

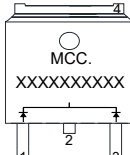
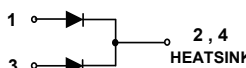
Features

- Halogen Free. "Green" Device (Note 1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- High Junction Temperature Capability
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant (Note 2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value			Unit
		MBRD 20100CTH	MBRD 20150CTH	MBRD 20200CTH	
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	$I_{F(AV)}$				A
Per Diode Per Device					
			10 20		
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	I_{FSM}	130			A
Current Squared Time @ 1ms ≤ t ≤ 8.3ms	I^2t	70			A ² s

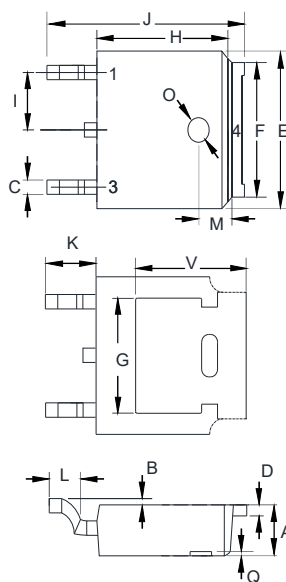
Part Number	Marking Code
MBRD20100CTH	MBRD20100CTH
MBRD20150CTH	MBRD20150CTH
MBRD20200CTH	MBRD20200CTH

Marking Diagram	Internal Structure
 <p>Marking Code: XXXXXXXXXXXX</p>	 <p>1, 3, 2, 4 HEATSINK</p>

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

20 Amp Schottky Barrier Rectifiers 100 to 200 Volts

(TO-252) DPAK



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.087	0.094	2.20	2.40	
B	0.000	0.005	0.00	0.13	
C	0.026	0.034	0.66	0.86	
D	0.018	0.023	0.46	0.58	
E	0.256	0.264	6.50	6.70	
F	0.201	0.215	5.10	5.46	
G	0.190		4.83		
H	0.236	0.244	6.00	6.20	
I	0.086	0.094	2.18	2.39	
J	0.386	0.409	9.80	10.40	
K	0.114		2.90		
L	0.055	0.067	1.40	1.70	
M	0.063		1.60		
O	0.043	0.051	1.10	1.30	
Q	0.000	0.012	0.00	0.30	
V	0.211		5.35		

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		2.5		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Note 1		45		°C/W

Note:

1. Mounted on P.C.B. with 1in2 (25.4 mm x 25.4 mm) copper pad areas.

Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage Per Diode						
MBRD20100CTH	V_F	$I_F=10A; T_J=25^{\circ}C$		0.81	0.85	V
		$I_F=10A; T_J=125^{\circ}C$		0.69	0.75	
MBRD20150CTH		$I_F=10A; T_J=25^{\circ}C$		0.84	0.85	
		$I_F=10A; T_J=125^{\circ}C$		0.72	0.77	
MBRD20200CTH		$I_F=10A; T_J=25^{\circ}C$		0.87	0.90	
		$I_F=10A; T_J=125^{\circ}C$		0.76	0.80	
Reverse Current Per Diode	I_R	at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=125^{\circ}C$			10 1000	μA
Junction Capacitance Per Diode						
MBRD20100CTH	C_J	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		195		pF
MBRD20150CTH				160		
MBRD20200CTH				120		

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

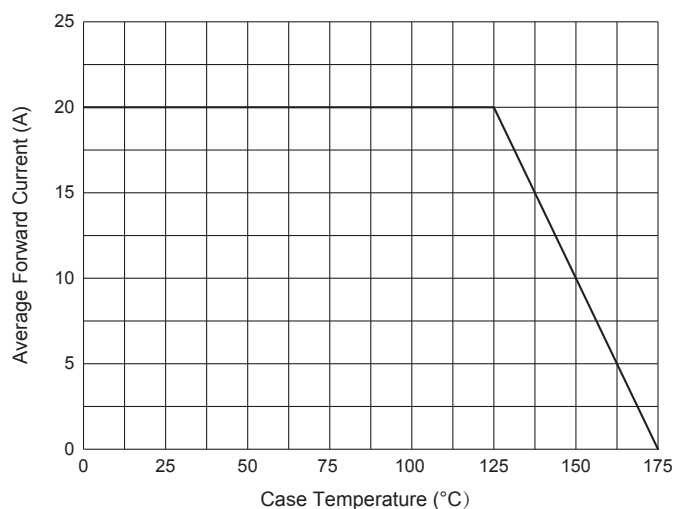


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

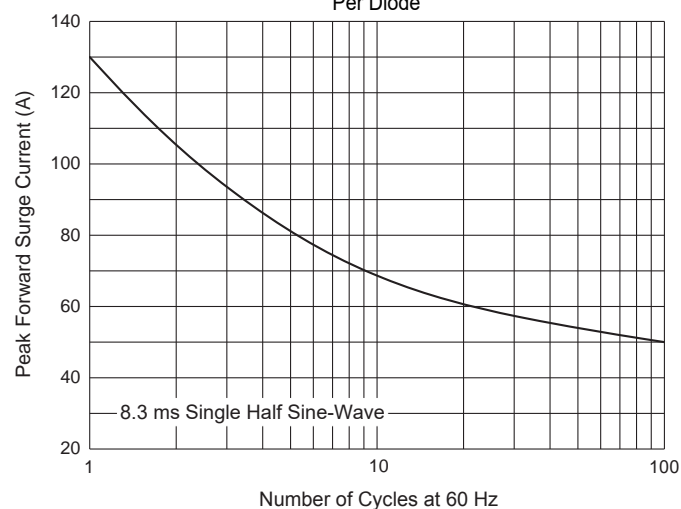


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

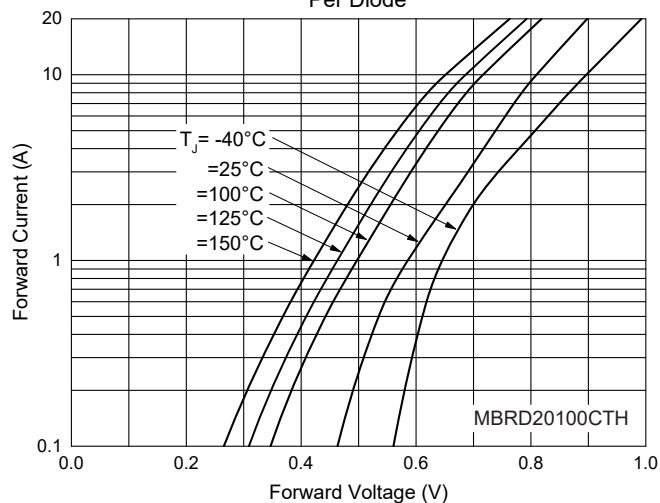


Fig. 4 - Typical Instantaneous Forward Characteristics Per Diode

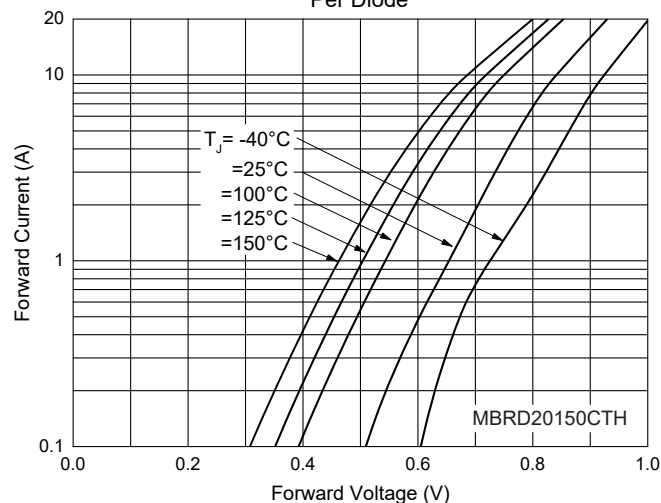


Fig. 5 - Typical Instantaneous Forward Characteristics Per Diode

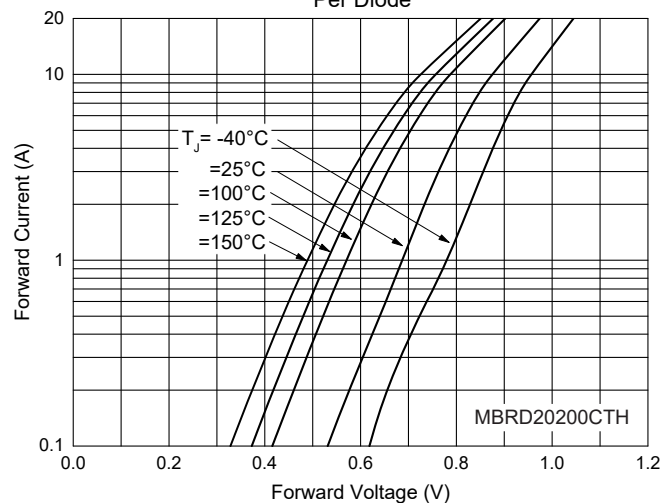
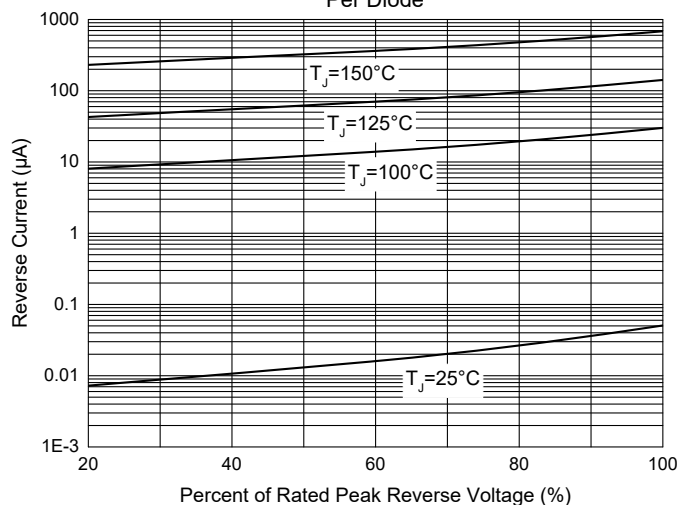
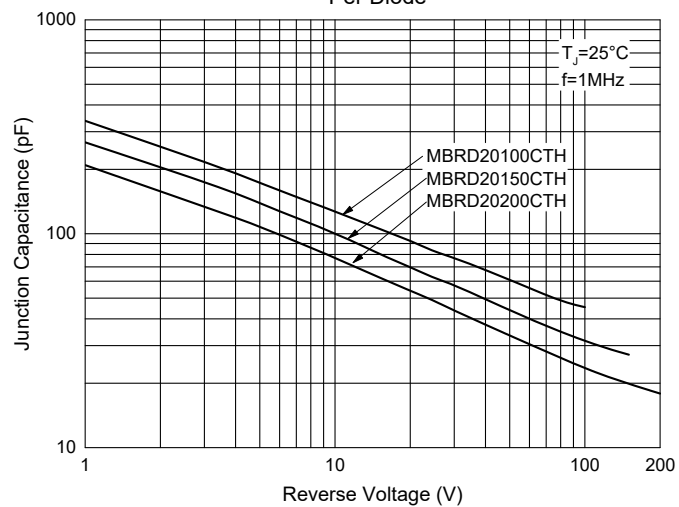


Fig. 6 - Typical Reverse Leakage Characteristics Per Diode



Curve Characteristics

Fig. 7 - Typical Capacitance Characteristics
Per Diode



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 2.5Kpcs/Reel

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