Features

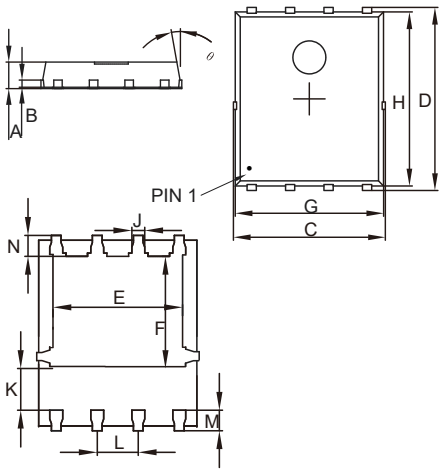
- High Frequency Operation
- Guard Ring for Enhanced Ruggedness and Long Term Reliability
- Lead Free Finish/RoHS Compliant (Note 1)("P" Suffix Designates Compliant. See Ordering Information)
- Halogen Free. “Green” Device (Note 2)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Fully Automotive Qualified to AEC-Q101

10 Amp Schottky Barrier Rectifier 100 Volts

Maximum Ratings @ 25°C (Unless Otherwise Specified)

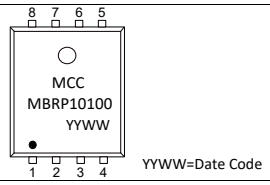
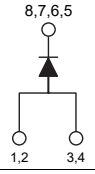
Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	V_{RMS}	70	V
Average Rectified Forward Current @ T_C=140°C	$I_{F(AV)}$	10	A
Non−Repetitive Peak Surge Current @8.3ms Half Sine Wave	I_{FSM}	150	A
Current Squared Time @ 1ms≤t≤8.3ms	I^2t	93	A^2s

DFN5060



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.031	0.047	0.80	1.20	
B	0.010		0.254		TYP.
C	0.193	0.222	4.90	5.64	
D	0.232	0.250	5.90	6.35	
E	0.148	0.167	3.75	4.25	
F	0.126	0.154	3.20	3.92	
G	0.189	0.213	4.80	5.40	
H	0.222	0.239	5.65	6.06	
K	0.045	0.059	1.15	1.50	
J	0.012	0.020	0.30	0.50	
L	0.046	0.054	1.17	1.37	
M	0.012	0.028	0.30	0.71	
N	0.016	0.028	0.40	0.71	

Internal Structure

Pin	Description	Simplified Outline	Graphic Symbol
5~8	Cathode		
1~4	Anode		

Note:

1. High temperature solder exemption applied, see EU directive annex 7a.
2. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

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
$Rth_{(J-L)}$	Thermal Resistance from Junction to Case	Note 1		3.5		°C /W
$Rth_{(J-A)}$	Thermal Resistance from Junction to Ambient	Note 1		55		°C /W

Note:

1.Mounted on P.C.B. with 1in^2 copper pad areas.

Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	V_F	I_F=10A;T_J=25°C I_F=10A;T_J=125°C		0.80 0.67	0.85 0.75	V
Reverse Current	I_R	at Rated V_R;T_J=25°C at Rated V_R;T_J=125°C			10 3000	μA
Junction Capacitance	C_J	V_R=4V;f=1MHz;T_J=25°C		270		pF

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

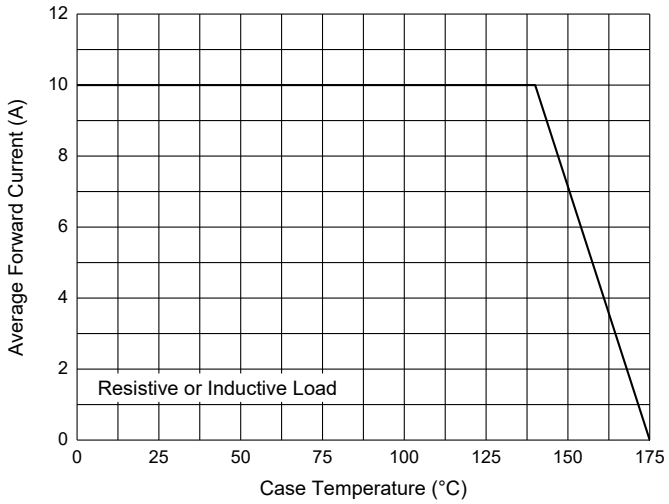


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

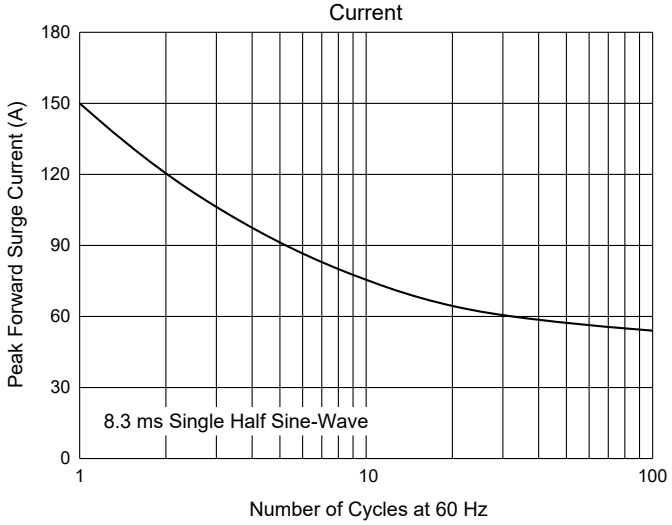


Fig. 3 - Typical Forward Characteristics

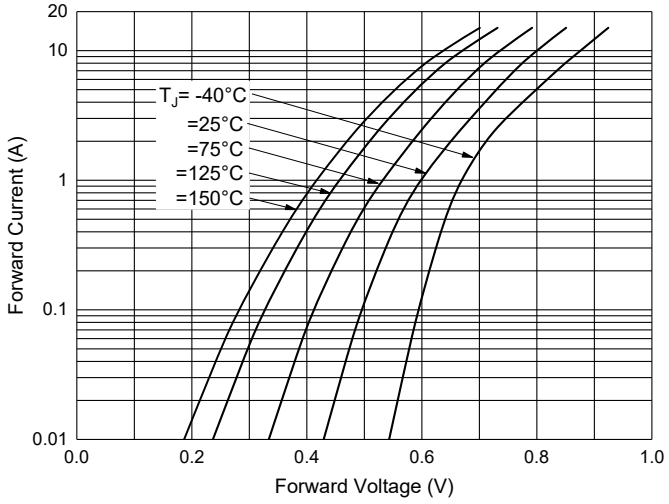


Fig. 4 - Typical Reverse Leakage Characteristics

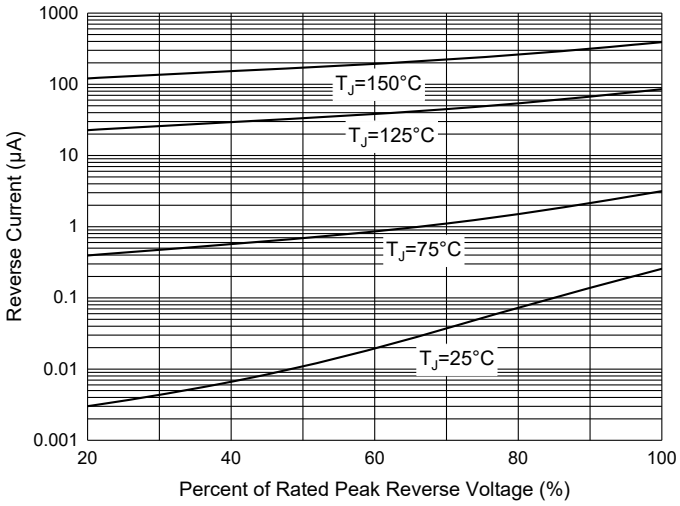
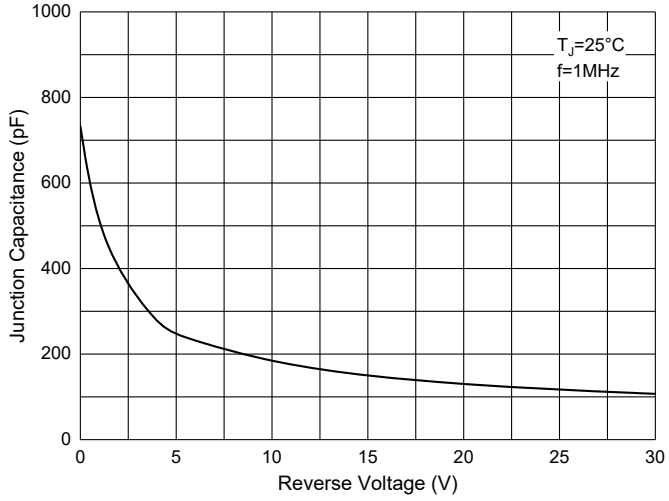


Fig. 5 - Typical Capacitance Characteristics



Ordering Information

Device	Packing
MBRP10100Q-TP	Tape&Reel:5Kpcs/Reel