

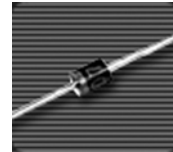


1F10 thru 1F18

High Voltage Fast Recovery Rectifiers
Reverse Voltage 1000 to 1800 Volts Forward Current 1.0 Ampere

Features

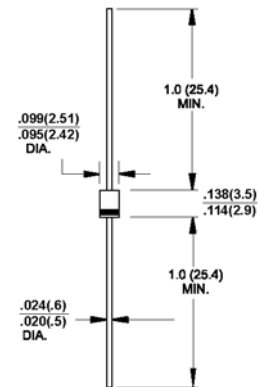
- ◆ Fast switching
- ◆ Low leakage
- ◆ Low forward voltage drop
- ◆ High current capability
- ◆ High current surge
- ◆ High reliability



R-1

Mechanical Data

- ◆ Case: Molded plastic R-1
- ◆ Epoxy: UL 94V-O rate flame retardant
- ◆ Lead: MIL-STD-202E method 208C guaranteed
- ◆ Mounting position: Any
- ◆ Weight: 0.007 ounce, 0.20 gram



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	1F10	1F12	1F14	1F15	1F16	1F18	Units	
Maximum repetitive peak reverse voltage	V_{RRM}	1000	1200	1400	1500	1600	1800	Volts	
Maximum RMS voltage	V_{RMS}	700	840	980	1050	1120	1260	Volts	
Maximum DC blocking voltage	V_{DC}	1000	1200	1400	1500	1600	1800	Volts	
Maximum average forward rectified current at $T_a=50^\circ\text{C}$	$I_{F(AV)}$	0.5							Amp
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	25.0							Amps
Maximum instantaneous forward voltage at 0.5A DC	V_F	1.8							Volts
Maximum DC reverse current at rated DC blocking voltage at $T_a=25^\circ\text{C}$	I_R	5.0							μA
Maximum full load reverse current average, full cycle average, .375" (9.5mm) lead length at $T_a=55^\circ\text{C}$	$I_{R(AV)}$	100							μA
Maximum reverse recovery time (Note 1)	t_{rr}	300							ns
Typical junction capacitance (Note 2)	C_J	15							pF
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150							$^\circ\text{C}$

- Notes:**
- Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
 - Measured at 1 MHz and applied reverse voltage of 4.0 volts

RATINGS AND CHARACTERISTIC CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

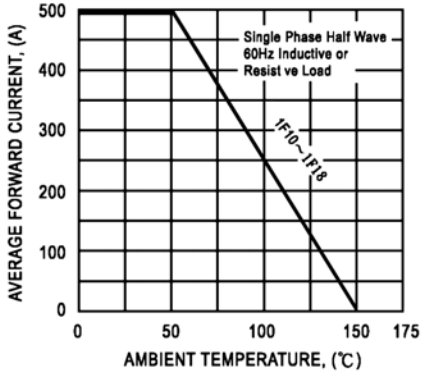


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

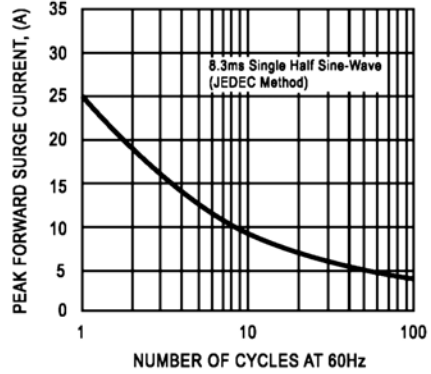
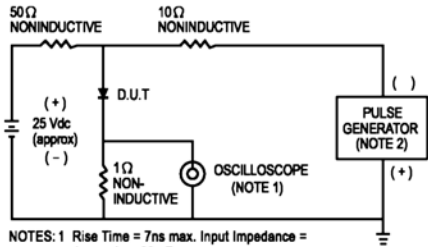


FIG. 3 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

