Features

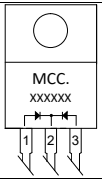
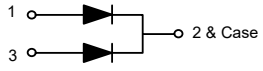
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix Designates Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Guard Ring For Transient Protection
- High Surge Capacity,High Current Capability

20 Amp Schottky Barrier Rectifier 45 to 100 Volts

Maximum Ratings @ 25°C (Unless Otherwise Specified)

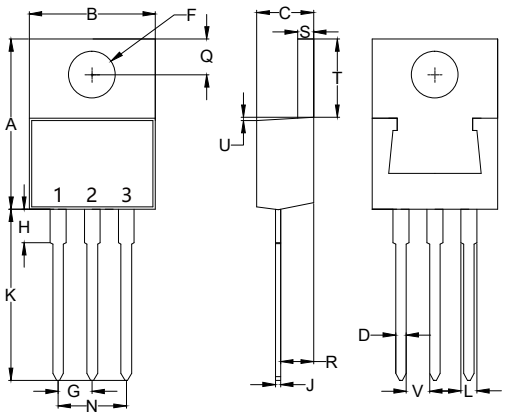
Parameter	Symbol	Value			Unit
		MBR2045CT	MBR2060CT	MBR20100CT	
Peak Repetitive Reverse Voltage	V_{RRM}	45	60	100	V
Working Peak Reverse Voltage	V_{RWM}				
DC Blocking Voltage	V_R				
RMS Reverse Voltage	V_{RMS}	31.5	42	70	V
Average Rectified Forward Current Per Diode Per Device	$I_{F(AV)}$	10 20			A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	I_{FSM}	150			A
Current Squared Time @1ms≤t≤8.3ms	I^2t	93			A^2s

Part Number	Marking Code
MBR2045CT	MBR2045CT
MBR2060CT	MBR2060CT
MBR20100CT	MBR20100CT

Marking Diagram	Internal Structure
 Marking Code: XXXXXX	

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

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	-----	

Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_J	Operating Junction Temperature Range		-55		150	°C
T_{stg}	Storage Temperature Range		-55		150	°C
$Rth_{(J-C)}$	Thermal Resistance from Junction to Case	Per Leg		2		°C/W
$Rth_{(J-A)}$	Thermal Resistance from Junction to Ambient			40		°C/W

Mechanical Data

Recommended Mounting Torque: 5in·lbs

Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage Per Diode						
MBR2045CT	V_F	I_F=10A;T_J=25°C		0.59	0.65	V
		I_F=10A;T_J=125°C		0.54		
MBR2060CT		I_F=10A;T_J=25°C		0.71	0.75	
		I_F=10A;T_J=125°C		0.62		
MBR20100CT		I_F=10A;T_J=25°C		0.80	0.85	
		I_F=10A;T_J=125°C		0.67		
Reverse Current Per Diode						
MBR2045CT & MBR2060CT	I_R	at Rated V_R;T_J=25°C			0.1	mA
		at Rated V_R;T_J=125°C			20	
MBR20100CT		at Rated V_R;T_J=25°C			0.01	
		at Rated V_R;T_J=125°C			5	
Junction Capacitance Per Diode						
MBR2045CT	C_J	V_R=4V;f=1MHz;T_J=25°C		335		pF
MBR2060CT				275		
MBR20100CT				270		

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

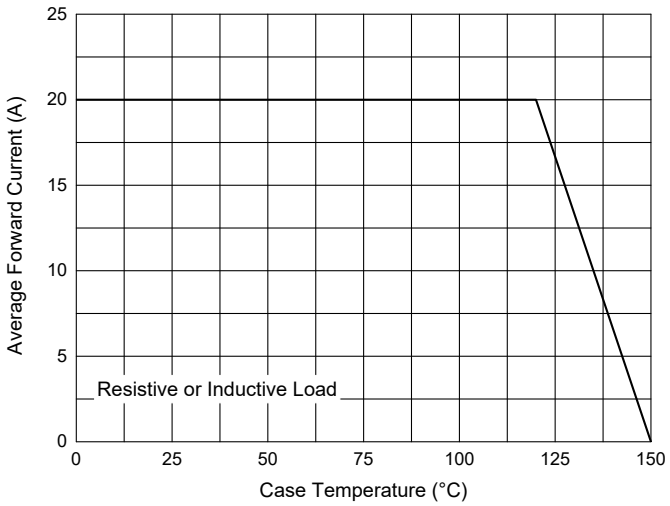


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

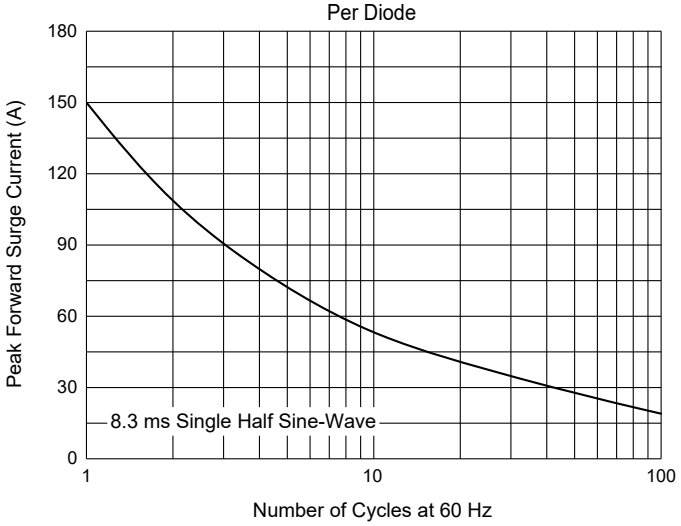


Fig. 3 - Typical Forward Characteristics Per Diode

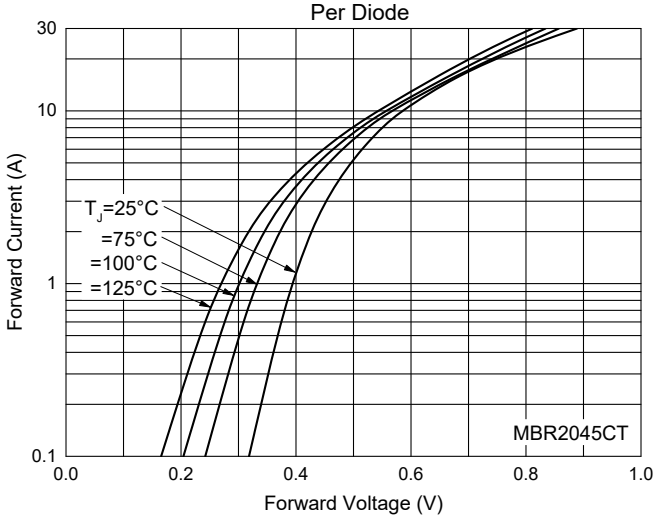


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

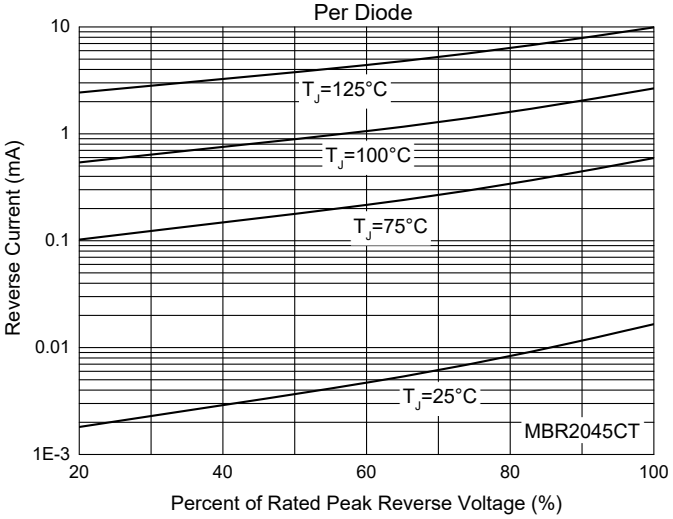


Fig. 5 - Typical Forward Characteristics Per Diode

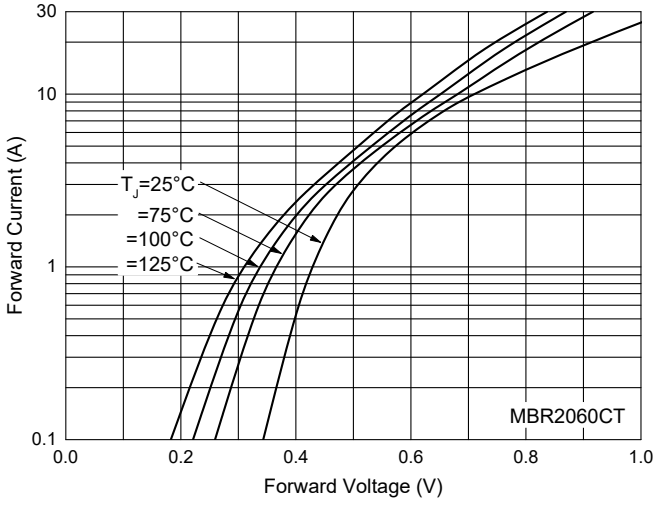
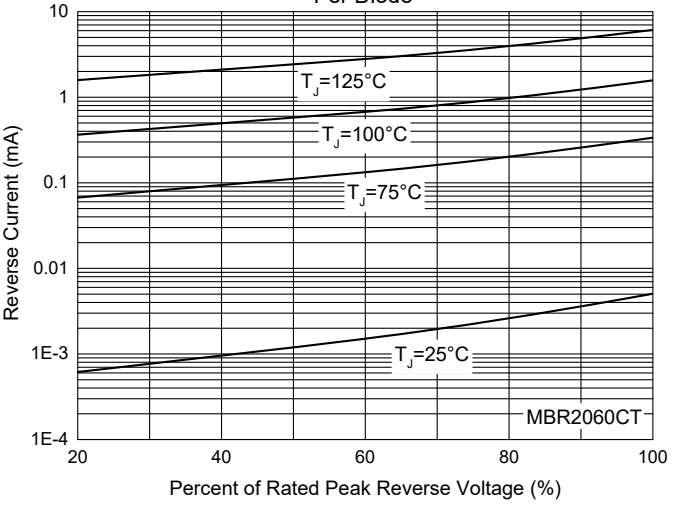


Fig. 6 - Typical Reverse Leakage Characteristics Per Diode



Curve Characteristics

Fig. 7 - Typical Forward Characteristics
Per Diode

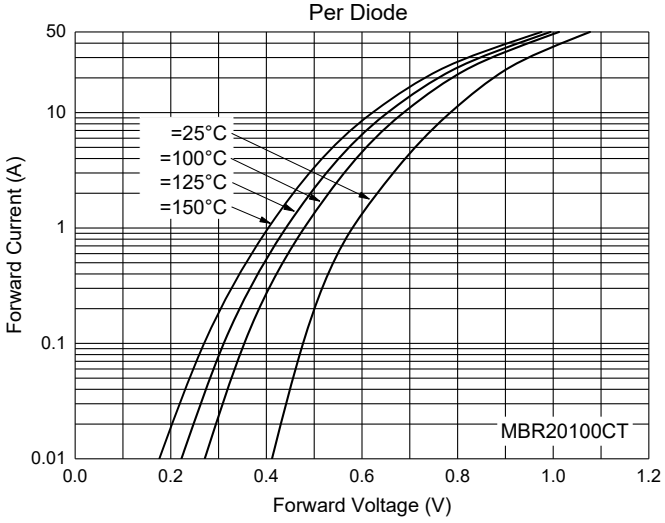


Fig. 8 - Typical Reverse Leakage Characteristics
Per Diode

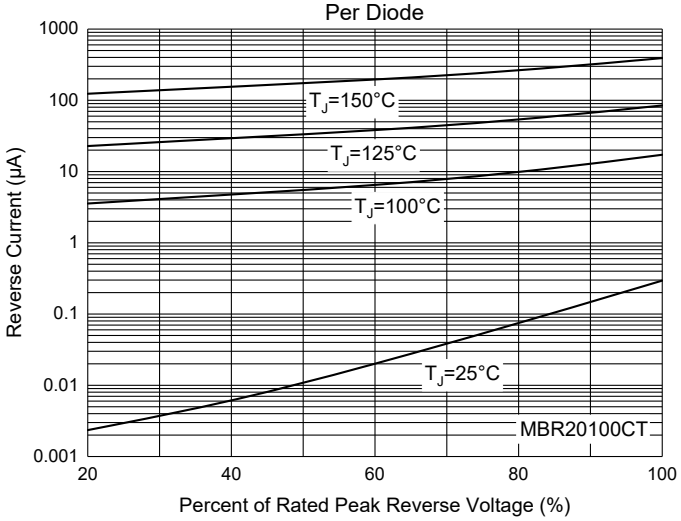


Fig. 9 - Typical Capacitance Characteristics
Per Diode

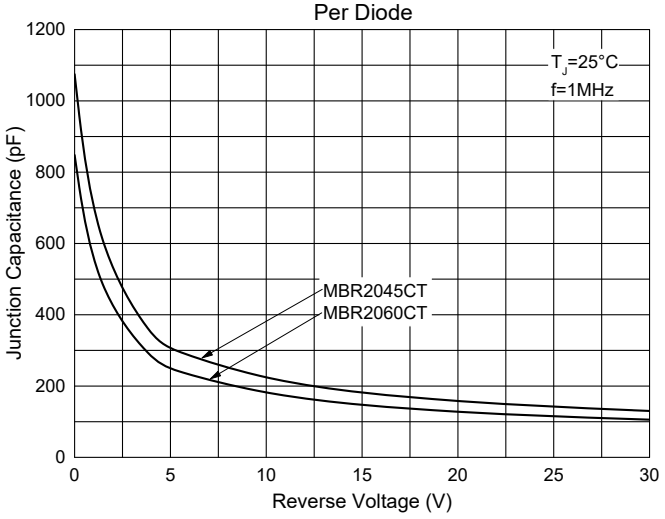
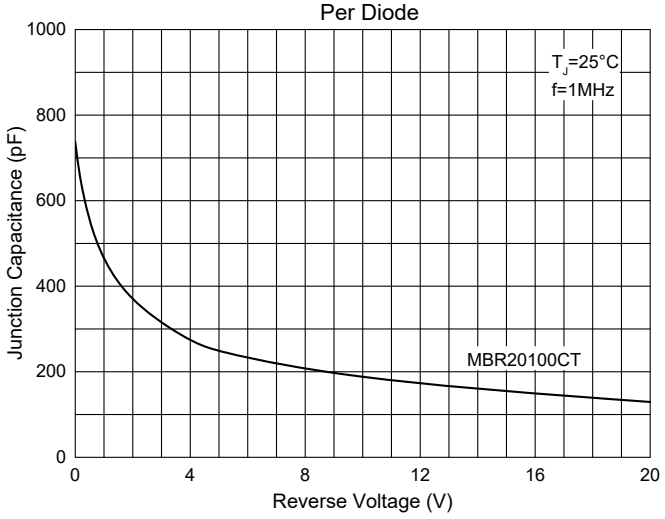


Fig. 10 - Typical Capacitance Characteristics
Per Diode



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