

## Switchmode Full Plastic Dual Schottky Barrier Power Rectifiers

Using the Schottky Barrier principle with a Molybdenum barrier metal. These state-of-the-art geometry features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for low voltage, high frequency rectification, or as free wheeling and polarity protection diodes.

### Features

- \* Low Forward Voltage.
- \* Low Switching noise.
- \* High Current Capacity
- \* Guarantee Reverse Avalanche.
- \* Guard-Ring for Stress Protection.
- \* Low Power Loss & High efficiency.
- \* 175°C Operating Junction Temperature
- \* Low Stored Charge Majority Carrier Conduction.
- \* Plastic Material used Carries Underwriters Laboratory

### Mechanical Data

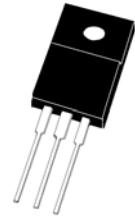
- \* Case : JEDEC ITO-220AB molded plastic body
- \* Terminals: Plated lead, solderable per MIL-STD-750, Method 2026
- \* Polarity: As marked
- \* Mounting Torque: 5 in-lbs. max
- \* Weight: 1.7 g approx.
- \* High temperature soldering guaranteed 260°C/10 seconds

\* In compliance with EU RoHs 2002/95/EC directives

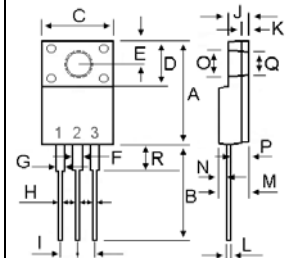


### SCHOTTKY BARRIER RECTIFIERS

**10 AMPERES  
30-60 VOLTS**



**ITO-220AB**



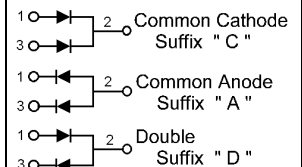
### MAXIMUM RATINGS

Characteristic	Symbol	MBRF10						Unit
		30C	35C	40C	45C	50C	60C	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	30	35	40	45	50	60	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	25	28	32	35	42	V
Average Rectifier Forward Current Total Device (Rated $V_R$ ), $T_C=100^\circ\text{C}$	$I_{F(AV)}$	5.0 10						A
Peak Repetitive Forward Current (Rate $V_R$ , Square Wave, 20kHz)	$I_{FM}$	10						A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfwave, single phase, 60Hz)	$I_{FSM}$	100						A
Operating and Storage Junction Temperature Range	$T_J, T_{STG}$	-65 to +175						°C

DIM	MILLIMETERS	
	MIN	MAX
A	14.90	15.15
B	13.35	13.55
C	10.00	10.10
D	6.55	6.65
E	2.65	2.75
F	1.55	1.65
G	1.15	1.25
H	0.55	0.65
I	2.50	2.60
J	3.00	3.20
K	1.10	1.20
L	0.55	0.65
M	4.40	4.60
N	1.15	1.25
O	3.35	3.45
P	2.65	2.75
Q	3.15	3.25

### ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	MBRF10						Unit
		30C	35C	40C	45C	50C	60C	
Maximum Instantaneous Forward Voltage ( $I_F=5$ Amp $T_C=25^\circ\text{C}$ ) ( $I_F=5$ Amp $T_C=125^\circ\text{C}$ )	$V_F$	0.65 0.56						V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C=25^\circ\text{C}$ ) (Rated DC Voltage, $T_C=125^\circ\text{C}$ )	$I_R$	0.01 20						mA
Typical Thermal Resistance junction to case	$R_{\theta jc}$	2.8						°C/w



# MBRF1030C Thru MBRF1060C

FIG-1 FORWARD CURRENT DERATING CURVE

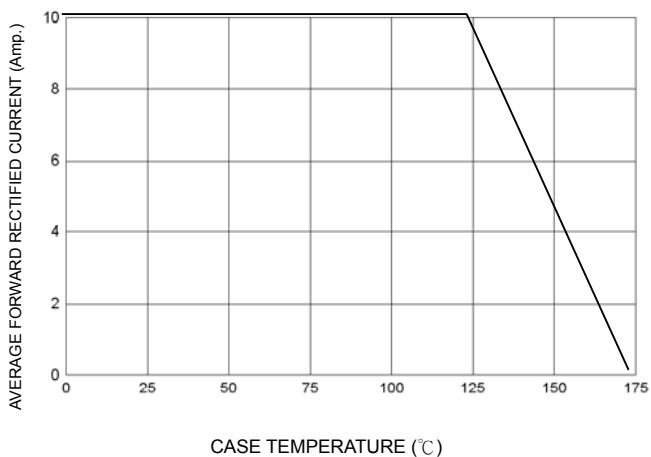


FIG-2 TYPICAL FORWARD CHARACTERISTICS

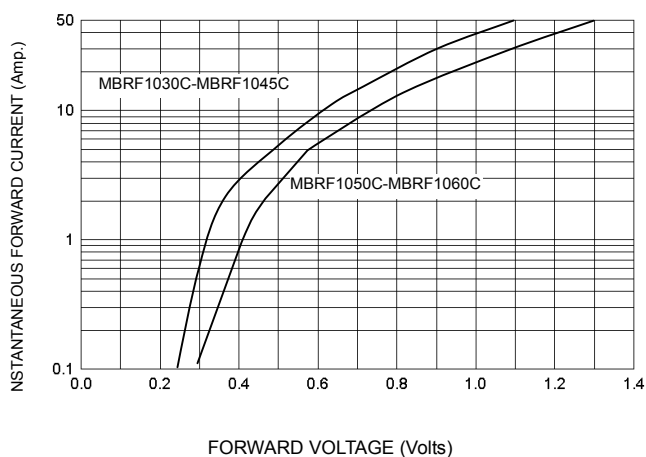


FIG-3 TYPICAL REVERSE CHARACTERISTICS

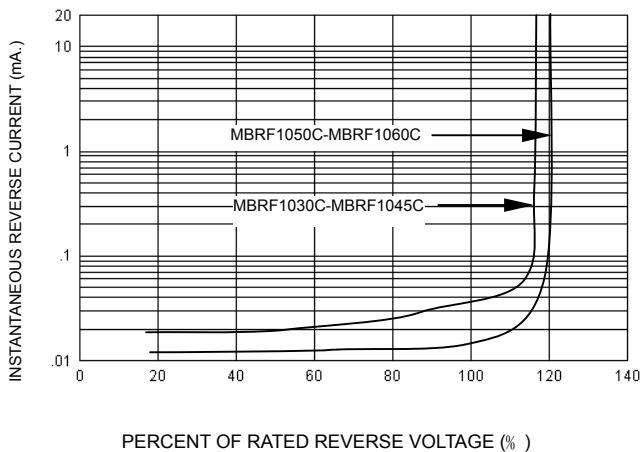


FIG-4 TYPICAL JUNCTION CAPACITANCE

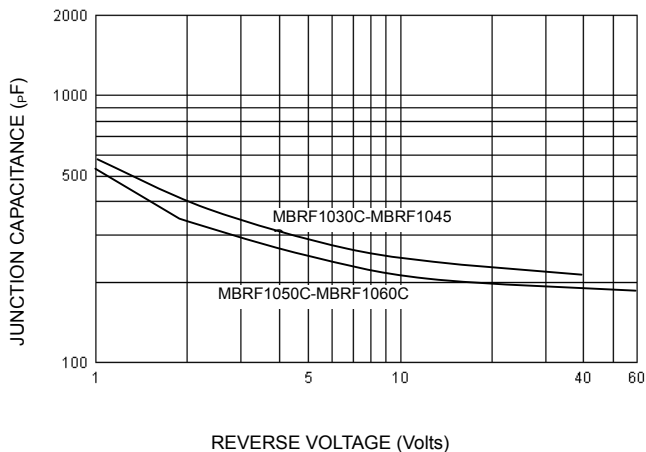


FIG-5 PEAK FORWARD SURGE CURRENT

