

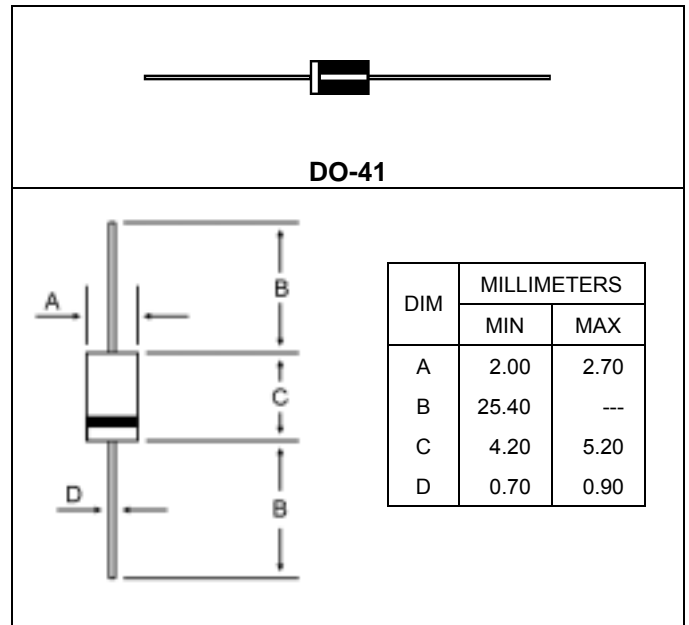
**FAST RECOVERY RECTIFIER**  
**VOLTAGE RANGE 50 to 1000 Volts**  
**CURRENT 1 Ampere**

### FEATURES

- \* Low cost construction
- \* Low reverse leakage
- \* Fast switching for high efficiency
- \* High forward surge current Capability
- \* High Temperature soldering guaranteed:  
 260°C/10 seconds, 0.375"(9.5 mm) lead length  
 at lbs (2.3kg) tension.

### MECHANICAL DATA

- \* Case : Transfer Molded Plastic
- \* Epoxy: UL94V-O rate flame retardant
- \* Terminals : Plated axial lead, Solderable Per MIL-STD-202  
 Method 208
- \* Polarity : Color band denotes cathode end
- \* Mounting position: Any
- \* Weight : 0.012 ounce, 0.33 grams (approx)



### AXIMUM RATINGS AND ELECTRICAL CHARATERISTICS

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

Characteristic	Symbol	FR101	FR102	FR103	FR104	FR105	FR106	FR107	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Average Rectifier Forward Current Per Leg $T_C=75$	$I_{F(AV)}$	1.0							A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase, 60Hz)	$I_{FSM}$	30							A
Maximum Instantaneous Forward Voltage ( $I_F=1.0$ Amp $T_C=25$ )	$V_F$	1.3							V
Maximum Instantaneous Reverse Current ( Rated DC Voltage, $T_C=25$ ) ( Rated DC Voltage, $T_C=100$ )	$I_R$	5.0 100							$\mu A$
Reverse Recovery Time (Note 3)	$T_{rr}$	150			250	500		ns	
Typical Junction Capacitance (Note 1)	$C_j$	15							pF
Typical Thermal Resistance(Note 2)	$R_{\theta JA}$	50							$^{\circ}C/W$
Operating Temperature Range	$T_J$	-65 to +150							
Storage Temperature Range	$T_{stg}$	-65 to +150							

#### NOTES:

1. Measured at 1.0MHz and applied reverse voltage of 4.0 volts
2. Thermal Resistance from Junction to Ambient temperature at .375"(9.5mm) lead length, P.C. board mounted.
3. Test conditions:  $I_F=0.5$  A,  $I_R=1.0$ ,  $I_{RR}=0.25$  A

# FR101 Thru FR107

FIG-1 TYPICAL FORWARD CHARACTERISTICS

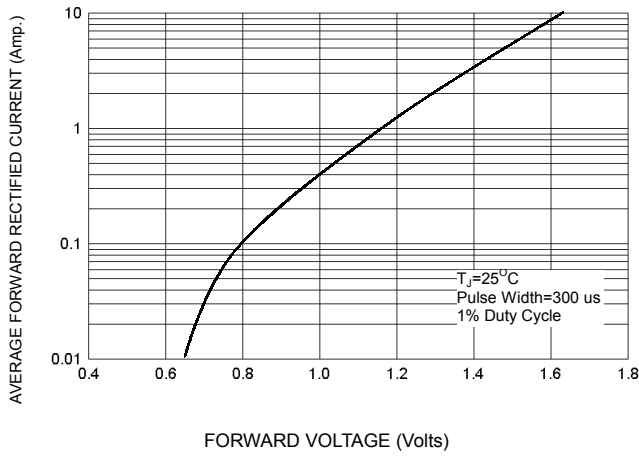


FIG-3 FORWARD CURRENT DERATING CURVE

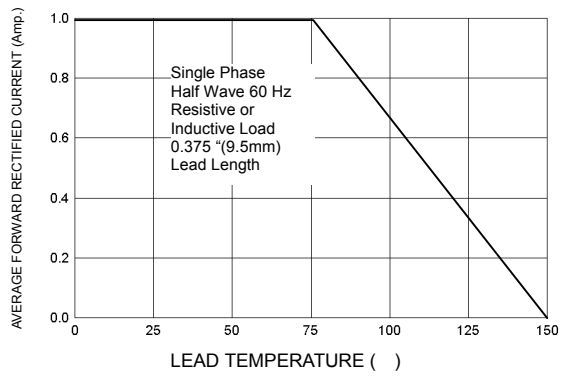


FIG-2 TYPICAL REVERSE CHARACTERISTICS

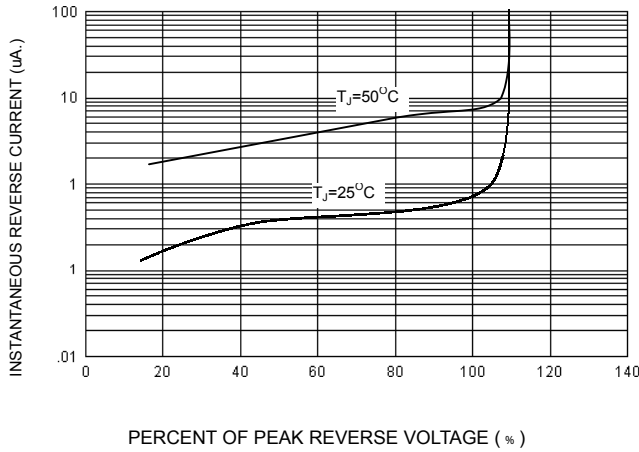


FIG-4 TYPICAL JUNCTION CAPACITANCE

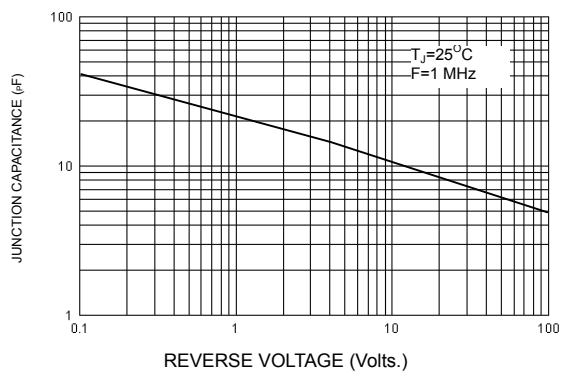
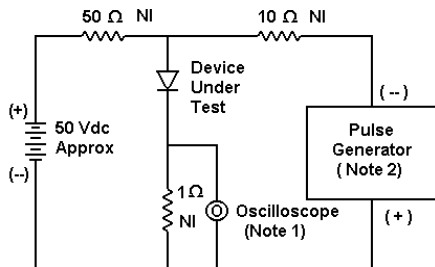
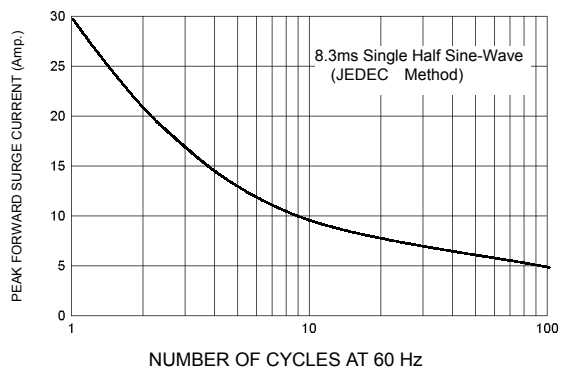
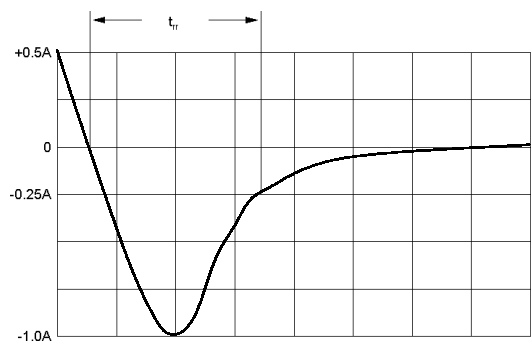


FIG-5 PEAK FORWARD SURGE CURRENT



- Notes:  
 1. Rise Time = 7 ns max. Input Impedance = 1 M  $\Omega$ , 22 pF  
 2. Rise Time = 10 ns max. Input Impedance = 50  $\Omega$



Set time base for 50/100 ns/cm

FIG-6 Reverse Recovery Time Characteristic and Test Circuit Diagram