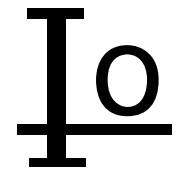


# ES1AF THRU ES1JF



1.0 AMP SUPER FAST RECTIFIERS

## FEATURES

- \* Low forward voltage drop
- \* High current capability
- \* High reliability
- \* High surge current capability
- \* Lead Free Finish/RoHS Compliant

## MECHANICAL DATA

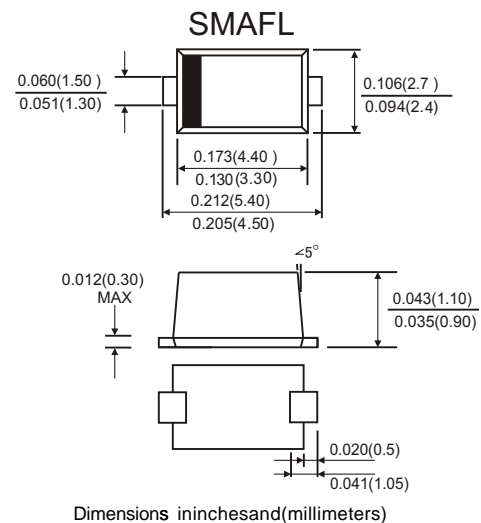
- \* Case: Molded plastic
- \* Epoxy: UL94V-0 rate flamer retardant
- \* Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 0.064 grams

## VOLTAGE RANGE

50 to 600 Volts

## CURRENT

1.0 Ampere



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

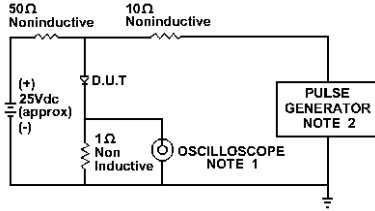
Rating at 25°C ambient temperature unless otherwise specified.  
Single phase half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

TYPE NUMBER	ES1AF	ES1BF	ES1CF	ES1DF	ES1EF	ES1GF	ES1JF	UNITS
Maximum Recurrent Peak Reverse Voltage	50	100	150	200	300	400	600	V
Maximum RMS Voltage	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current .375" (9.5mm) Lead Length at Ta=55°C	1.0							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	30							A
Maximum Instantaneous Forward Voltage at 1.0A	0.95		1.25		1.7		V	
Maximum DC Reverse Current at Rated DC Blocking Voltage Ta=25°C	5.0							μA
Maximum Reverse Recovery Time (Note 1) Ta=100°C	35							nS
Typical Junction Capacitance (Note 2)	10							pF
Operating and Storage Temperature Range Tj, TSTG	-65 — +150							°C

### NOTES:

- Reverse Recovery Time test condition:  $I_F=0.5A, I_R=1.0A, I_{RR}=0.25A$
- Measured at 1MHz and applied reverse voltage of 4.0VDC.

## RATING AND CHARACTERISTIC CURVES (ES1AF THRU ES1JF)



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

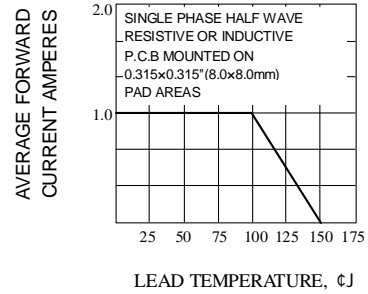
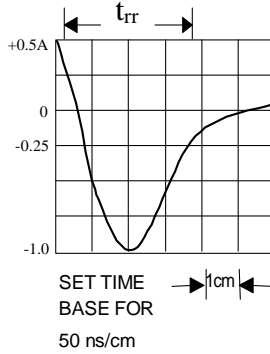


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

Fig. 2-MAXIMUM AVERAGE FORWARD CURRENT RATING

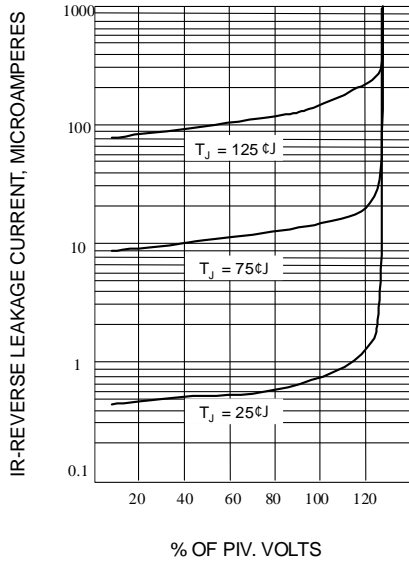


Fig. 3-TYPICAL REVERSE CHARACTERISTICS

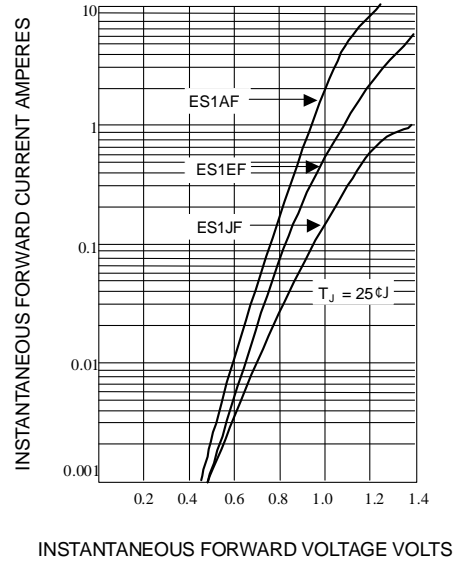


Fig. 4-TYPICAL FORWARD CHARACTERISTICS

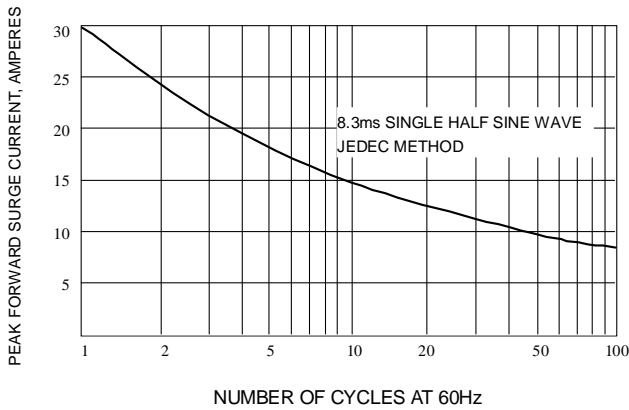


Fig. 5-MAXIMUM NON-REPETITIVE SURGE CURRENT

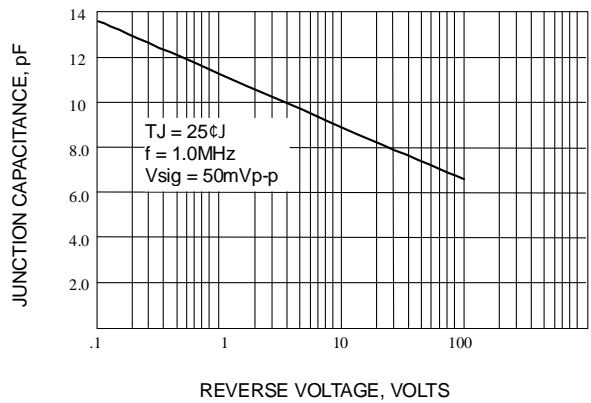


Fig. 6-TYPICAL JUNCTION CAPACITANCE