



MBRP1045

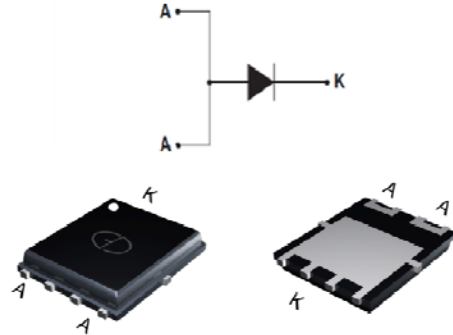
Schottky Barrier Rectifier

Reverse Voltage 45 Volts Forward Current 10 Amperes

Features

Ultra Low $V_f=0.45V(TYP)$ at $I_F=10A$ ($25^{\circ}C$)

- Thin Package:1.0mm
- Low forward voltage drop, low power losses
- High efficiency operation
- Halogen Free Plastic package has underwriters Laboratory Flammability Classification 94V-0



Mechanical Data

- Case: Epoxy, Molded
- Weight: 0.1grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: $260^{\circ}C$ Max. for 10 sec
- Shipped 3000 units per reel

Package: POWER QFN5x6

Maximum Ratings & Electrical Characteristics

($T_A=25^{\circ}C$ unless otherwise noted)

PARAMETER		TEST CONDITIONS	SYMBOL	MBRP1045	UNIT
Maximum repetitive peak reverse voltage			V_{RRM}	45	V
Working peak reverse voltage			V_{RWM}	45	V
Maximum DC blocking voltage			V_{DC}	45	V
Maximum average forward rectified current at $T_c=105^{\circ}C$ total device per diode			$I_F(AV)$	10	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode			I_{FSM}	200	A
Peak repetitive reverse current per leg at $t_p=2.0\mu s$, 1KHz			I_{RRM}	1.0	A
Operating junction temperature range			T_J	-55 to +150	$^{\circ}C$
Storage temperature range			T_{STG}	-55 to +150	$^{\circ}C$
Maximum instantaneous forward voltage per leg		$I_F=10A$ $I_F=10A$	$T_C=25^{\circ}C$ $T_C=125^{\circ}C$	V_F	0.49(0.45 TYP) 0.40 V
Maximum reverse current per leg at working peak Reverse voltage			$T_J=25^{\circ}C$ $T_J=100^{\circ}C$	I_R	500 50 uA mA
Thermal Characteristics $T_A=25^{\circ}C$ unless otherwise noted					
Symbol	Parameter	TYP (POWER QFN 5x6)			Unit
R0JC	Thermal Resistance, Junction to Case per Leg	2.5			$^{\circ}C/W$
R0JA	Thermal Resistance, Junction to Ambient per Leg	50			$^{\circ}C/W$

Note: Pulse test:300us pulse width, duty cycle=2%



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Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

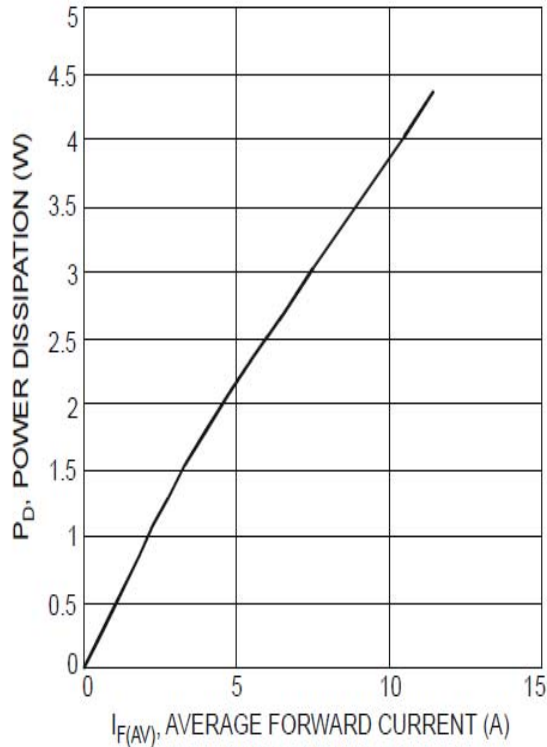


Fig. 1 Forward Power Dissipation

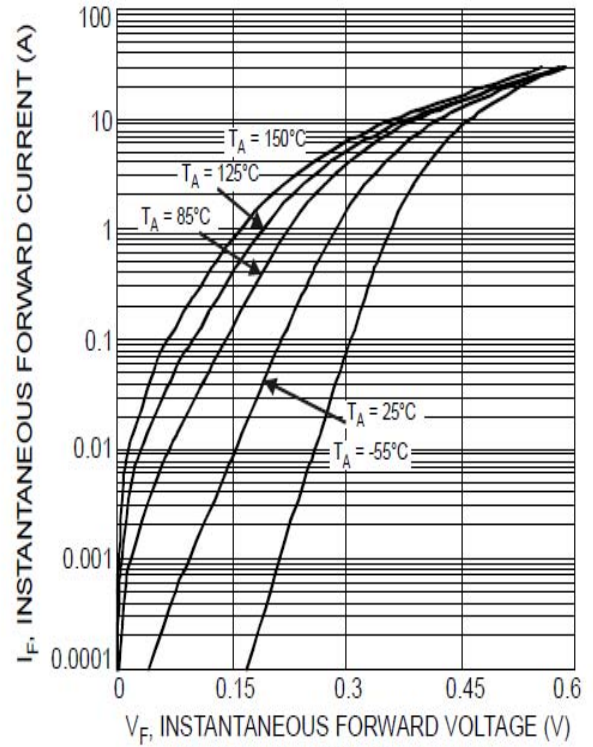


Fig. 2 Typical Forward Characteristics

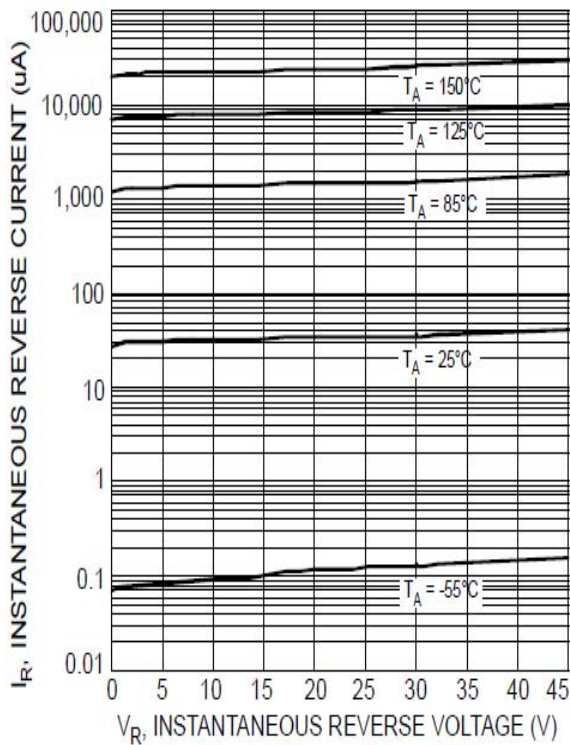


Fig. 3 Typical Reverse Characteristics

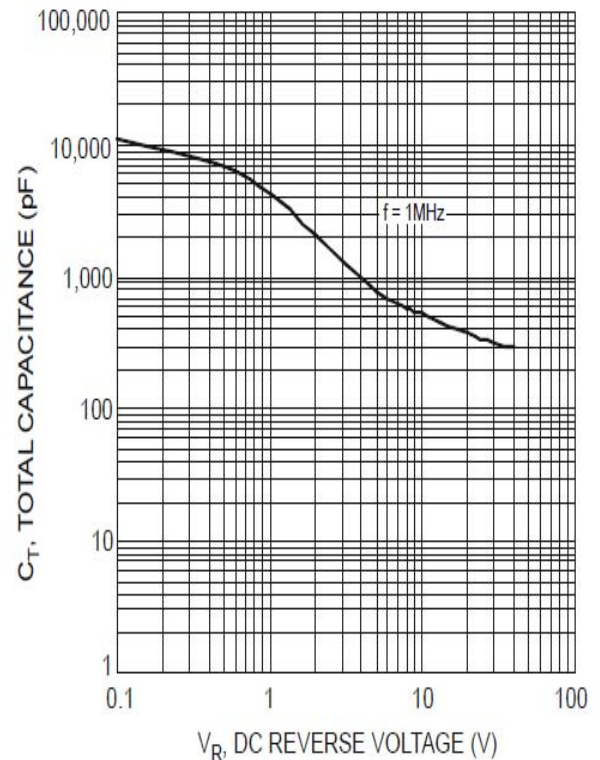
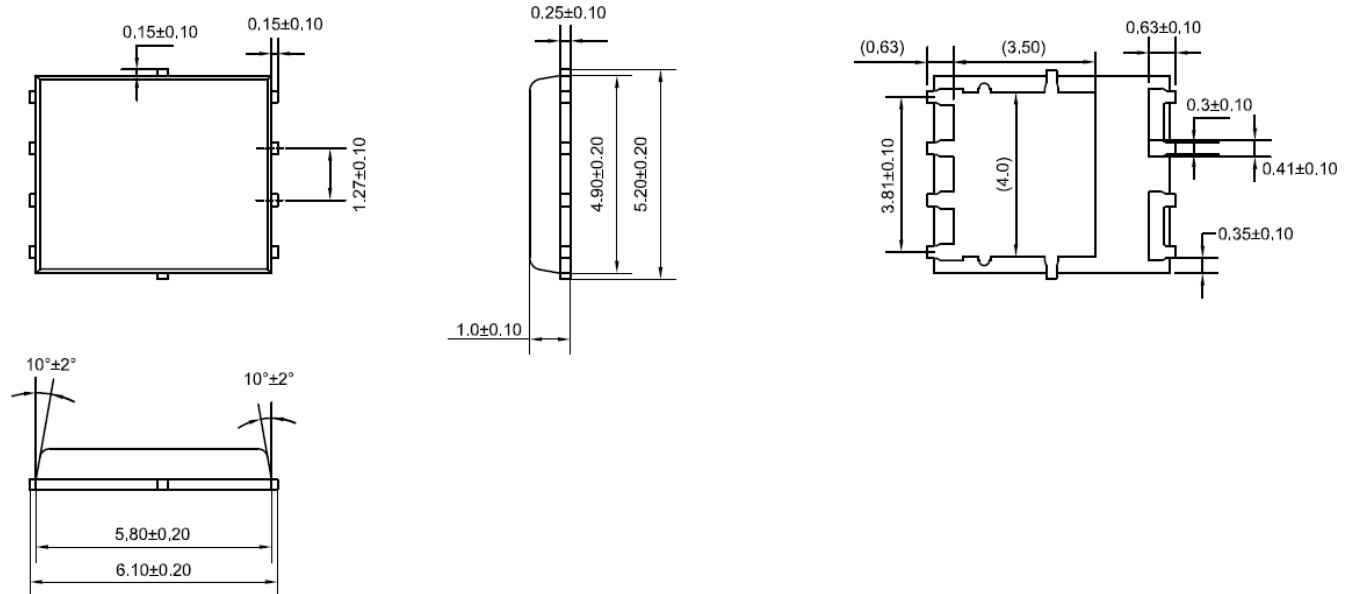


Fig. 4 Total Capacitance vs. Reverse Voltage



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Unit: millimeters





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