

10AMP Glass Passivated Fast Recovery Rectifiers

FR1001G-FR1007G Vishaymas General Semiconductor

Features

- Glass passivated chip junction.
- High efficiency, Low VF
- High current capability
- High reliability
- High surge current capability
- Low power loss

Mechanical Data

Cases: R-6 molded plastic

Epoxy: UL 94V-0 rate flame retardant

Terminals: Pure tin plated, Lead free

Polarity: As marked

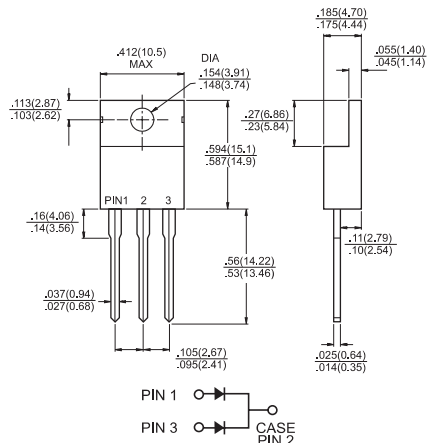
High temperature soldering guaranteed:

260°C/10 seconds .16", (4.06mm) from case

Mounting position: Any

Weight: 2.24 grams

TO-220



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%

Type Number	Symbol	FR 1001G	FR 1002G	FR 1003G	FR 1004G	FR 1005G	FR 1006G	FR 1007G	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current See Fig. 1	$I_{(AV)}$	10							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	125							A
Maximum Instantaneous Forward Voltage @ 5.0A	V_F	1.3							V
Maximum DC Reverse Current @ $T_c=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_c=125^\circ\text{C}$	I_R	5.0 100							 uA
Maximum Reverse Recovery Time (Note 1)	T_{rr}	150				250	500		nS
Typical Junction Capacitance (Note 3)	C_j	40							pF
Typical Thermal Resistance $R_{\theta JC}$ (Note 2)	$R_{\theta JC}$	3.0							$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150							$^\circ\text{C}$

- Notes:
1. Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
 2. Thermal Resistance from Junction to Case Per Leg Mounted on Heatsink Size 2" x 3" x 0.25" Al-Plate.
 3. Measured at 1MHz and Applied Reverse Voltage of 4.0 Volts D.C.

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

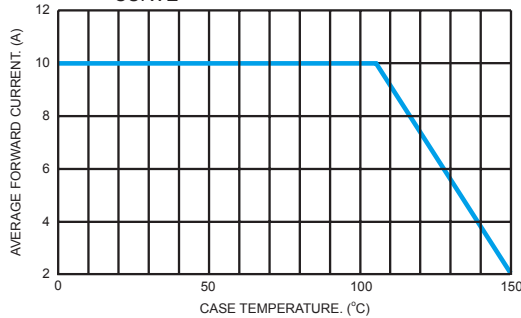


FIG.2- TYPICAL REVERSE CHARACTERISTICS PER LEG

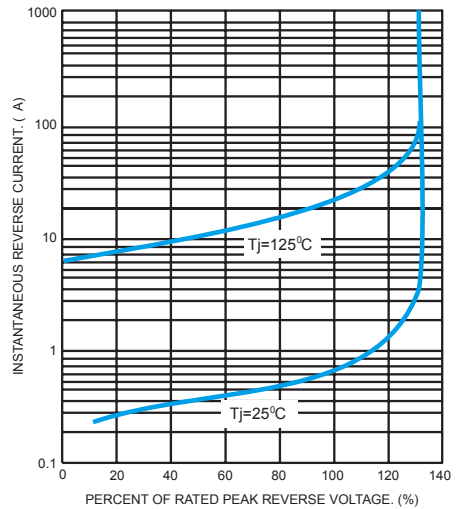


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

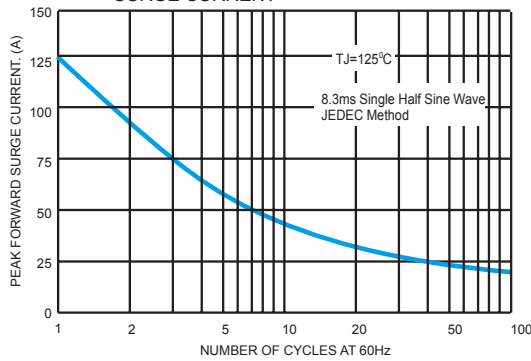


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

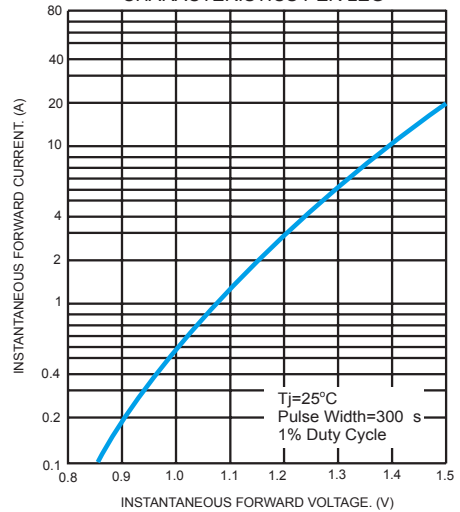


FIG.4- TYPICAL JUNCTION CAPACITANCE

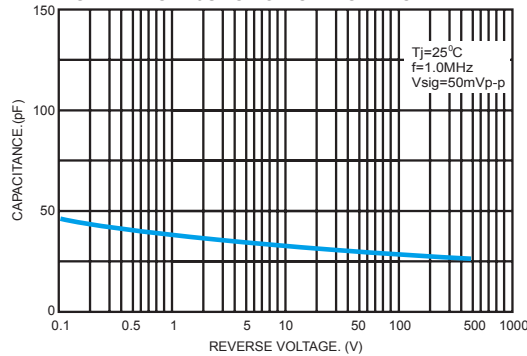


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

