



FUKUCOM COMPANY LTD.

福 靈 有 限 公 司

FLAT P, 3/F, EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,  
KWUN TONG, KOWLOON, HONG KONG.  
TEL: 2790-0314 FAX: 2790-0206



**FAST RECOVERY RECTIFIER**

FR101 THRU FR107

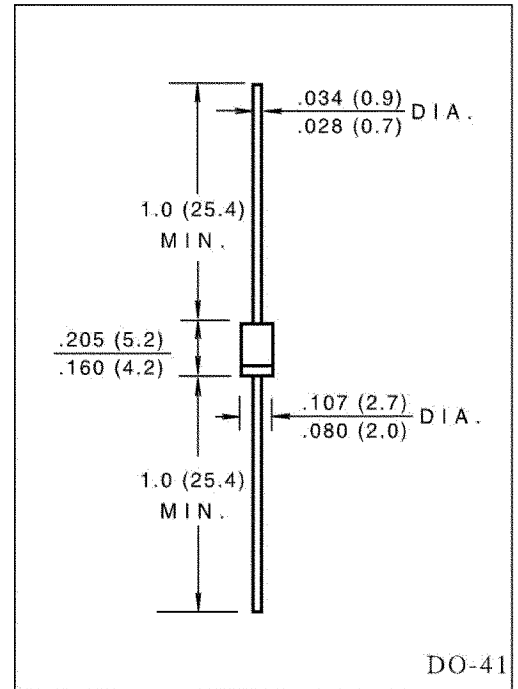
VOLTAGE RANGE 50 to 1000 Volts  
CURRENT 1.0 Ampere

**FEATURES**

- Low cost construction.
- Fast switching for high efficiency.
- Low reverse leakage
- High forward surge current capability.
- High temperature soldering guaranteed:  
260°C/10 seconds, 0.375" (9.5mm)lead length  
at 5 lbs (2.3kg) tension.

**MECHANICAL DATA**

- Case: transfer molded plastic
- Epoxy: UL94V - 0 rate flame retardant.
- Polarity: Color band denotes cathode end.
- Lead: Plated axial lead, solderable per MIL - STD - 202E  
method 208C
- Mounting position: Any
- Weight: 0.012 ounce, 0.33grams



**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	FR101	FR102	FR103	FR104	FR105	FR106	FR107	UNIT
Maximum Repetitive 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, 0.375" (9.5mm) lead length at $T_A=75^\circ C$	$I_{(AV)}$	1.0							Amp
Peak Forward Surge Current 8.3ms single half sine - wave superimposed on rated load (JEDEC method )	$I_{FSM}$	30							Amps
Maximum Instantaneous Forward Voltage at 1.0A	$V_F$	1.3							Volts
Maximum DC Reverse Current at rated DC blocking voltage	$I_R$	$T_A = 25^\circ C$ 5.0							$\mu A$
		$T_A = 100^\circ C$ 100							
Maximum Reverse Recovery Time (Note 3) $T_j = 25^\circ C$	$t_{rr}$	150				250	500		nS
Typical Junction Capacitance (Note 1)	$C_j$	15							pF
Typical Thermal Resistance (Note2)	$R_{\theta JA}$	50							$^\circ C/W$
Operating and Storage Temperature Range	$T_j$	(-65 to +150)							$^\circ C$
Storage Temperature Range	$T_{STG}$	(-65 to +150)							$^\circ C$

**NOTES:**

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.
2. Thermal Resistance from Junction to Ambient at 0.375" (9.5mm) lead length, P.C. board mounted.
3. Reverse Recovery Test Condition:  $I_F = 0.5A$ ,  $I_R = 1.0A$ ,  $I_{RR} = 0.25A$



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RATINGS AND CHARACTERISTIC CURVES FR101 THRU FR107

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

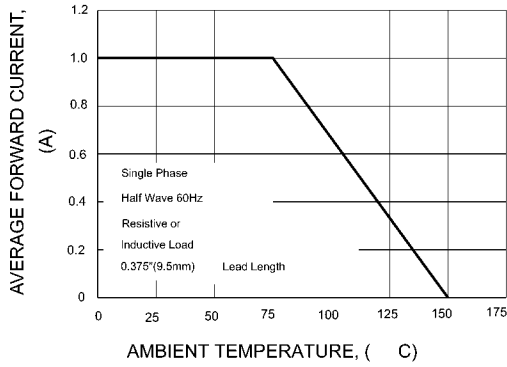


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

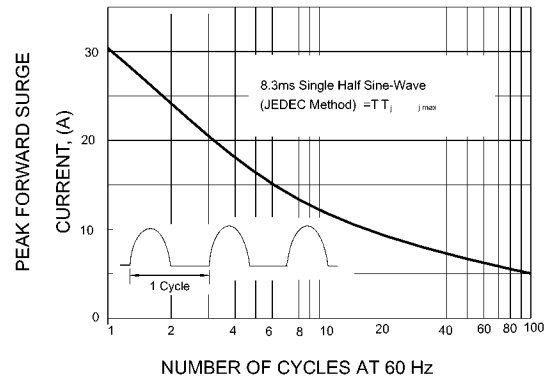


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

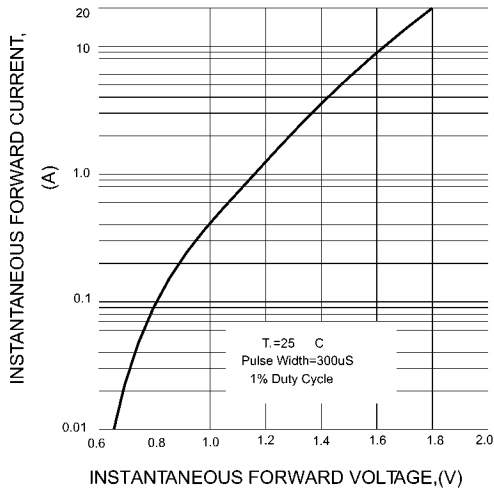


FIG.4-TYPICAL REVERSE CHARACTERISTICS

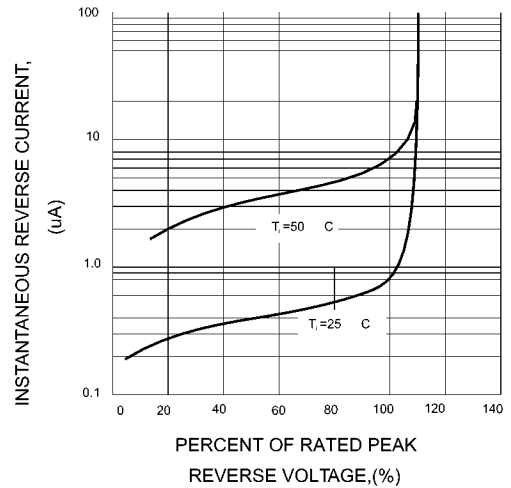


FIG.5-TYPICAL JUNCTION CAPACITANCE

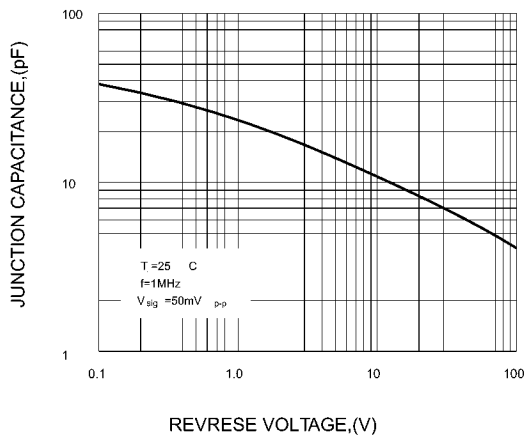
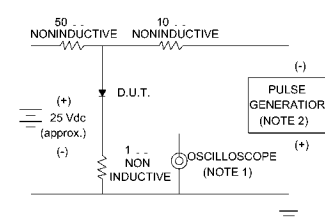


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES: 1. Rise Time = 7ns max. Input Impedance = 1 megohm. 22pF  
2. Rise time = 10ns max. Source Impedance = 50 ohms

