

## Features

- Metal of Silicon Rectifier, Majority Carrier Conduction
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Low Power Loss High Efficiency
- High Surge Capacity, High Current Capability
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix Designates Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating

## Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +175°C
- Thermal Resistance 2.0°C/W Junction to Case
- Mounting Torque: 5 in-lbs Maximum

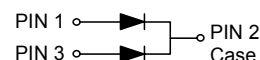
MCC Part Number	Device Marking	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
MBR1020CT	MBR1020CT	20V	14V	20V
MBR1030CT	MBR1030CT	30V	21V	30V
MBR1035CT	MBR1035CT	35V	24.5V	35V
MBR1040CT	MBR1040CT	40V	28V	40V
MBR1045CT	MBR1045CT	45V	31.5V	45V
MBR1050CT	MBR1050CT	50V	35V	50V
MBR1060CT	MBR1060CT	60V	42V	60V

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	10A	$T_C=105^\circ\text{C}$
Peak Forward Surge Current	$I_{FSM}$	125A	8.3ms, Half Sine
Maximum Forward Voltage Drop Per Element MBR1020CT- 45CT MBR1050CT- 60CT MBR1020CT- 45CT MBR1050CT- 60CT	$V_F$	0.70V 0.80V 0.57V 0.65V	$I_{FM}=5A$ $T_J=25^\circ\text{C}$ $I_{FM}=5A$ $T_J=125^\circ\text{C}$
Maximum DC Reverse Current at Rated DC Blocking Voltage	$I_R$	0.1mA 15mA	$T_J=25^\circ\text{C};$ $T_J=125^\circ\text{C}$
Typical Junction Capacitance MBR1020CT- 45CT MBR1050CT- 60CT	$C_J$	170pF 220pF	Measured at 1.0MHz, $V_R=4.0V$

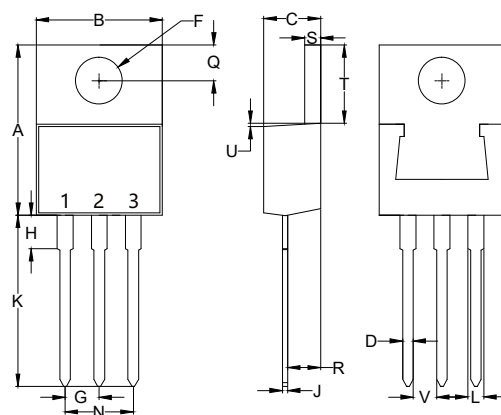
Note :1. High Temperature Solder Exemption Applied, See EU Directive Annex 7a.

## Internal Structure



# 10 Amp Schottky Barrier Rectifier 20 to 60 Volts

## TO-220AB



## DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.560	0.625	14.22	15.88	
B	0.380	0.429	9.65	10.90	
C	0.140	0.201	3.56	5.10	
D	0.020	0.045	0.51	1.14	
F	0.131	0.170	3.34	4.31	Φ
G	0.079	0.121	2.01	3.07	
H	-----	0.250	-----	6.35	
J	0.011	0.025	0.28	0.64	
K	0.500	0.580	12.70	14.73	
L	0.045	0.060	1.14	1.52	
N	0.158	0.242	4.02	6.14	
Q	0.087	0.135	2.22	3.43	
R	0.080	0.126	2.04	3.19	
S	0.045	0.055	1.14	1.39	
T	0.230	0.270	5.84	6.86	
U	-----	0.050	-----	1.27	
V	0.045	-----	1.15	-----	

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

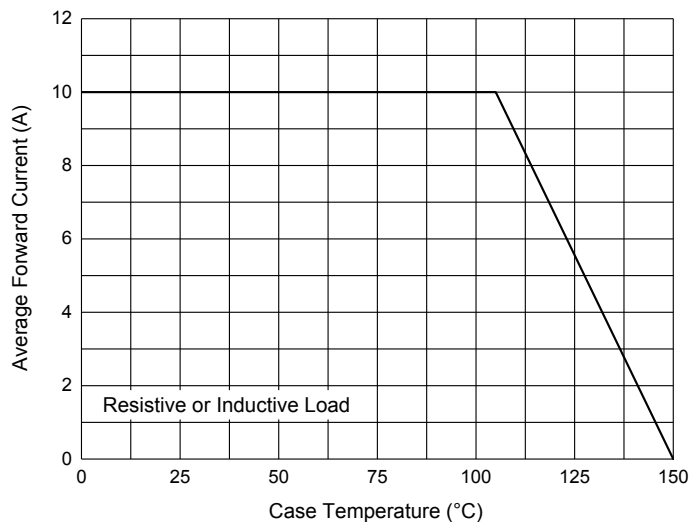


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

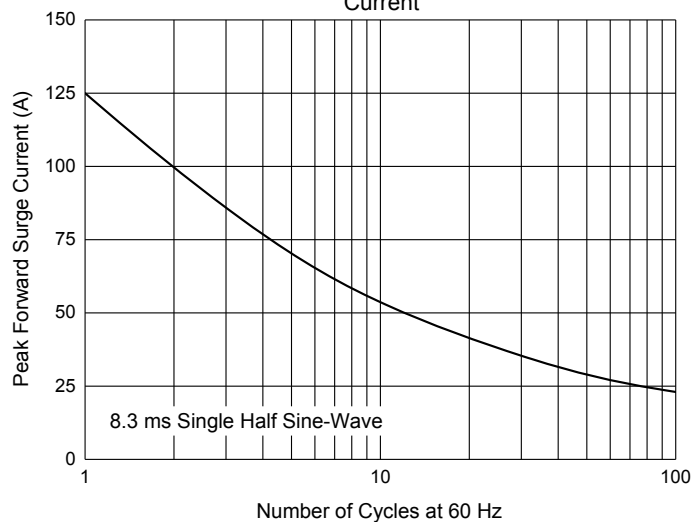


Fig. 3 - Typical Instantaneous Forward Characteristics

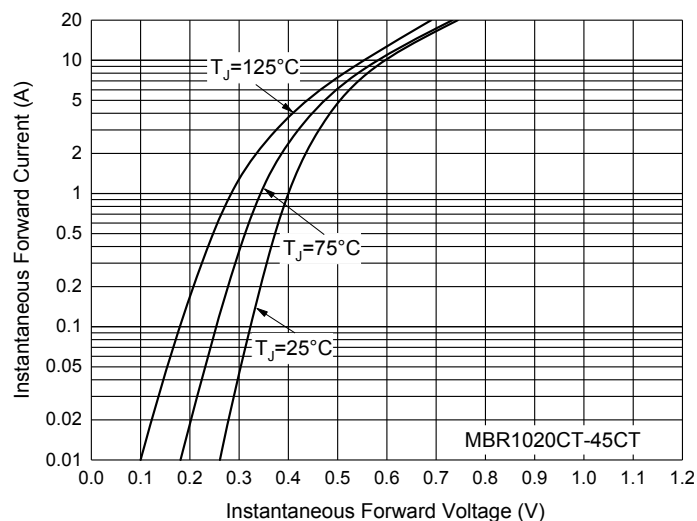


Fig. 4 - Typical Instantaneous Forward Characteristics

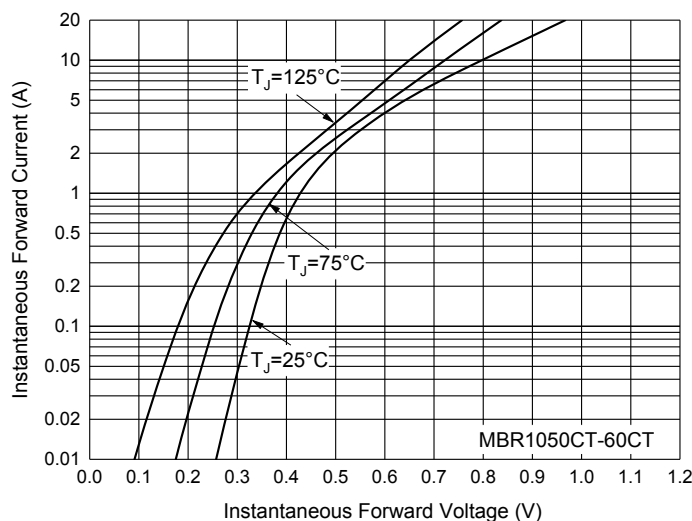


Fig. 5 - Typical Reverse Leakage Characteristics

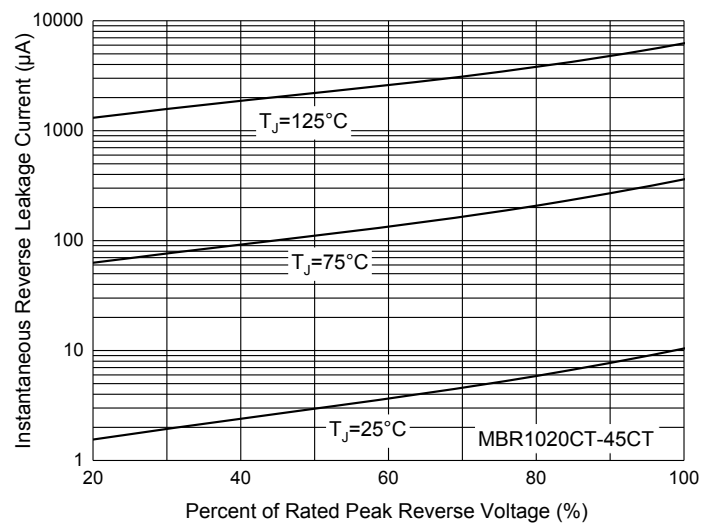
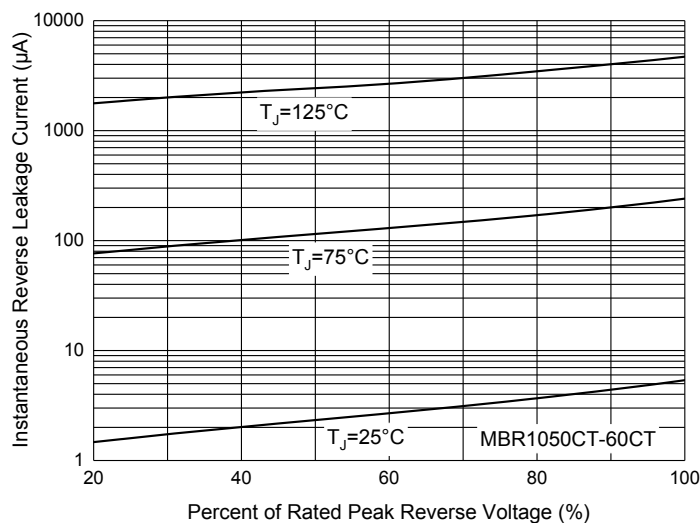


Fig. 6 - Typical Reverse Leakage Characteristics



## Ordering Information

Device	Packing
Part Number-BP	Bulk:50pcs/Tube, 1Kpcs/Box, 5Kpcs/Carton

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-BP-HF

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