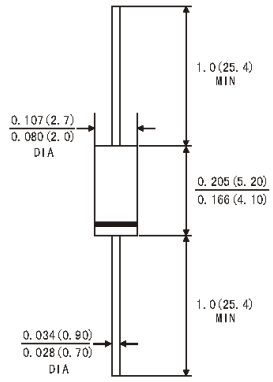
FR101 THRU FR107

FAST RECOVERY RECTIFIERS
Reverse Voltage - 50 to 1000 V
Forward Current - 1 A

Features
- High current capability
- High reliability
- Low leakage

DO-41



Dimensions in inches and (millimeters)

Mechanical Data
- Case: Molded plastic, DO-41
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting Position: Any

Maximum Ratings and Electrical Characteristics
Ratings 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%.

Parameter	Symbols	FR101	FR102	FR103	FR104	FR105	FR106	FR107	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current 0.375" (9.5 mm) Lead Length at T_A = 55 °C	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	30							A
Maximum Forward Voltage at 1 A	V_F	1.3							V
Maximum Reverse Current T_A = 25 °C at Rated DC Blocking Voltage T_A = 100 °C	I_R	5 500							μA
Typical Junction Capacitance [1]	C_J	15							pF
Typical Thermal Resistance [2]	$R_{\theta JA}$	50							°C/W
Maximum Reverse Recovery Time [3]	t_{rr}	150				250	500		nS
Operating and Storage temperature range	T_j, T_{stg}	- 55 to + 150							°C

[1] Measured at 1 MHz and applied reverse voltage of 4 V D.C.
[2] Thermal resistance from junction to ambient 0.375"(9.5 mm) lead length P.C.B mounted.
[3] Reverse recovery test conditions: I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A.

FIG.1- MAXIMUM TYPICAL FORWARD CURRENT DERATING CURVE

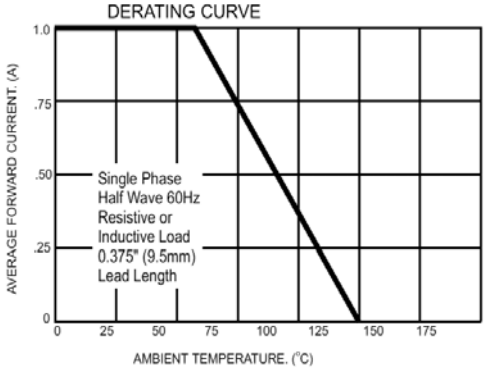


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

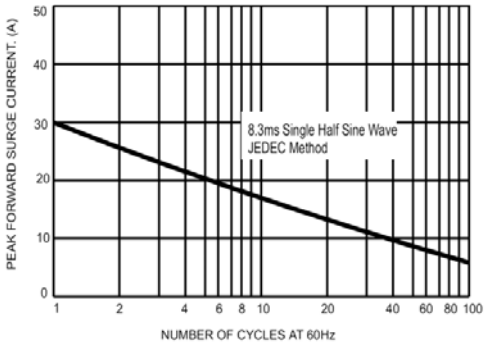


FIG.3- TYPICAL FORWARD CHARACTERISTICS

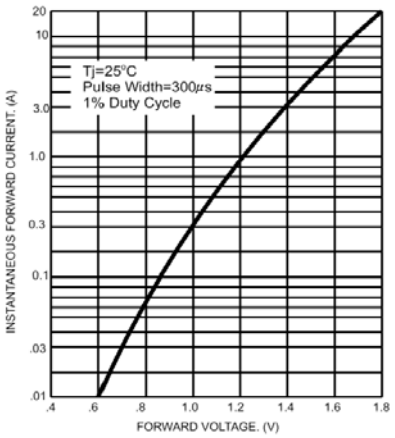


FIG.4- TYPICAL JUNCTION CAPACITANCE

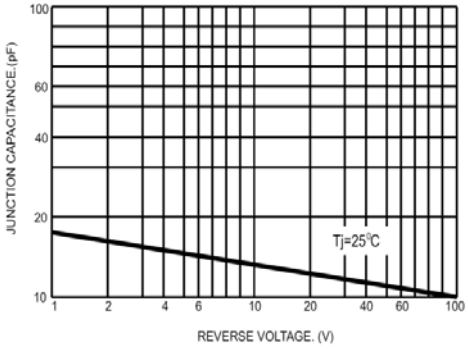
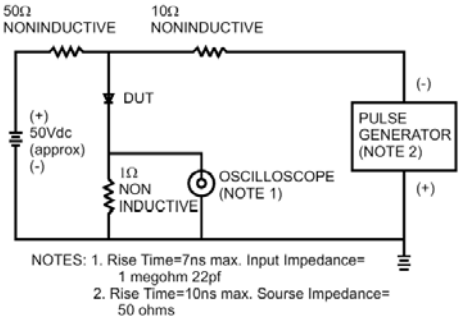


FIG.5- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES: 1. Rise Time=7ns max. Input Impedance= 1 megohm 22pf
2. Rise Time=10ns max. Sourse Impedance= 50 ohms