E-tech SEMICONDUCTOR 易得電子股份有限公司 E-tech Semiconductor Ltd.

1F1 THRU 1F7

1.0 Amp Fast Recovery Plastic Rectifier 50 to 1000 Volts

Features

- High Current Capability
- Low Leakage
- Fast Switching for High Efficiency
- 1.0 Ampere operation at T_A=55°C with no thermal runaway
- Exceeds Environmental standards of MIL-S-19500/228

Maximum Ratings

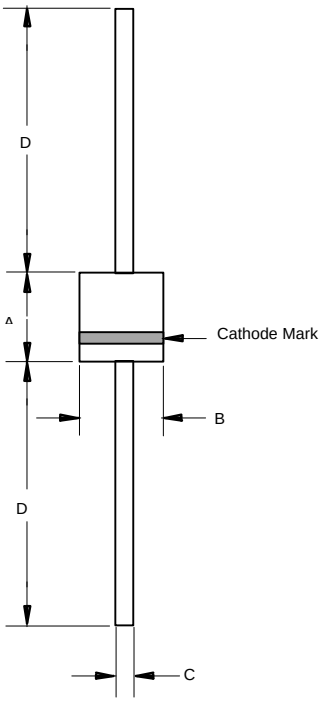
- Operating Temperature: -55°C to +125°C
- Storage Temperature: -55°C to +150°C
- For capacitive load. Derate current by 20%
- Typical Thermal Resistance: 67°C/W Junction to Ambient.

Item Number	Maximum Recurrent Peak Reverse Voltage	Maximum RMS Voltage	Maximum DC Blocking Voltage
1F1	50V	35V	50V
1F2	100V	70V	100V
1F3	200V	140V	200V
1F4	400V	280V	400V
1F5	600V	420V	600V
1F6	800V	560V	800V
1F7	1000V	700V	1000V

Electrical Characteristics @ 25°C Unless Otherwise Specified

Average Forward Current	$I_{F(AV)}$	1.0 A	T_C = 55°C
Peak Forward Surge Current	I_{FSM}	30A	8.3ms, half sine
Maximum Instantaneous Forward Voltage	V_F	1.3V	I_{FM} = 1.0A; T_C = 25°C
Maximum DC Reverse Current At Rated DC Blocking Voltage	I_R	5.0μA 500uA	T_C = 25°C T_C = 100°C
Typical Junction Capacitance	C_J	12pF	Measured at 1.0MHz, V_R=4.0V
Maximum Reverse Recovery Time 1F1-1F4 1F5 1F6-1F7	t_{rr}	 150ns 250ns 500ns	 I_F=0.5A, I_R=1A, I_{rr}=0.25A

R-1



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.116	0.140	2.90	3.50	
B	0.091	0.102	2.30	2.60	
C	0.020	0.024	0.50	0.60	
D	0.787	-----	20.00	-----	

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1F1 thru 1F7

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

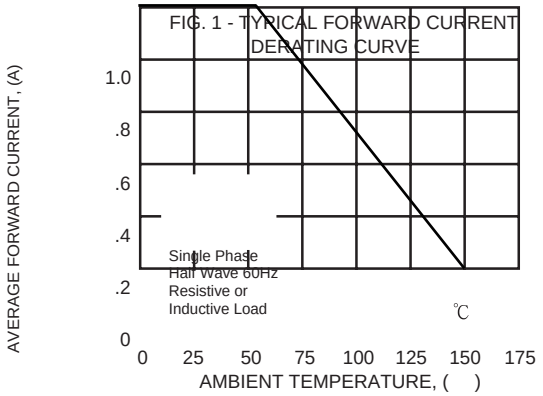


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

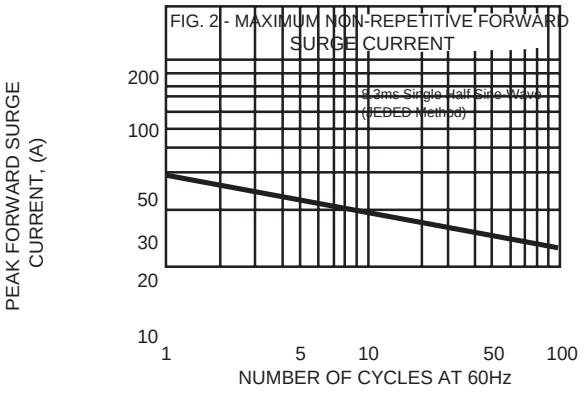


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

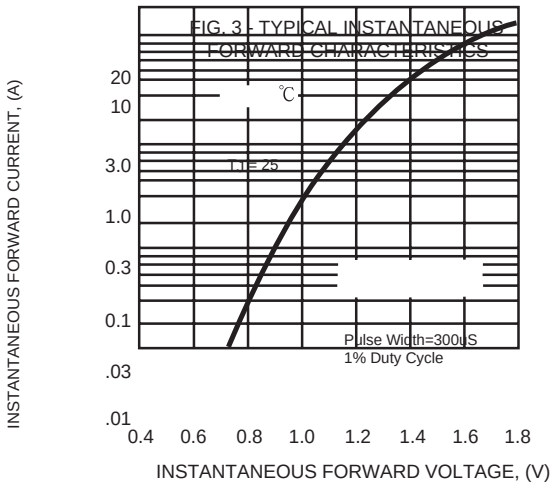


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

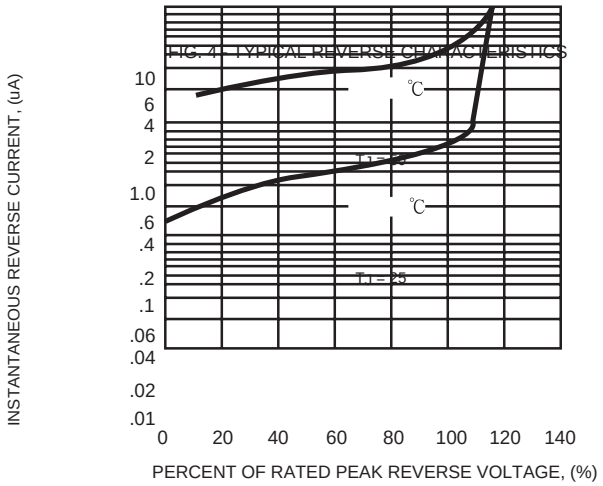


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

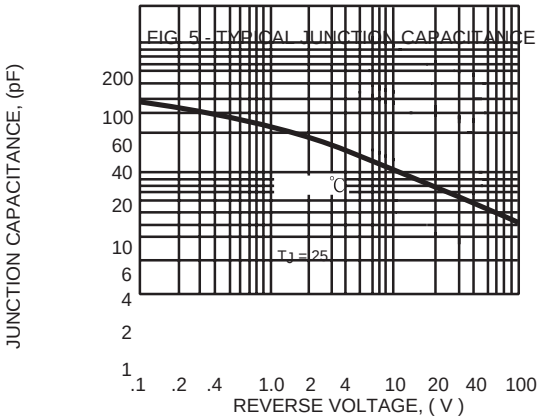
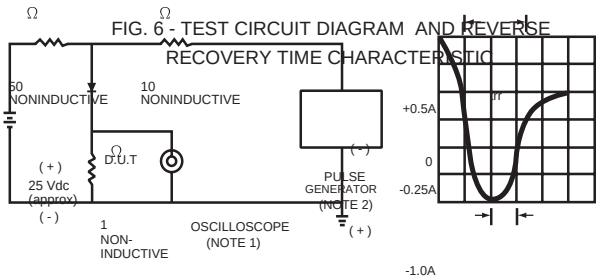


FIG. 6 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES1. Rise Time = 7ns max. Input Impedance = 1 megohm. 22pF.
2. Rise Time = 10ns max. Souce Impedance = 50 ohms.

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