

# FW005G - FW10G

# FAST RECOVERY GLASS PASSIVATED BRIDGE RECTIFIERS

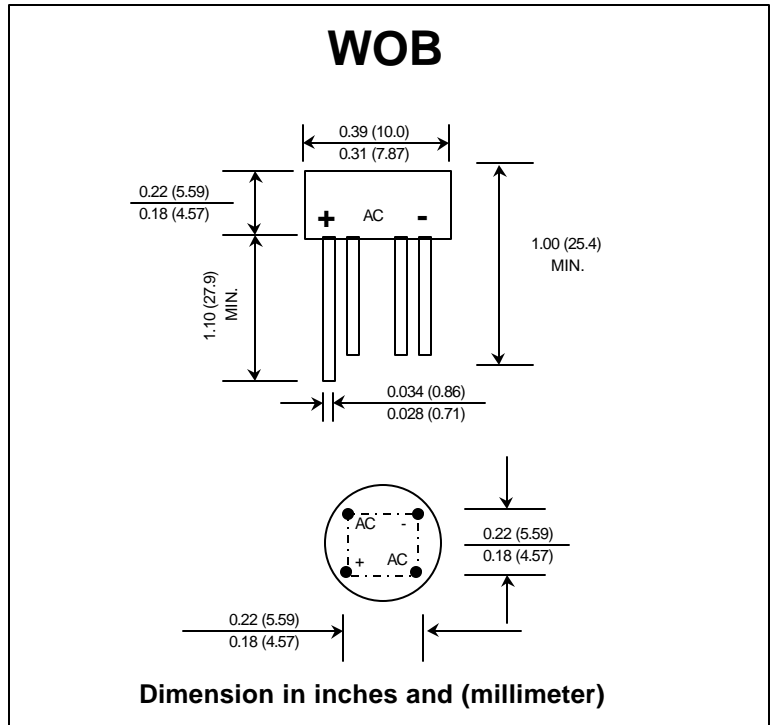
**PRV : 50 - 1000 Volts**  
**I<sub>o</sub> : 1.5 Amperes**

### FEATURES :

- \* Glass passivated chip
- \* High case dielectric strength
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Fast switching for high efficiency
- \* Ideal for printed circuit board

### MECHANICAL DATA :

- \* Case : Reliable low cost construction utilizing molded plastic technique
- \* Epoxy : UL94V-O rate flame retardant
- \* Terminals : Plated leads solderable per MIL-STD-202, Method 208 guaranteed
- \* Polarity : Polarity symbols marked on case
- \* Mounting position : Any
- \* Weight : 1.29 grams



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

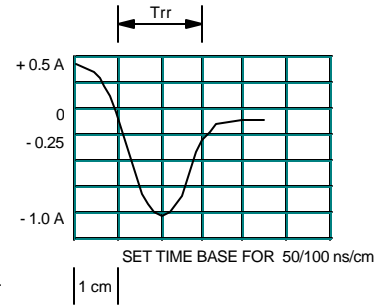
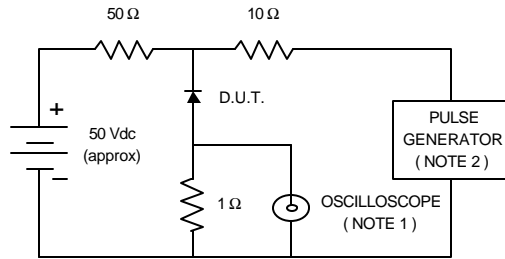
Rating at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

RATING	SYMBOL	FW	FW	FW	FW	FW	FW	FW	UNIT
		005G	01G	02G	04G	06G	08G	10G	
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Current 0.375" (9.5 mm) lead length    T <sub>c</sub> = 25°C	I <sub>F(AV)</sub>	1.5							Amps.
Peak Forward Surge Current Single half sine wave Superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	30							Amps.
Rating for fusing (t < 8.3 ms.)	I <sup>2</sup> t	10							A <sup>2</sup> S
Maximum Forward Voltage per Diode at I <sub>F</sub> = 1.0 Amp.	V <sub>F</sub>	1.3							Volts
Maximum DC Reverse Current    T <sub>a</sub> = 25 °C at Rated DC Blocking Voltage    T <sub>a</sub> = 100 °C	I <sub>R</sub>	10							µA
	I <sub>R(H)</sub>	1.0							mA
Maximum Reverse Recovery Time (Note 1)	T <sub>rr</sub>	150			250	500		ns	
Typical Junction Capacitance per Diode (Note 2)	C <sub>J</sub>	24							pf
Typical Thermal Resistance (Note 3)	R <sub>θJA</sub>	36							°C/W
Operating Junction Temperature Range	T <sub>J</sub>	- 50 to + 150							°C
Storage Temperature Range	T <sub>STG</sub>	- 50 to + 150							°C

**Notes :** 1) Measured with I<sub>F</sub> = 0.5 Amp., I<sub>R</sub> = 1 Amp., I<sub>rr</sub> = 0.25 Amp.  
2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.  
3) Thermal resistance from Junction to Ambient at 0.375" (9.5 mm) lead length P.C. Board mounting.

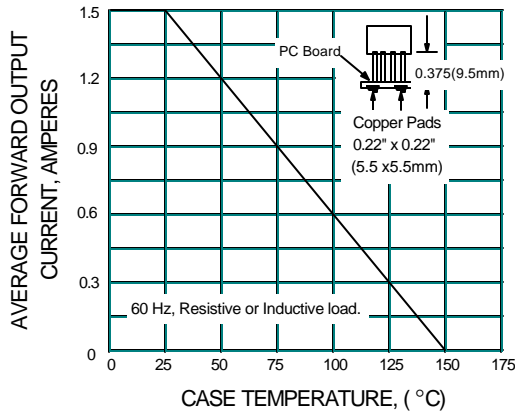
## RATING AND CHARACTERISTIC CURVES ( FW005G - FW10G )

**FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**

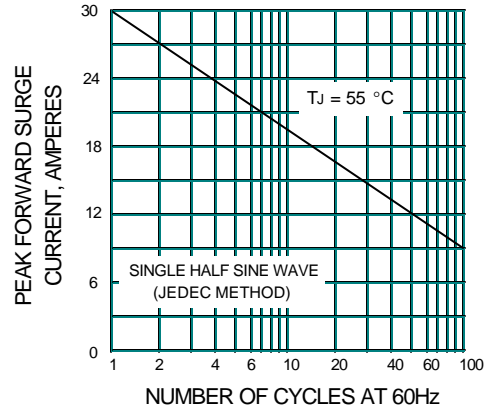


- NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF.  
 2. Rise time = 10 ns max., Source Impedance = 50 ohms.  
 3. All Resistors = Non-inductive Types.

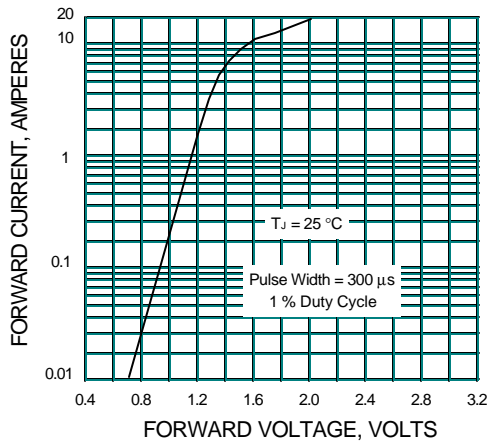
**FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



**FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.4 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.5 - TYPICAL REVERSE CHARACTERISTICS**

