1F1 THRU 1F7

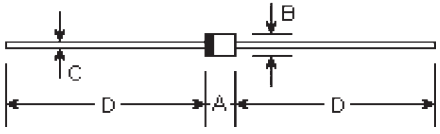
FAST SWITCHING PLASTIC RECTIFIER

Reverse Voltage - 50 to 1000 Volts
Forward Current - 1.0 Ampere

Features

- High current capability.
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0 utilizing Flame retardant epoxy molding compound.
- 1.0 ampere operation at T_A=55℃ with no thermal runaway
- Fast switching for high efficiency
- Low leakage

R-1



Mechanical Data

- **Case:** Molded plastic, R-1
- **Terminals:** Plated axial leads, solderable per MIL-STD-202, method 208
- **Polarity:** Color band denotes cathode
- **Mounting Position:** Any
- **Weight:** 0.007 ounce, 0.20 gram

DIMENSIONS					
DIM	inches		mm		Note
	Min.	Max.	Min.	Max.	
A	0.114	0.138	2.9	3.5	
B	0.095	0.099	2.42	2.51	
C	0.020	0.024	0.5	0.6	
D	1.000	-	25.40	-	

Maximum Ratings and Electrical Characteristics

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

	Symbols	1F1	1F2	1F3	1F4	1F5	1F6	1F7	Units
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=55℃	$I_{(AV)}$	1.0							Amp
Peak forward surge current 8.3mS single half sine-wave superimposed on rated load (MIL-STD-750D 4066 method)	I_{FSM}	30.0							Amps
Maximum forward voltage at 1.0A DC	V_F	1.30							Volts
Maximum DC reverse current T_J=25℃ at rated DC blocking voltage T_J=100℃	I_R	5.0 150.0							μA
Maximum reverse recovery time (Note 1)	T_{rr}	150				250	500		nS
Typical junction capacitance (Note 2)	C_J	10.0							pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$	67.0							℃/W
Operating and storage temperature range	T_J, T_{STG}	-55 to +150							℃

Notes:

(1) Reverse recovery test conditions: I_F=0.5A, I_R=1.0A, I_{rr}=0.25A

(2) Measured at 1.0MHz and applied reverse voltage of 4.0 VDC

(3) Thermal resistance from junction to ambient and from junction to lead 0.375" (9.5mm) lead length, P.C.B. mounted with 0.22X0.22" (5.5X5.5mm) copper pads

RATINGS AND CHARACTERISTIC CURVES

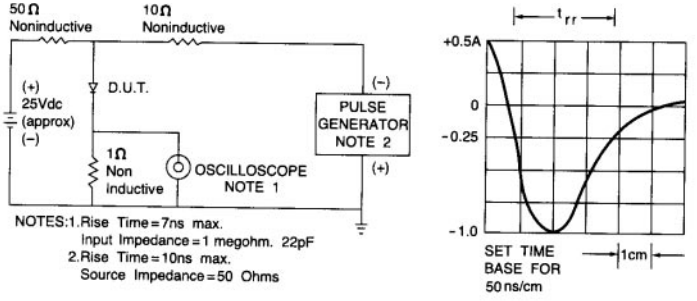


Fig. 1 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

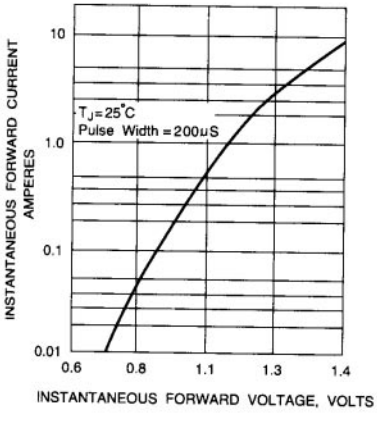


Fig. 2 – TYPICAL FORWARD CHARACTERISTICS

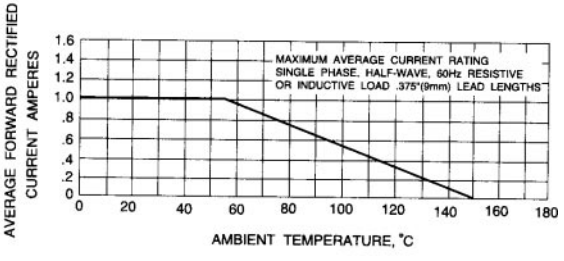


Fig. 3 – FORWARD CURRENT DERATING CURVE

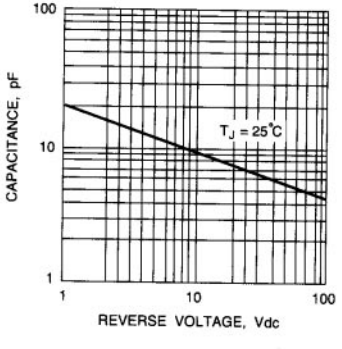


Fig. 4 – TYPICAL JUNCTION CAPACITANCE

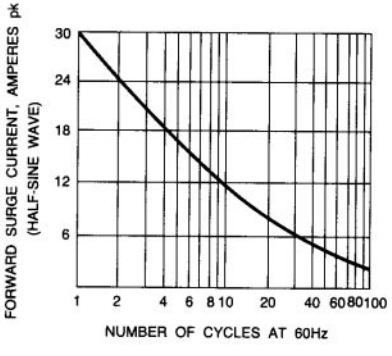


Fig. 5 – PEAK FORWARD SURGE CURRENT