

Schottky Barrier 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 Flammability Classification 94V-O



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

MAXIMUM RATINGS

Characteristic S		Symbol MBR20							
Characteristic	Symbol	30CT	35CT	40CT	45CT	50CT	60CT	Unit	
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	٧	
Average Rectifier Forward Current (per diode) Total Device (Rated V _R), T _C =100°C	I _{F(AV)}	10 20			Α				
Peak Repetitive Forward Current (Rate V _R , Square Wave, 20kHz)	I _{FM}	20		Α					
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase, 60Hz)	I _{FSM}	150		Α					
Operating and Storage Junction Temperature Range	T _J , T _{stg}	-65 to +175		$^{\circ}\!\mathbb{C}$					

THERMAL RESISTANCES

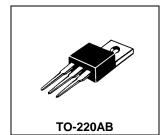
Typical Thermal Resistance junction to case (per diode)	R _{θ j-c}	3.2	°C/w
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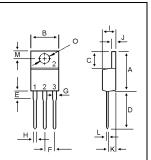
ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	MBR20						Unit	
Characteristic	Symbol	30CT	35CT	40CT	45CT	50CT	60CT	Onit	
$\label{eq:maximum Instantaneous Forward Voltage} \begin{tabular}{ll} (I_F = 10 \ Amp \ T_C = 25 \ C) & (per diode) \\ (I_F = 10 \ Amp \ T_C = 125 \ C) & (per diode) \\ \end{tabular}$	V _F			75 66			80 72	V	
Maximum Instantaneous Reverse Current (Rated DC Voltage, T _C = 25°C) (Rated DC Voltage, T _C = 125°C)	I _R	0.01 20				mA			

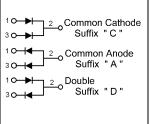
SCHOTTKY BARRIER RECTIFIERS

20 AMPERES 30-60 VOLTS





DIM	MILLIMETERS					
DIIVI	MIN	MAX				
Α	14.68	15.32				
В	9.78	10.42				
С	5.02	6.52				
D	13.06	14.62				
E	3.57	4.07				
F	2.42	2.66				
G	1.12	1.36				
Н	0.72	0.96				
- 1	4.22	4.98				
J	1.14	1.38				
K	2.20	2.98				
L	0.33	0.55				
M	2.48	2.98				
0	3.70	3.90				



MBR2030CT Thru MBR2060CT



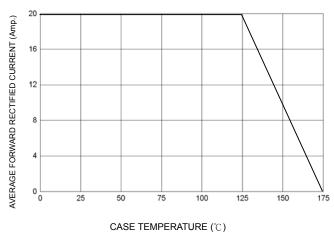


FIG-2 TYPICAL FORWARD CHARACTERISITICS

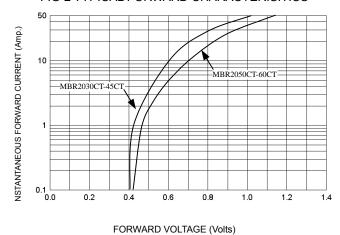
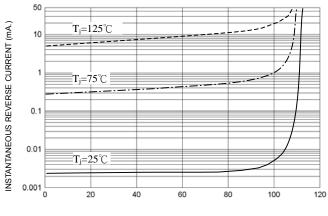
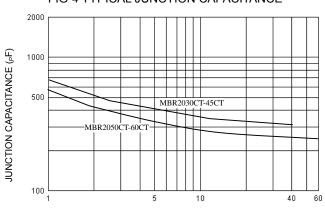


FIG-3 TYPICAL REVERSE CHARACTERISTICS



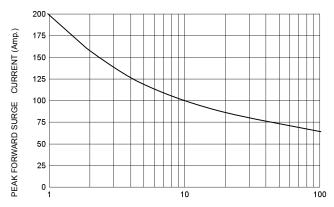
PERCENT OF RATED REVERSE VOLTAGE (%)

FIG-4 TYPICAL JUNCTION CAPACITANCE



REVERSE VOLTAGE (Volts)

FIG-5 PEAK FORWARD SURGE CURRENT



NUMBER OF CYCLES AT 60 Hz