

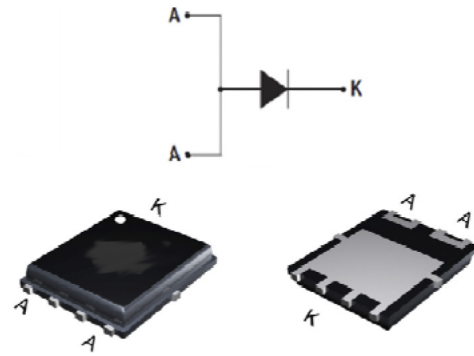
Features

Ultra Low $V_F=0.31V$ at $I_F=1A$ ($25^{\circ}C$)

Ultra Low $V_F=0.46V$ 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



2018

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	HMBRP1045	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}	150	A
Peak repetitive reverse current per leg at $t_p=2.0us$, 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(0.46 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	200 20	μA mA
Thermal Characteristics $T_A=25^{\circ}C$ unless otherwise noted					
Symbol	Parameter		TYP (POWER QFN 5x6)		Unit
R θ JC	Thermal Resistance, Junction to Case per Leg		3.5		$^{\circ}C / W$
R θ JA	Thermal Resistance, Junction to Ambient per Leg		50		$^{\circ}C / W$

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

Ratings and Characteristics Curves

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

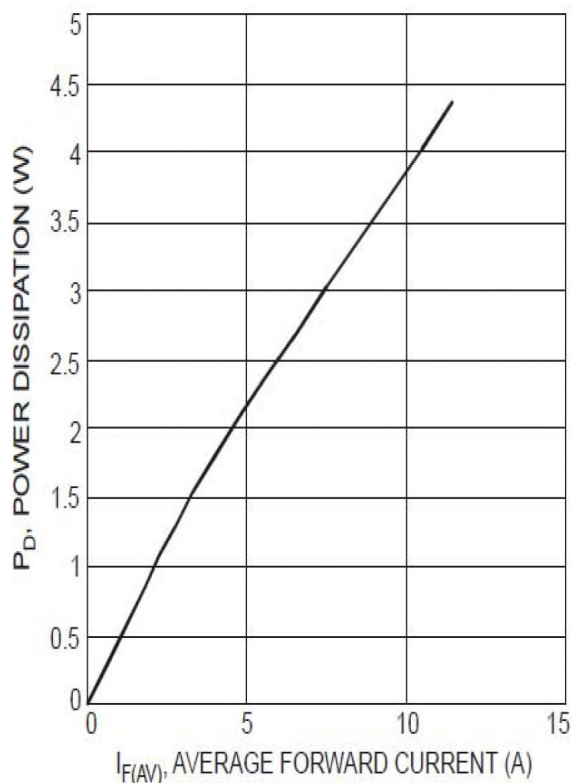


Fig. 1 Forward Power Dissipation

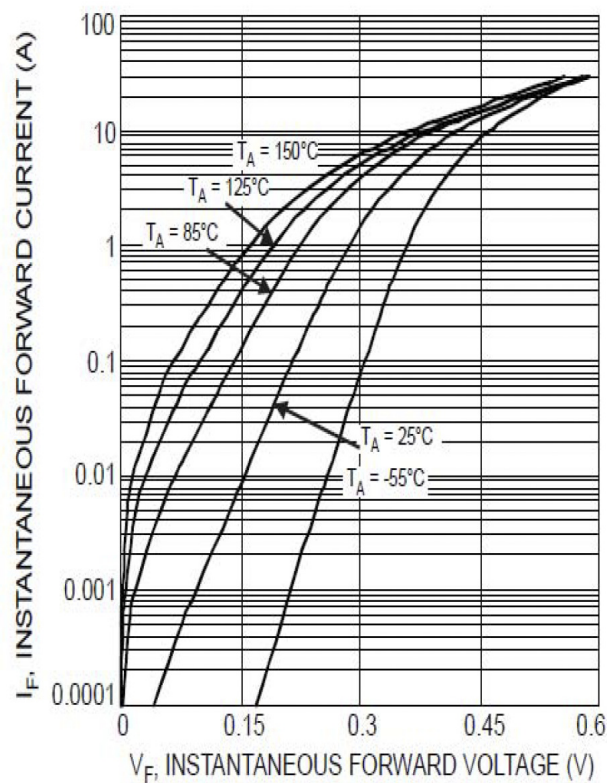


Fig. 2 Typical Forward Characteristics

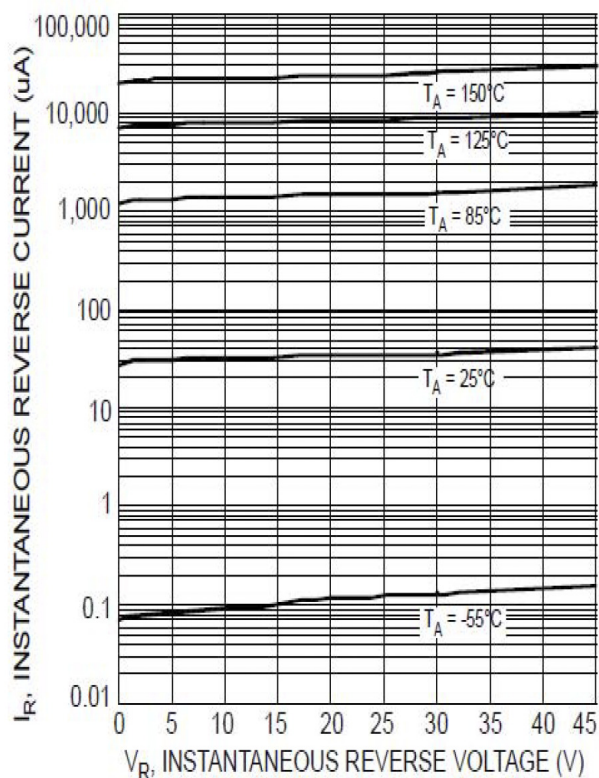


Fig. 3 Typical Reverse Characteristics

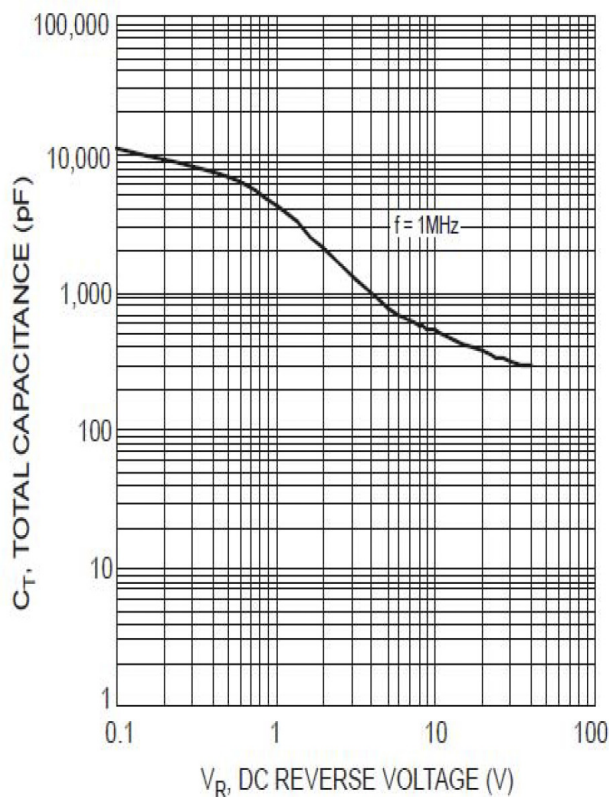


Fig. 4 Total Capacitance vs. Reverse Voltage

Package Outline Dimensions

Unit: millimeters

POWER QFN 5x6

