

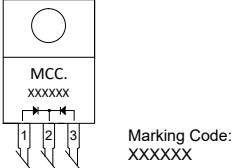
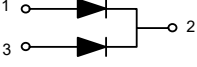
## Features

- 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

## Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value			Unit
		MBR2045FCT	MBR2060FCT	MBR20100FCT	
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	$I_{F(AV)}$	10 20			A
Per Diode Per Device					
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	$I_{FSM}$	150			A
Current Squared Time @ $1ms \leq t \leq 8.3ms$	$I^2t$	93			A <sup>2</sup> s

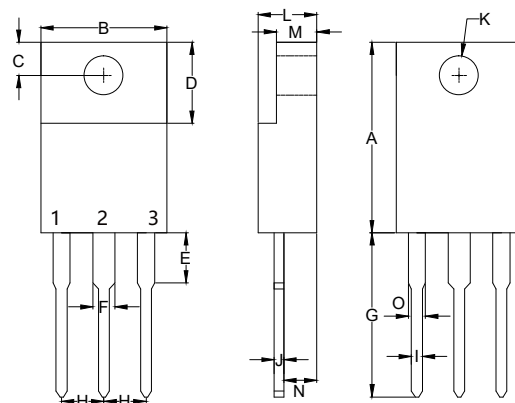
Part Number	Marking Code
MBR2045FCT	MBR2045FCT
MBR2060FCT	MBR2060FCT
MBR20100FCT	MBR20100FCT

Marking Diagram	Internal Structure
 <p>Marking Code: XXXXXX</p>	

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

# 20 Amp Schottky Barrier Rectifier 45 to 100 Volts

## ITO-220AB



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.567	0.642	14.40	16.30	
B	-----	0.421	-----	10.70	
C	0.085	0.128	2.15	3.25	
D	0.248	0.272	6.30	6.90	
E	-----	0.177	-----	4.50	
F	-----	0.071	-----	1.80	
G	0.500	0.539	12.70	14.20	
H	0.100		2.55		
I	-----	0.035	-----	0.90	
J	-----	0.032	-----	0.80	
K	0.102	0.150	2.60	3.80	Φ
L	-----	0.201	-----	5.10	
M	-----	0.140	-----	3.56	
N	0.083	0.126	2.10	3.20	
O	-----	0.071	-----	1.80	

## 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
$R_{th(J-C)}$	Thermal Resistance from Junction to Case	Per Leg		4		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Without Heatsink, Free air		60		°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						
MBR2045FCT	$V_F$	$I_F=10A; T_J=25^{\circ}C$		0.55	0.65	V
		$I_F=10A; T_J=125^{\circ}C$		0.50		
MBR2060FCT		$I_F=10A; T_J=25^{\circ}C$		0.71	0.75	
		$I_F=10A; T_J=125^{\circ}C$		0.62		
MBR20100FCT		$I_F=10A; T_J=25^{\circ}C$		0.80	0.85	
		$I_F=10A; T_J=125^{\circ}C$		0.67		
Reverse Current Per Diode						
MBR2045FCT & MBR2060FCT	$I_R$	at Rated $V_R; T_J=25^{\circ}C$			0.1	mA
		at Rated $V_R; T_J=125^{\circ}C$			20	
MBR20100FCT		at Rated $V_R; T_J=25^{\circ}C$			0.01	
		at Rated $V_R; T_J=125^{\circ}C$			5	
Junction Capacitance Per Diode						
MBR2045FCT	$C_J$	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		470		pF
MBR2060FCT				275		
MBR20100FCT				270		

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

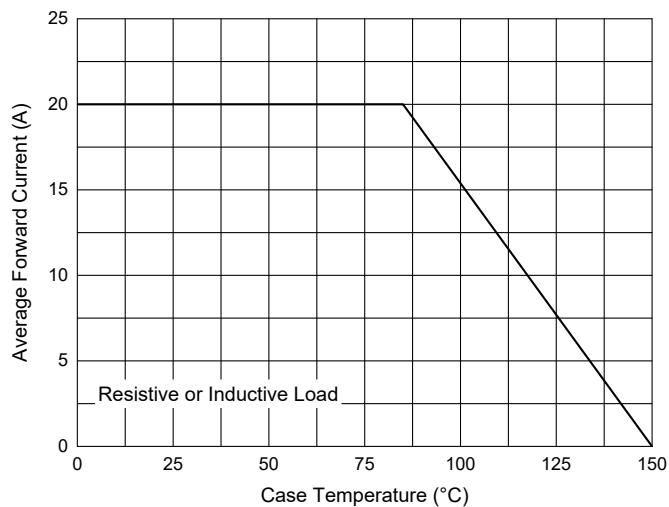


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

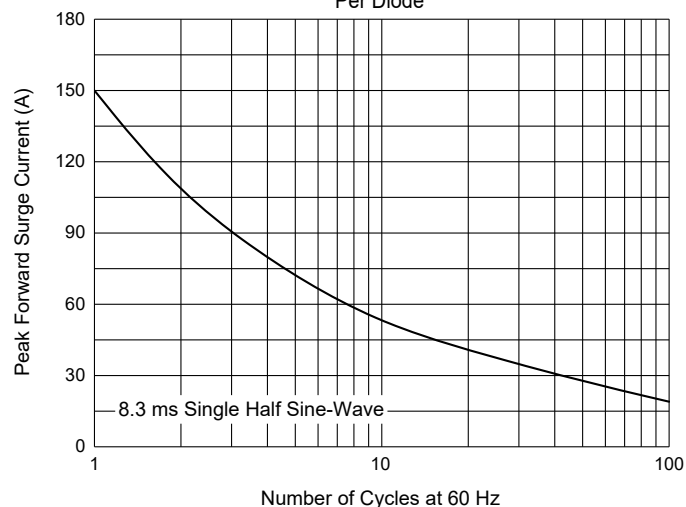


Fig. 3 - Typical Forward Characteristics Per Diode

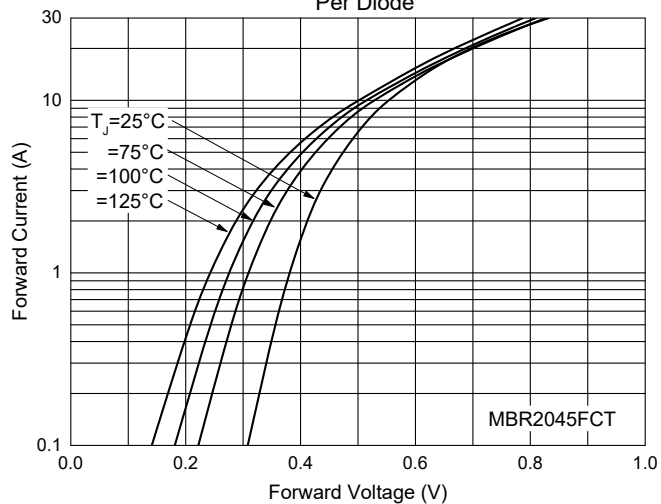


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

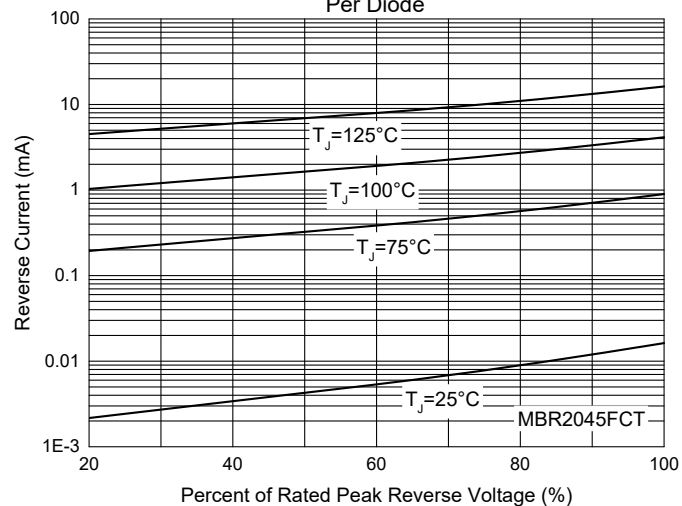


Fig. 5 - Typical Forward Characteristics Per Diode

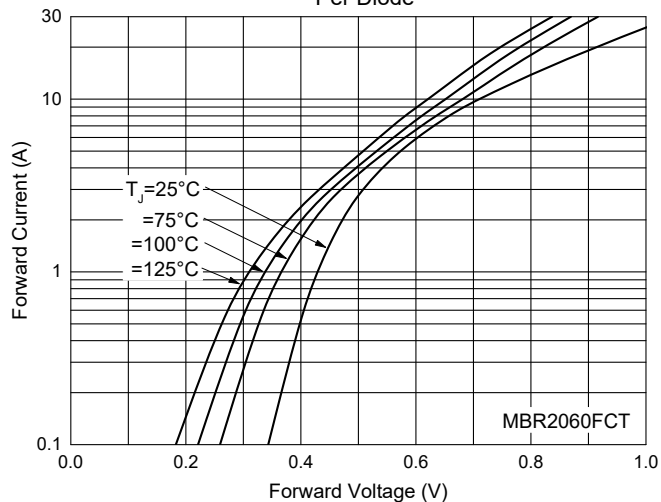
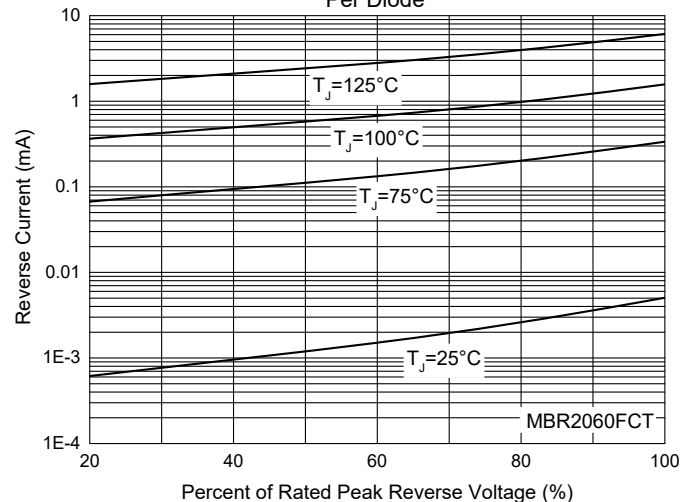


Fig. 6 - Typical Reverse Leakage Characteristics Per Diode



## Curve Characteristics

Fig. 7 - Typical Forward Characteristics  
Per Diode

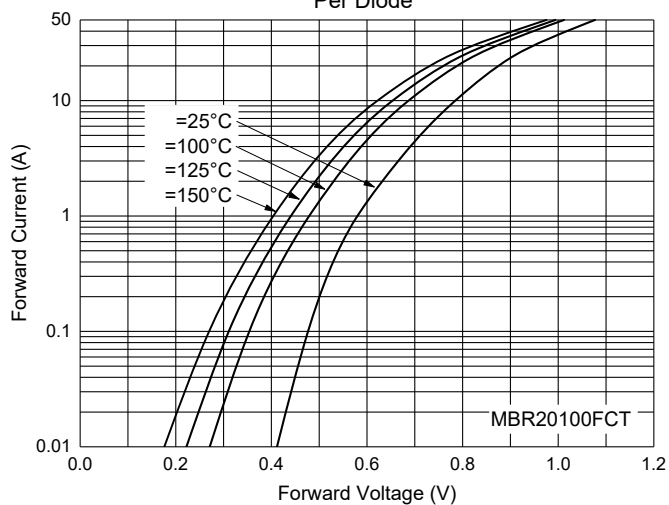


Fig. 8 - Typical Reverse Leakage Characteristics  
Per Diode

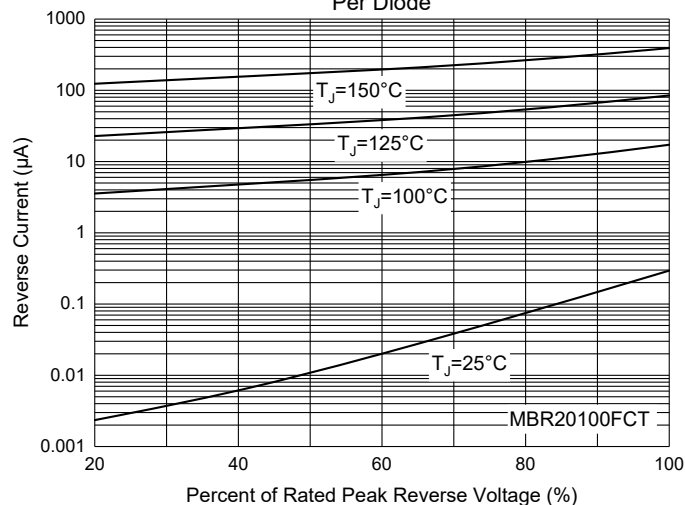


Fig. 9 - Typical Capacitance Characteristics  
Per Diode

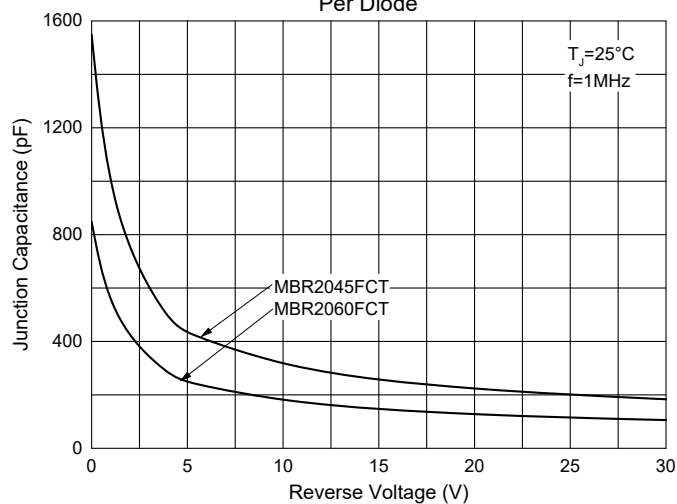
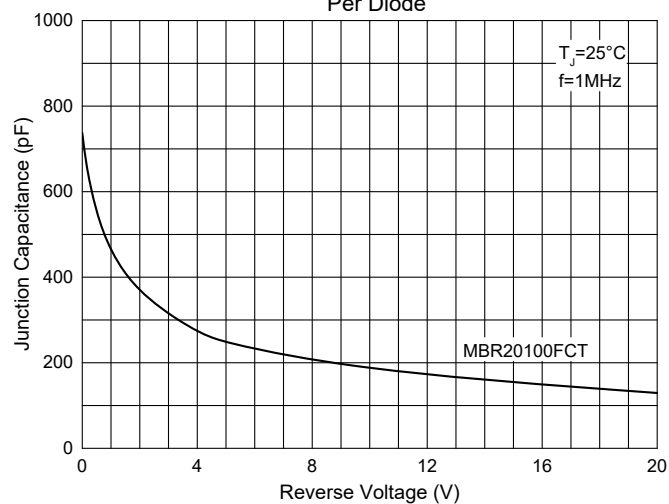


Fig. 10 - Typical Capacitance Characteristics  
Per Diode



## 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

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