Features

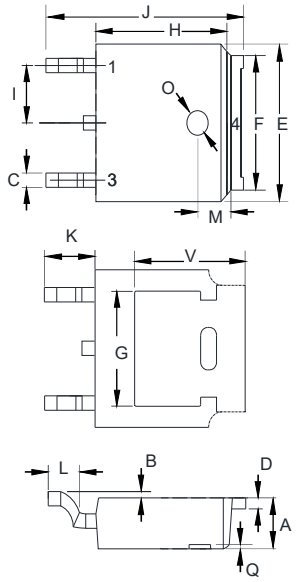
- Halogen Free. "Green" Device (Note 1)
- Fully Automotive Qualified to AEC-Q101
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant (Note 2)("P" Suffix Designates RoHS Compliant. See Ordering Information)

20 Amp Schottky Barrier Rectifiers 100 Volts

Maximum Ratings @ 25°C (Unless Otherwise Specified)

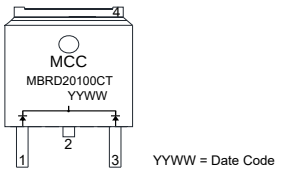
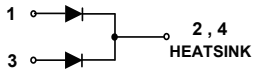
Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	V_{RMS}	70	V
Average Rectified Forward Current Per Diode Per Device	$I_{F(AV)}$	10 20	A
Non−Repetitive Peak Surge Current @8.3ms Half Sine Wave	I_{FSM}	130	A
Current Squared Time @ 1ms≤t≤8.3ms	I^2t	70	A^2s

(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		

Internal Structure

Pin	Description	Simplified Outline	Graphic Symbol
1,3	Anode		
2,4	Cathode		

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.

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
$Rth_{(J-C)}$	Thermal Resistance from Junction to Case	Per Leg		4		°C/W
$Rth_{(J-A)}$	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	V_F	I_F=10A;T_J=25°C		0.81	0.85	V
		I_F=10A;T_J=125°C		0.69	0.75	
Reverse Current Per Diode	I_R	V_R=100V;T_J=25°C			10	μA
		V_R=100V;T_J=125°C			1000	
Junction Capacitance Per Diode	C_J	V_R=4V;f=1MHz;T_J=25°C		195		pF

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

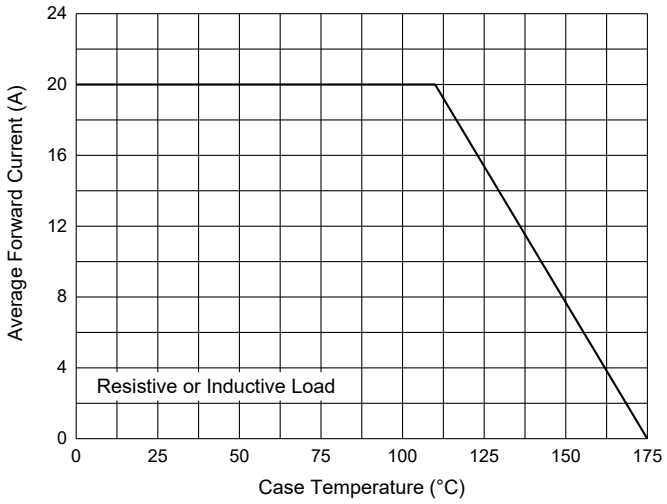


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

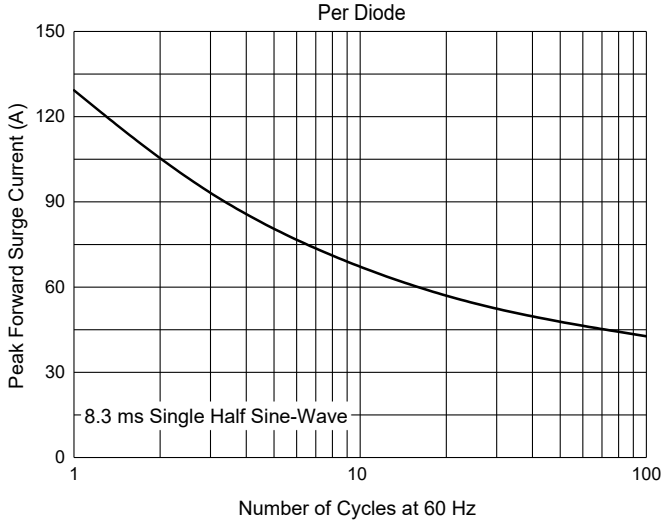


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

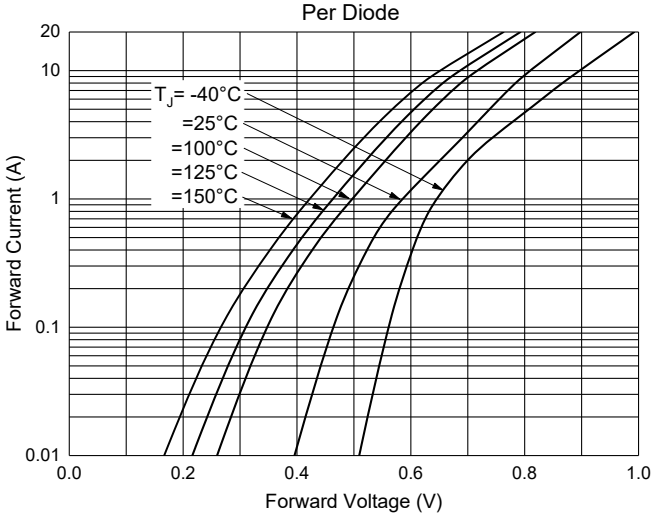


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

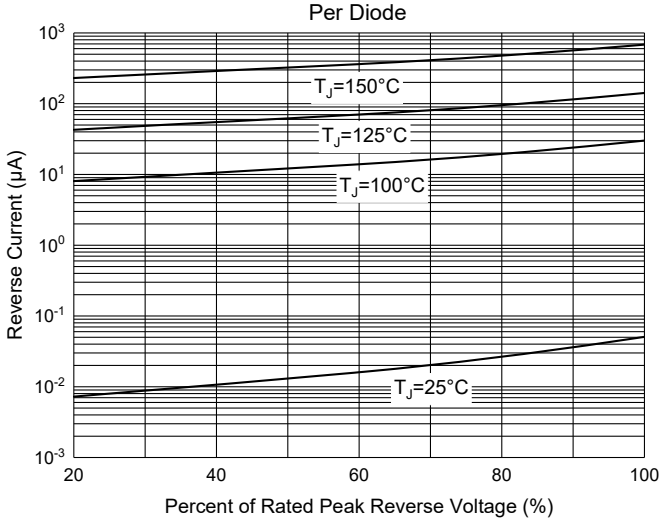
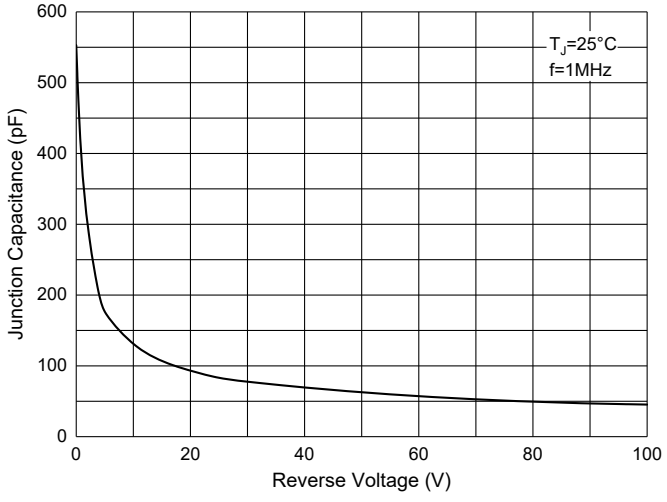


Fig. 5 - Typical Capacitance Characteristics Per Diode



Ordering Information

Device	Packing
MBRD20100CTQ-TP	Tape&Reel: 2.5Kpcs/Reel