sapcon®

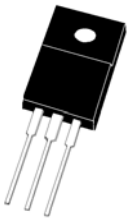
MBRF2030C Thru MBRF2060C

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.

SCHOTTKY BARRIER RECTIFIERS

20 AMPERES
30-60 VOLTS



ITO-220AB

Features

- ∗Low Forward Voltage.
- ∗Low Switching noise.
- ∗High Current Capacity
- ∗Guarantee Reverse Avalanche.
- ∗Guard-Ring for Stress Protection.
- ∗Low Power Loss & High efficiency.
- ∗175℃ Operating Junction Temperature
- ∗Low Stored Charge Majority Carrier Conduction.
- ∗Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O

MAXIMUM RATINGS

Characteristic	Symbol	MBRF20						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 (per diode) Total Device (Rated V_R), T_C=100℃	$I_{F(AV)}$	10 20						A
Peak Repetitive Forward Current (Rate V_R, Square Wave, 20kHz)	I_{FM}	20						A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase, 60Hz)	I_{FSM}	150						A
Operating and Storage Junction Temperature Range	T_J , T_{stg}	-65 to +175						℃

THERMAL RESISTANCES

Typical Thermal Resistance junction to case (per diode)	$R_{\theta j\text{-}c}$	3.2	℃/w

ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	MBRF20						Unit
		30C	35C	40C	45C	50C	60C	
Maximum Instantaneous Forward Voltage (I_F =10 Amp T_C = 25℃) (per diode) (I_F =10 Amp T_C = 125℃)	V_F	0.75 0.66				0.80 0.72		V
Maximum Instantaneous Reverse Current (Rated DC Voltage, T_C = 25℃) (Rated DC Voltage, T_C = 125℃)	I_R	0.01 20						mA

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FIG-1 FORWARD CURRENT DERATING CURVE

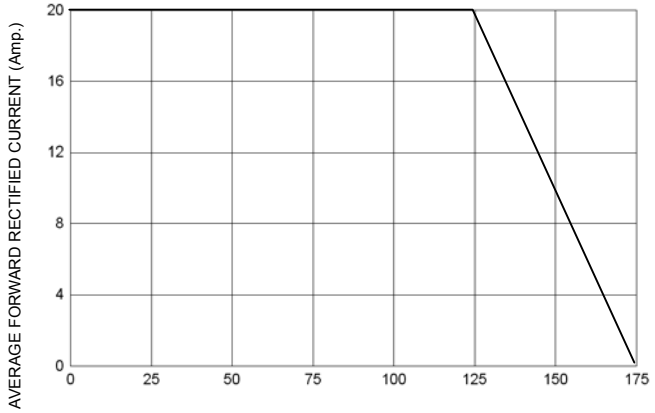

FIG-2 TYPICAL FORWARD CHARACTERISITICS

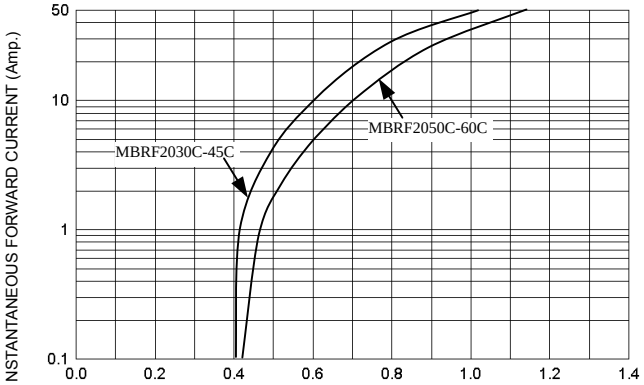

FIG-3 TYPICAL REVERSE CHARACTERISTICS

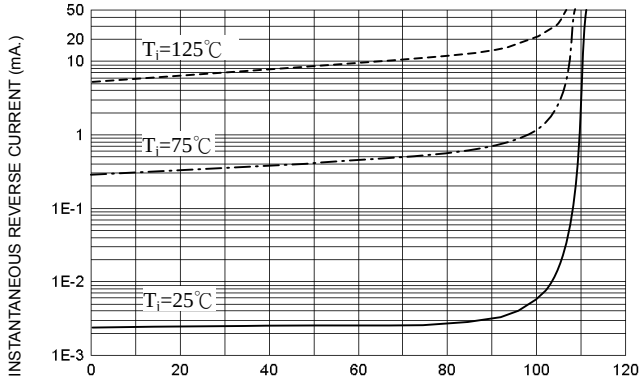

FIG-4 TYPICAL JUNCTION CAPACITANCE

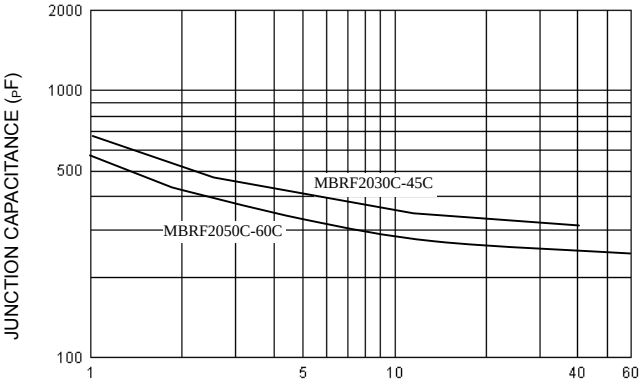

FIG-5 PEAK FORWARD SURGE CURRENT