PEAK FORWARD SURGE CURRENT

