

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
- Low Power Loss and High Efficiency
- Guardring for Overvoltage Protection
- High Junction Temperature Capability

Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value			Unit
		MBR20100FCTH	MBR20150FCTH	MBR20200FCTH	
Peak Repetitive Reverse Voltage	V_{RRM}	100	150	200	V
Working Peak Reverse Voltage	V_{RWM}				
DC Blocking Voltage	V_R				
RMS Reverse Voltage	V_{RMS}	70	105	140	V
Average Rectified Forward Current	$I_{F(AV)}$	10 20			A
Per Diode Per Device					
Non-Repetitive Peak Surge Current (Per Diode) @8.3ms Half Sine Wave	I_{FSM}	200			A
Current Squared Time (Per Diode) @ $1ms \leq t \leq 8.3ms$	I^2t	166			A ² s

Marking Code

Part Number	Marking Code
MBR20100FCTH	MBR20100FCTH
MBR20150FCTH	MBR20150FCTH
MBR20200FCTH	MBR20200FCTH

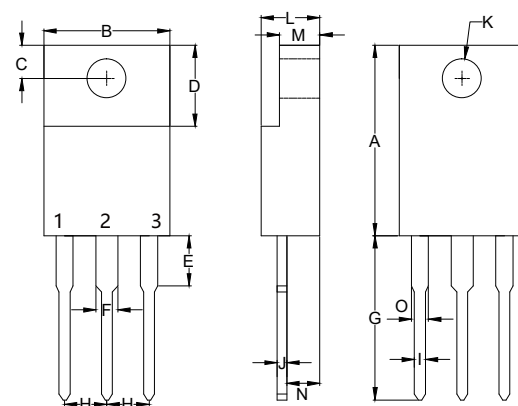
Internal Structure

Pin	Description	Simplified Outline	Graphic Symbol
2	Cathode		
1&3	Anode		

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

20 Amp Schottky Barrier Rectifier 100 to 200 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		175	°C
T_{stg}	Storage Temperature Range		-55		175	°C
$R_{th(J-C)}$	Thermal Resistance from Junction to Case	Per Leg		3.2		°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 MBR20100FCTH MBR20150FCTH MBR20200FCTH	V_F	$I_F=10A; T_J=25^{\circ}C$			0.80 0.85 0.90	V
Reverse Current Per Diode	I_R	at Rated $V_R; T_J=25^{\circ}C$			10	μA
		at Rated $V_R; T_J=125^{\circ}C$			2	mA
Junction Capacitance Per Diode MBR20100FCTH MBR20150FCTH MBR20200FCTH	C_J	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		270 215 165		pF

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

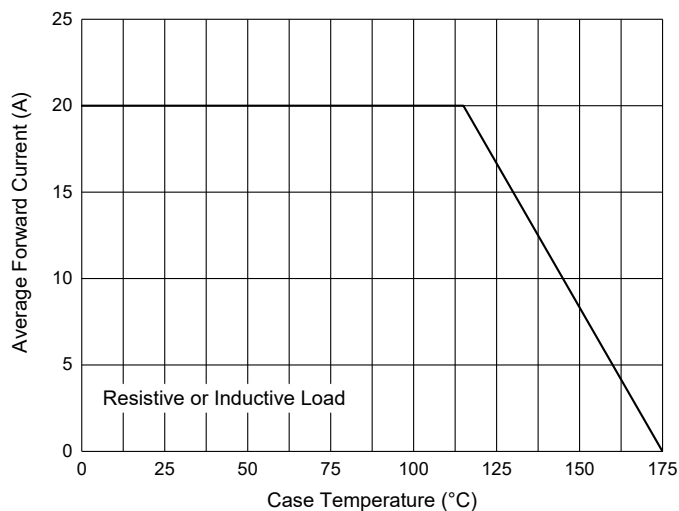


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

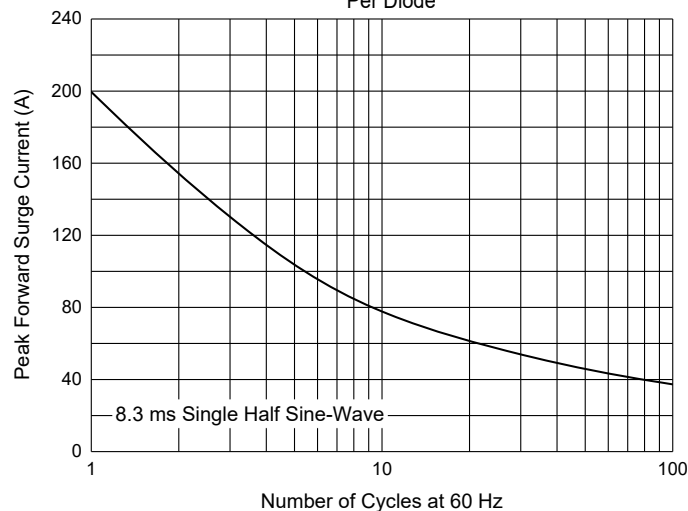


Fig. 3 - Typical Forward Characteristics Per Diode

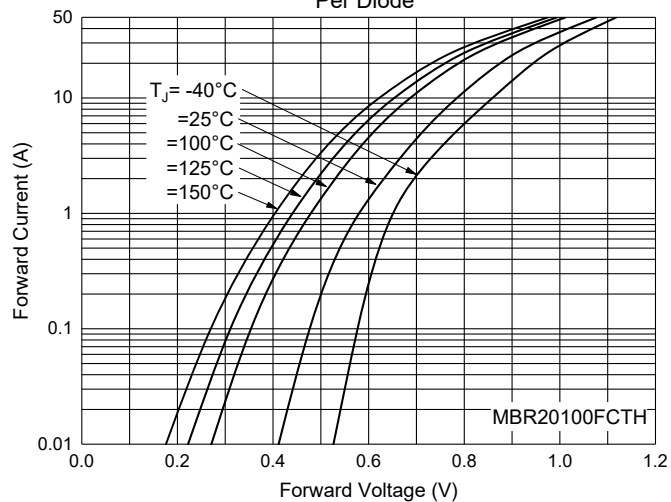


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

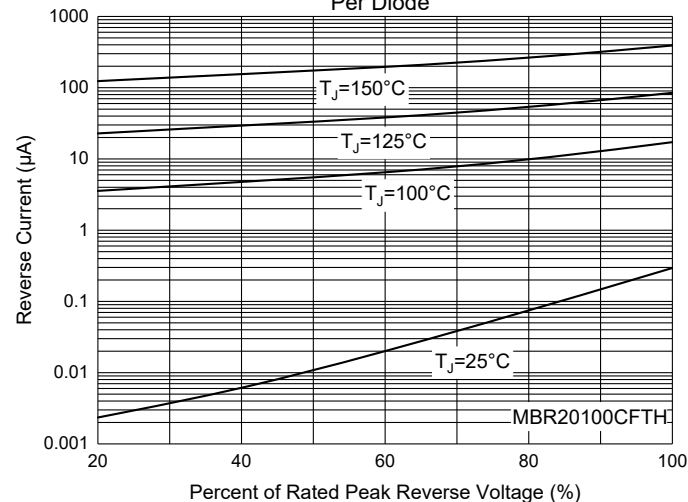


Fig. 5 - Typical Forward Characteristics Per Diode

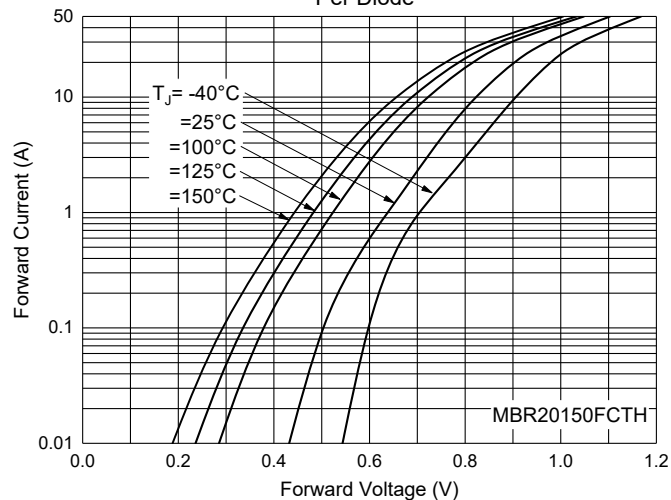
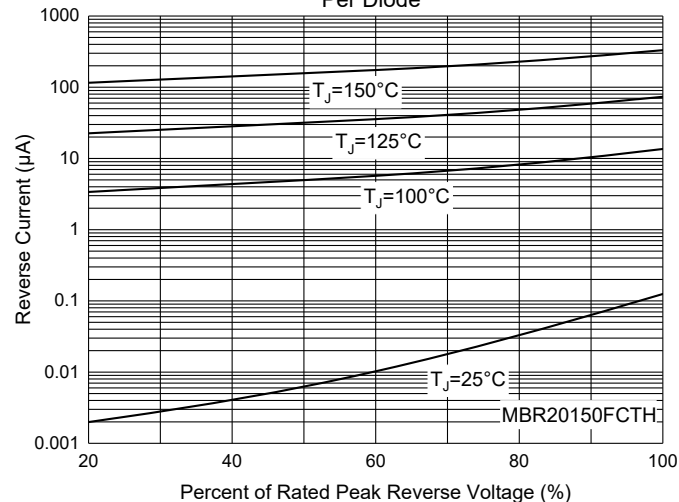


Fig. 6 - Typical Reverse Leakage Characteristics Per Diode



Curve Characteristics

Fig. 7 - Typical Forward Characteristics
Per Diode

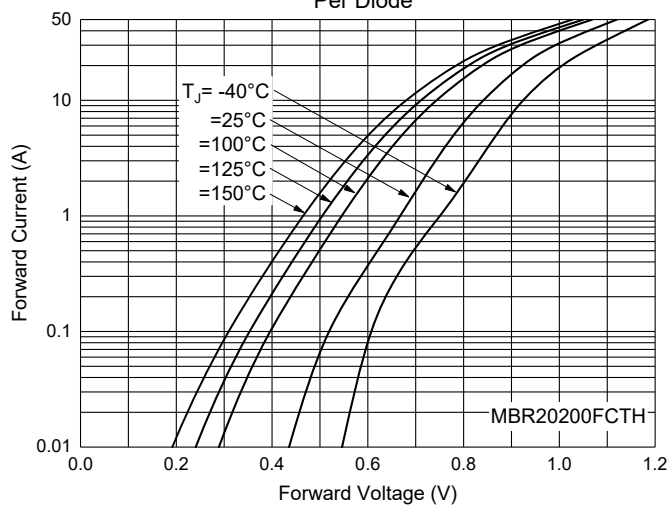


Fig. 8 - Typical Reverse Leakage Characteristics
Per Diode

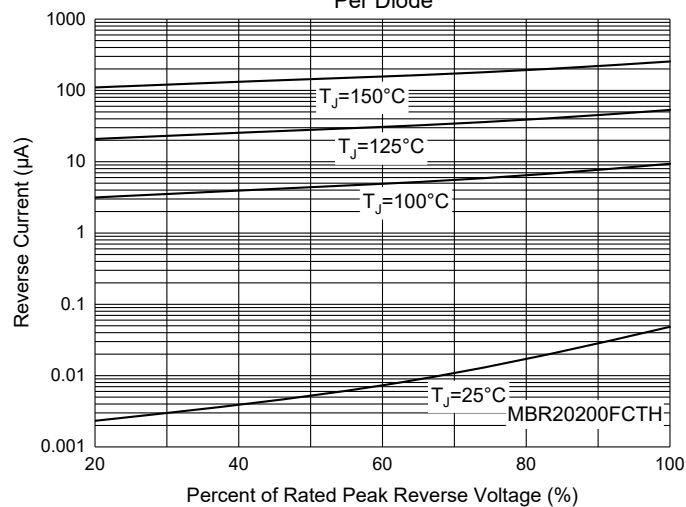
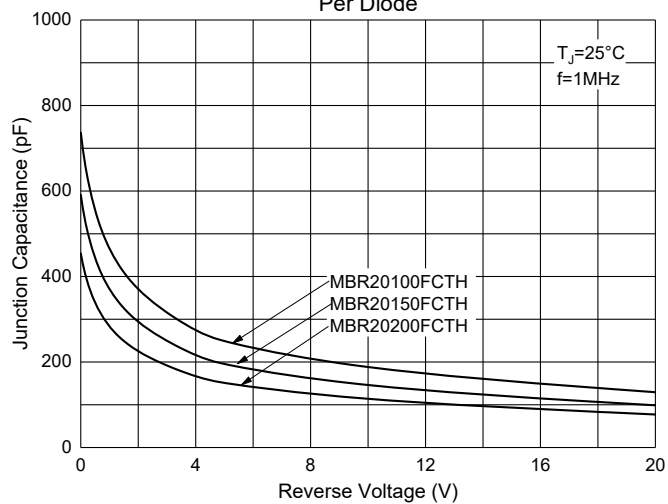


Fig. 9 - Typical Capacitance Characteristics
Per Diode



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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