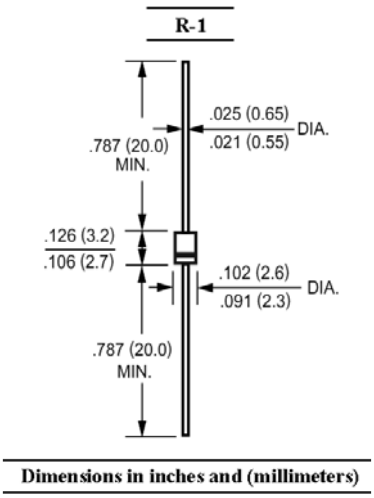
1F1 THRU 1F7

Miniature Fast Recovery Rectifier
Reverse Voltage - 50 to 1000 V
Forward Current - 1 A

Features

- High current capability
- High reliability
- Low forward voltage drop
- Low leakage
- High switching capability



Dimensions in inches and (millimeters)

Mechanical Data

- Case: Molded plastic, R-1
- 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

Absolute Maximum Ratings and 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	1F1	1F2	1F3	1F4	1F5	1F6	1F7	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}	25							A
Maximum Forward Voltage at 1 A DC	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	12							pF
Typical Thermal Resistance [2]	$R_{\theta JA}$	67							°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 DC.

[2] Thermal resistance from junction to ambient 0.375" (9.5 mm) lead length P.C.B. mounted with 0.22 X 0.22" (5.5 X 5.5 mm) copper pads.

[3] Reverse recovery test conditions: I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A

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FIG.1- MAXIMUM TYPICAL FORWARD CURRENT DERATING CURVE

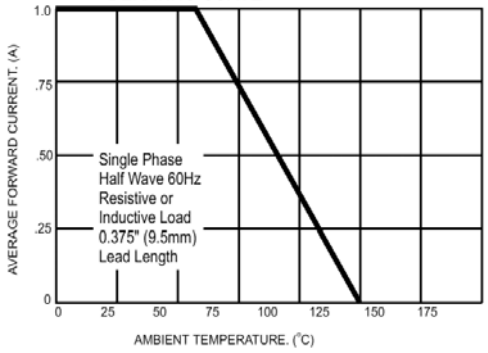

FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

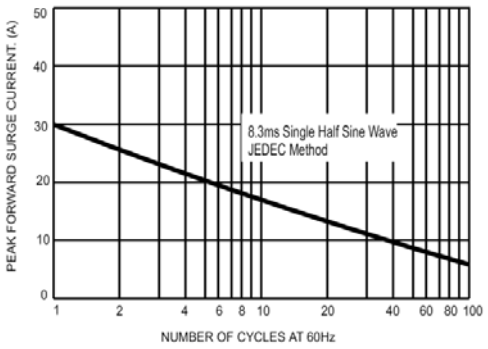

FIG.3- TYPICAL FORWARD CHARACTERISTICS

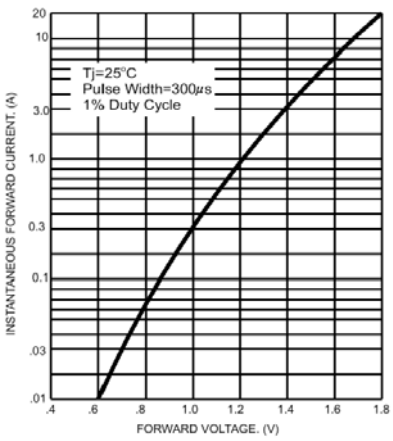

FIG.4- TYPICAL JUNCTION CAPACITANCE

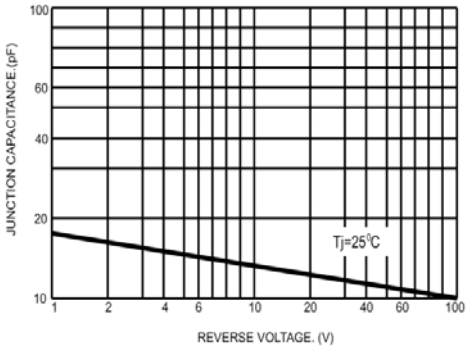

FIG.5- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM