

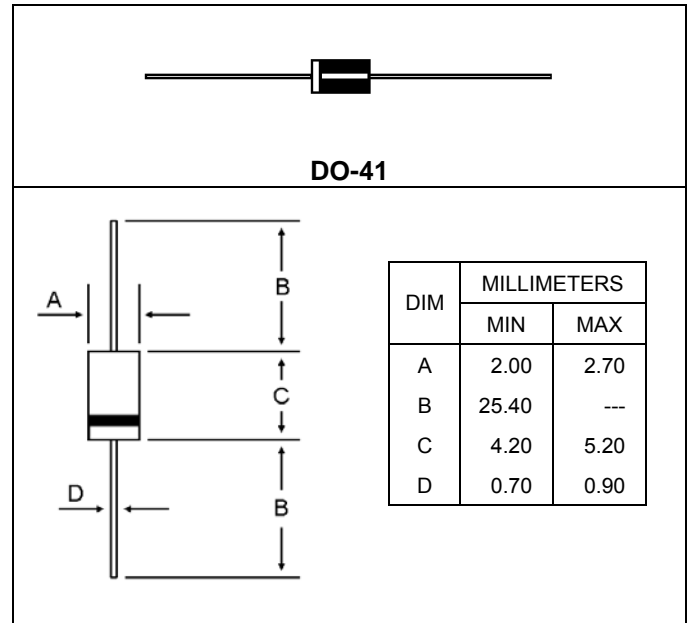
FAST RECOVERY RECTIFIER
VOLTAGE RANGE 50 to 1000 Volts
CURRENT 1 Ampere

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)



- * *In compliance with EU RoHs 2002/95/EC directives*
 The marking is indicated by part no. with "M". ex: FR101M ~FR107M

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- * Rating at 25°C 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 $T_C=75^\circ\text{C}$	$I_{F(AV)}$	1.0							A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfwave, single phase, 60Hz)	I_{FSM}	30							A
Maximum Instantaneous Forward Voltage ($I_F=1.0$ Amp $T_C=25^\circ\text{C}$)	V_F	1.3							V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C=25^\circ\text{C}$) (Rated DC Voltage, $T_C=100^\circ\text{C}$)	I_R	5.0 100							μA
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							$^\circ\text{C/W}$
Operating Temperature Range	T_J	-65 to +150							$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to +150							$^\circ\text{C}$

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

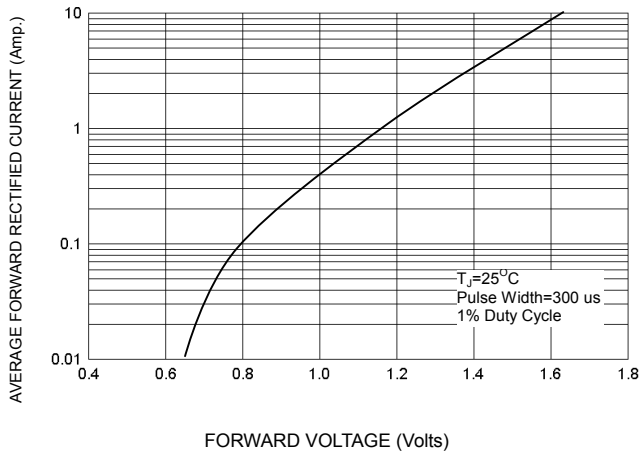


FIG-3 FORWARD CURRENT DERATING CURVE

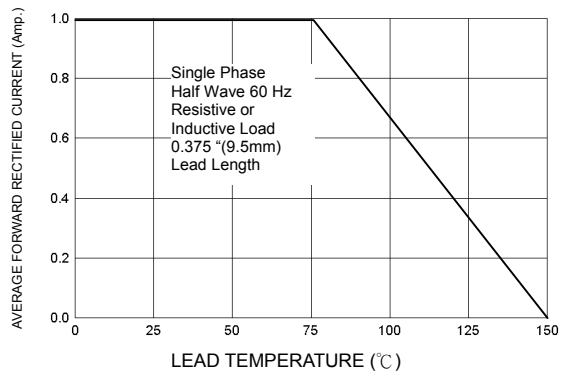


FIG-2 TYPICAL REVERSE CHARACTERISTICS

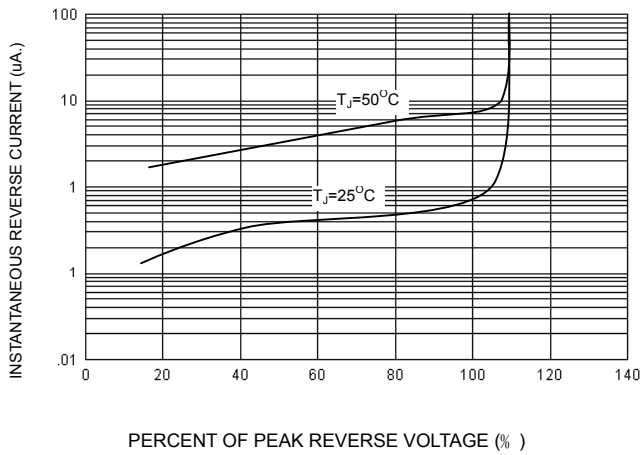


FIG-4 TYPICAL JUNCTION CAPACITANCE

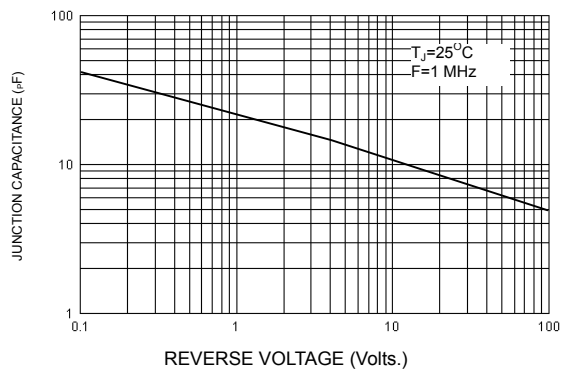
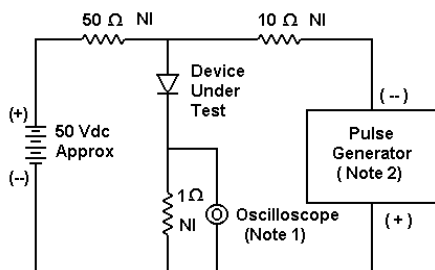
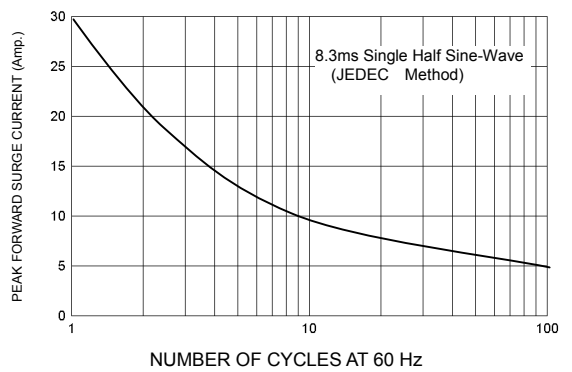
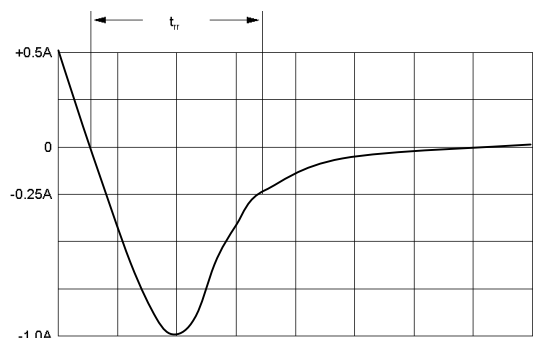


FIG-5 PEAK FORWARD SURGE CURRENT



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



Set time base for 50/100 ns/cm

FIG-6 Reverse Recovery Time Characteristic and Test Circuit Diagram

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