

# FR1001 THRU FR1007

## GLASS PASSIVATED FAST RECOVERY RECTIFIER



**REVERSE VOLTAGE:** 50 to 1000 VOLTS  
**FORWARD CURRENT:** 10.0 AMPERE

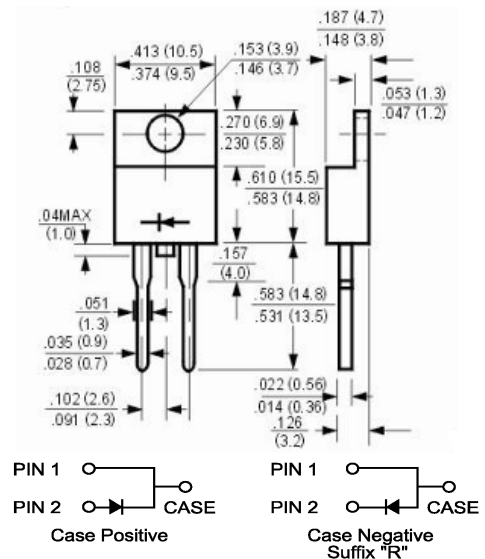
### FEATURES

- Low forward voltage drop
- High current capability
- High capability
- High surge current capability

### MECHANICAL DATA

Case: Molded plastic, TO-220A  
 Epoxy: UL 94V-O rate flame retardant  
 Terminals: Leads solderable per MIL-STD-202 method 208 guaranteed  
 Polarity: As marked  
 Mounting position: Any  
 Weight: 0.08ounce, 2.24gram

### TO-220A



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

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

	Symbols	FR1001	FR1002	FR1003	FR1004	FR1005	FR1006	FR1007	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at $T_C=100^\circ\text{C}$	$I_{(AV)}$	10.0							Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	150							Amp
Maximum Forward Voltage at 10.0A DC and 25°C	$V_F$	1.3							Volts
Maximum Reverse Current at $T_C=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_C=125^\circ\text{C}$	$I_R$					5.0			uAmp
Typical Junction Capacitance (Note 1)	$C_J$					100			pF
Typical Thermal Resistance (Note 2)	$R_{\theta JC}$					3			°C/W
Maximum Reverse Recovery Time (Note 3)	$T_{RR}$	150			250		500		nS
Operating and Storage Temperature Range	$T_J, T_{stg}$	-55 to +150							°C

### NOTES:

- 1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.
- 2- Thermal Resistance from Junction to Case, Single Side Cooled.
- 3- Reverse Recovery Test Conditions:  $I_F=.5A$ ,  $I_R=1A$ ,  $I_{RR}=.25A$ .

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### RATINGS AND CHARACTERISTIC CURVES

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

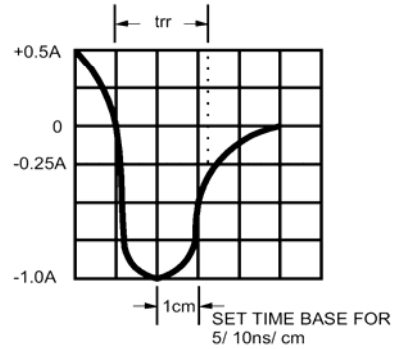
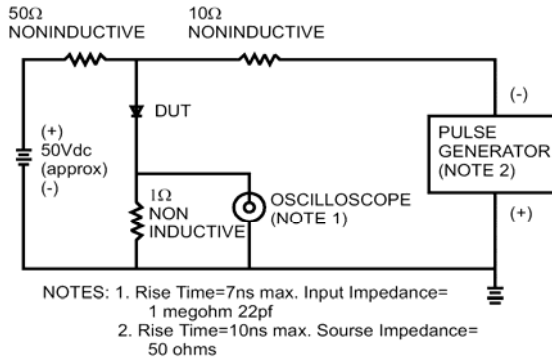


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

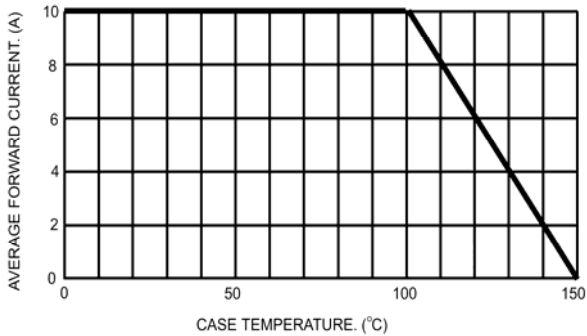


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

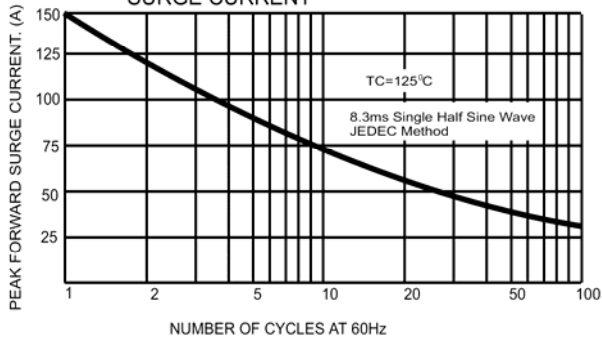


FIG.4- TYPICAL JUNCTION CAPACITANCE

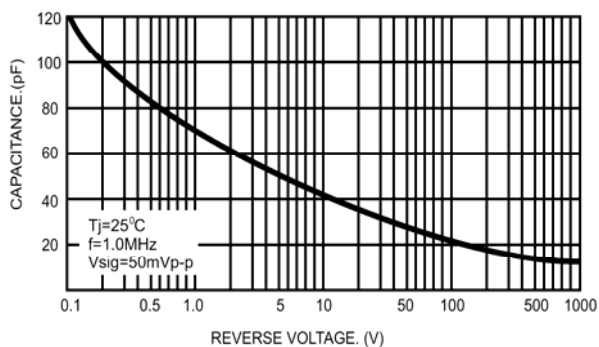


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

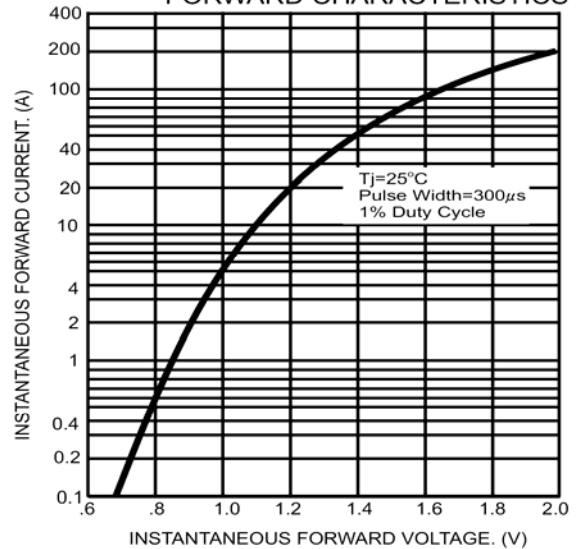


FIG.6- TYPICAL REVERSE CHARACTERISTICS

