

Features

- Halogen Free. "Green" Device (Note 1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- 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
		MBRD1020CT	MBRD1030CT	MBRD1045CT	MBRD1050CT	MBRD1060CT	MBRD1080CT	MBRD10100CT	
Peak Repetitive Reverse Voltage	V _{RRM}	20	30	45	50	60	80	100	V
Working Peak Reverse Voltage	V _{RWM}								
DC Blocking Voltage	V _R								
RMS Reverse Voltage	V _{RMS}	14	21	32	35	42	56	70	V
Average Rectified Forward Current	I _{F(AV)}	5 10							A
Per Diode									
Per Device									
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	I _{FSM}	150							A
Current Squared Time @1ms≤t≤8.3ms	I ² t	93							A ² s

Marking code

Part Number	Marking Code
MBRD1020CT	MBRD1020CT
MBRD1030CT	MBRD1030CT
MBRD1045CT	MBRD1045CT
MBRD1050CT	MBRD1050CT
MBRD1060CT	MBRD1060CT
MBRD1080CT	MBRD1080CT
MBRD10100CT	MBRD10100CT

Internal Structure

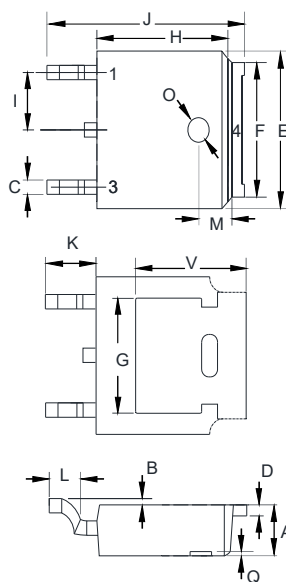
Pin	Description	Simplified Outline	Graphic Symbol
1,3	Anode		
2,4	Cathode		
		XXXXX = Marking Code	

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.

10 Amp Schottky Barrier Rectifiers 20 to 100 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		150	°C
T_{stg}	Storage Temperature Range		-55		150	°C
$R_{th(J-C)}$	Thermal Resistance from Junction to Case			2.5		°C/W

Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage Per Diode MBRD1020CT~45CT MBRD1050CT~60CT MBRD1080CT~100CT	V_F	$I_F=5A; T_J=25^{\circ}C$			0.65 0.75 0.85	V
Reverse Current Per Diode MBRD1020CT~60CT MBRD1080CT~100CT	I_R	at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=100^{\circ}C$ at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=100^{\circ}C$			0.1 10 0.01 5	mA
Junction Capacitance Per Diode MBRD1020CT~45CT MBRD1050CT~60CT MBRD1080CT~100CT	C_J	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		205 140 120		pF

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

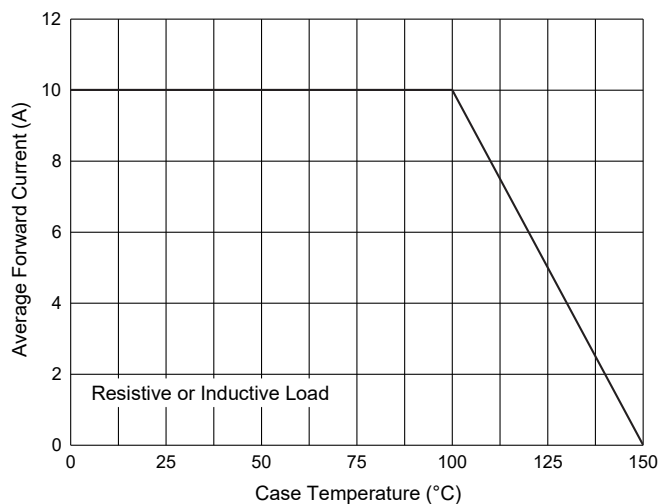


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

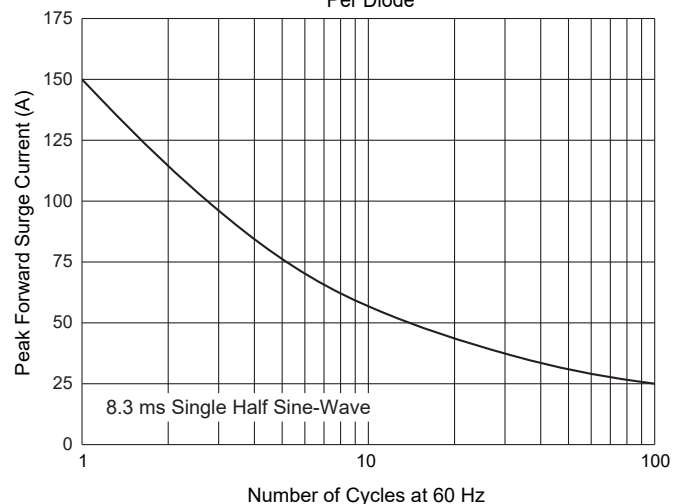


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

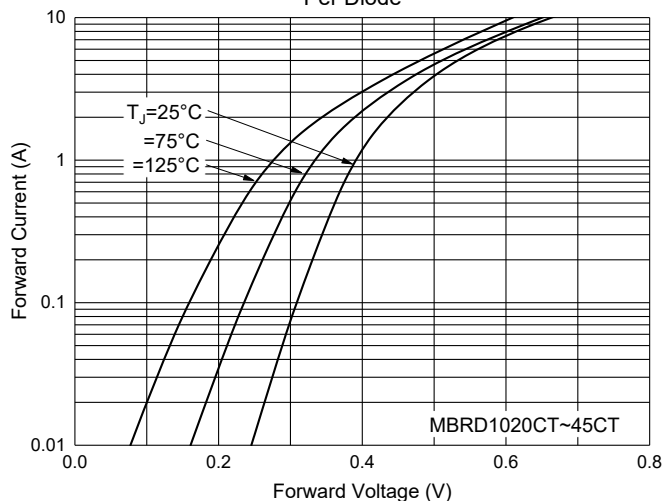


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

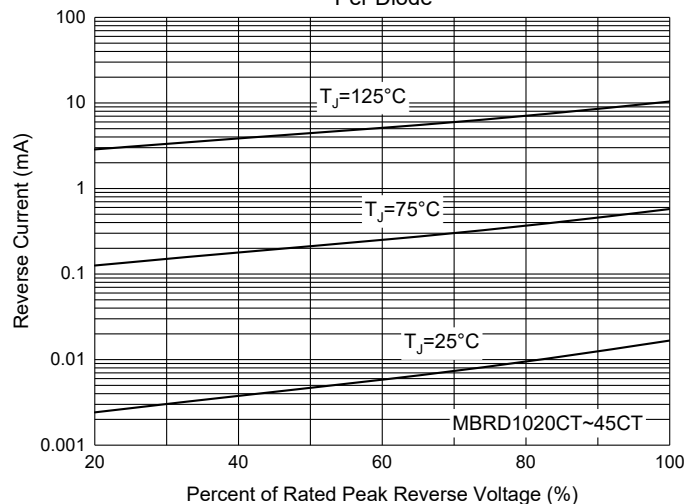


Fig. 5 - Typical Instantaneous Forward Characteristics Per Diode

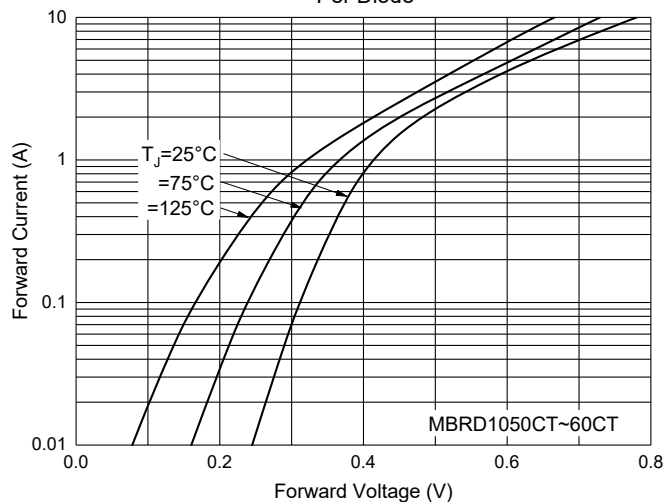
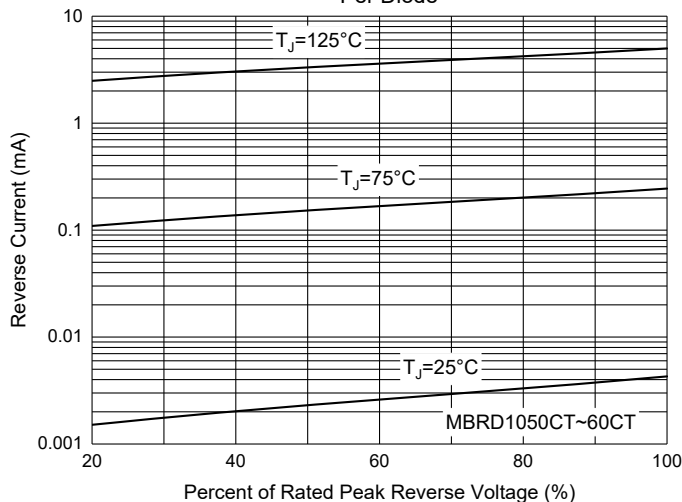


Fig. 6 - Typical Reverse Leakage Characteristics Per Diode



Curve Characteristics

Fig. 7 - Typical Instantaneous Forward Characteristics Per Diode

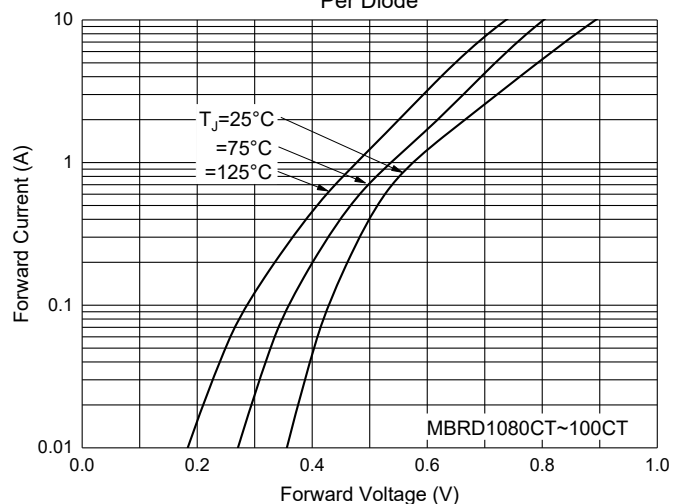


Fig. 8 - Typical Reverse Leakage Characteristics Per Diode

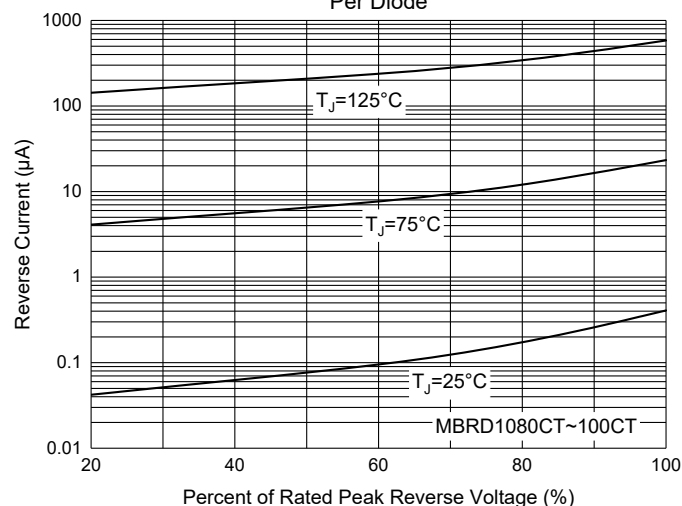
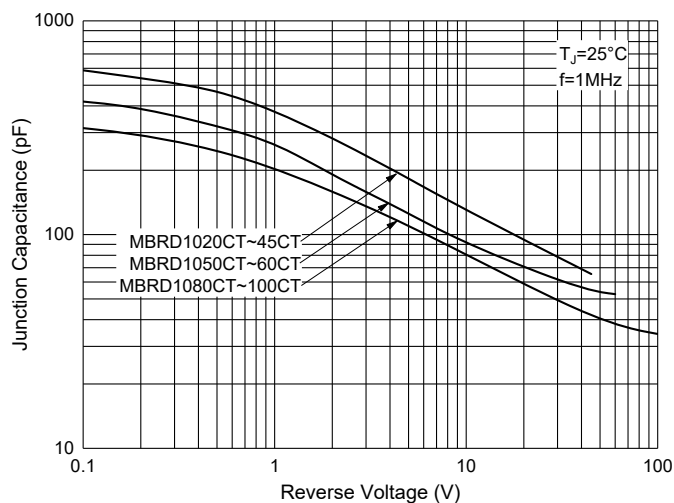


Fig. 9 - Typical Capacitance Characteristics Per Diode



Ordering Information

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

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