

Features

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

Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 625°C/W Junction to Ambient(Note 2)

MCC Part Number	Repetitive Peak Reverse Voltage V_{RRM}	RMS Reverse Voltage $V_{R(RMS)}$	DC Blocking Voltage V_R
MBR140P1Q	40V	28V	40V

Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Value
Forward Current	I_F	1A
Peak Forward Surge Current	I_{FSM}	5A@8.3ms half-sine wave
Power Dissipation	P_D	200mW

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

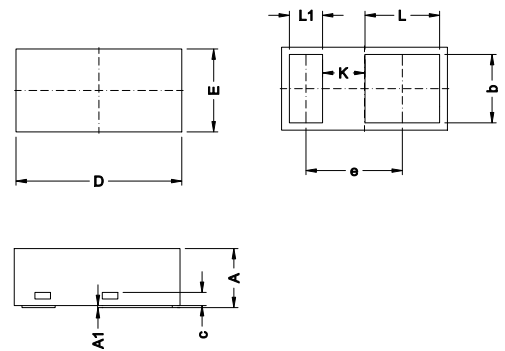
2. Valid Provided that Terminals are Kept at Ambient Temperature.

Internal Structure and Marking Code



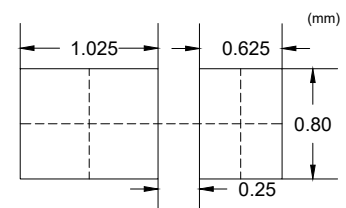
200mW, 40 Volt Schottky Barrier Diode

DFN1608-2L



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.014	0.022	0.35	0.55	
A1	0.000	0.004	0.00	0.10	
b	0.022	0.030	0.56	0.76	
c	0.005		0.127		TYP
D	0.059	0.067	1.50	1.70	
E	0.028	0.035	0.70	0.90	
e	0.037		0.93		TYP
K	0.016		0.41		TYP
L	0.024	0.032	0.62	0.82	
L1	0.009	0.017	0.22	0.42	

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Breakdown Voltage	V_{BR}	$I_R=10\mu A$	40			V
Forward Voltage	V_F	$I_F=100mA$			0.39	V
		$I_F=500mA$			0.50	V
		$I_F=700mA$			0.55	V
		$I_F=1000mA$			0.60	V
Reverse Current	I_R	$V_R=10V$			4	μA
		$V_R=40V$			20	μA
Junction Capacitance	C_J	$V_R = 1V, f = 1MHz$			60	pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=10mA,$ $I_{rr}=0.1 \times I_R, R_L=100\Omega$			20	ns

* Pulse Test: Pulse Width 300 μ sec, Duty Cycle 2%

Curve Characteristics

Fig. 1 - Typical Instantaneous Forward Characteristics

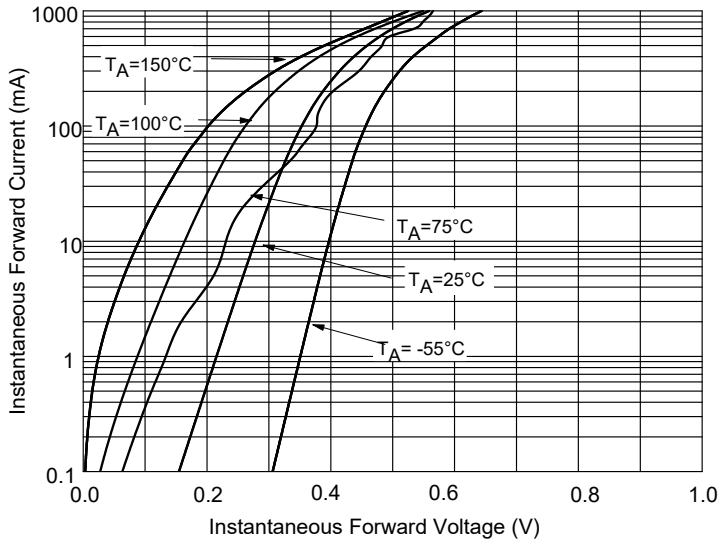


Fig. 2 - Typical Reverse Leakage Characteristics

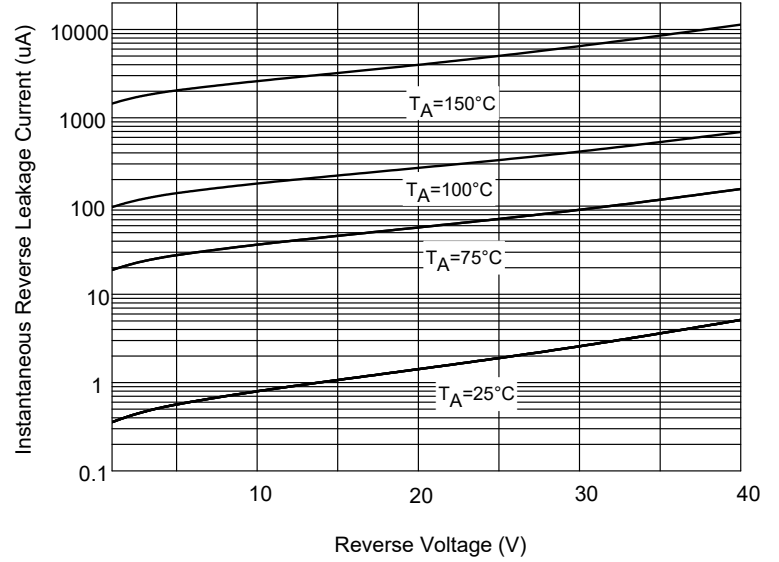


Fig. 3 - Capacitance Characteristics

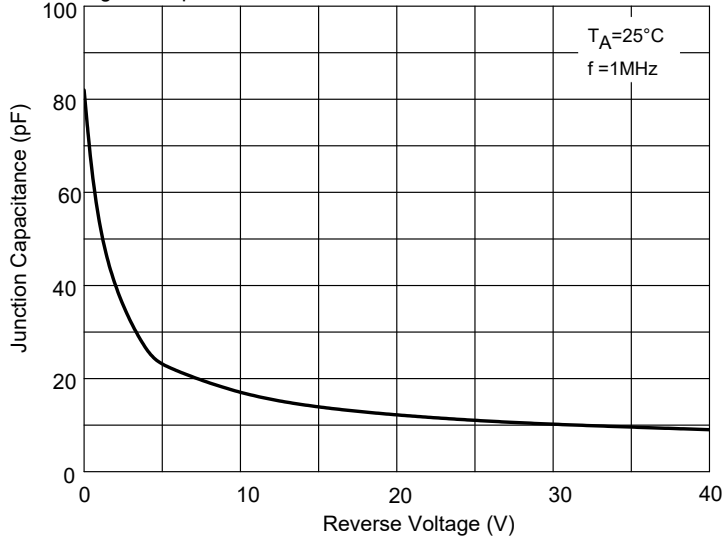
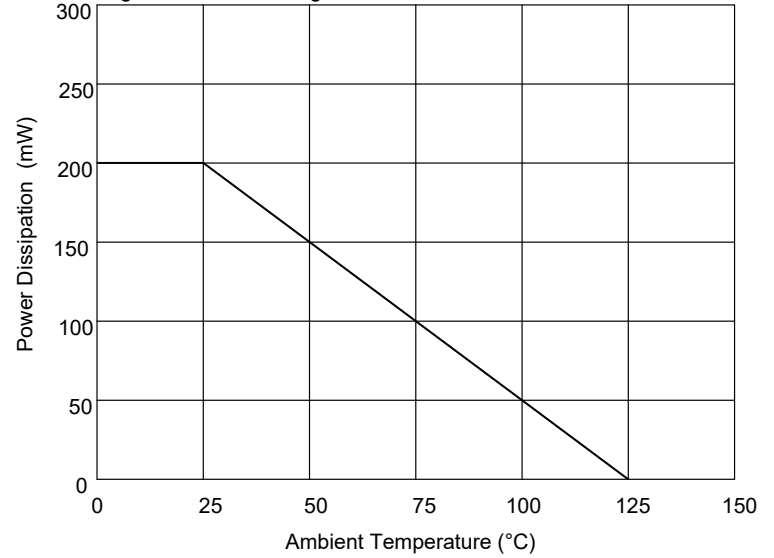


Fig. 4 - Power Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 10Kpcs/Reel

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