

# ES1AFL THRU ES1JFL

## SURFACE MOUNT SUPERFAST RECOVERY RECTIFIER



**REVERSE VOLTAGE:** 50 to 600 VOLTS

**FORWARD CURRENT:** 1.0 AMPERE

### FEATURES

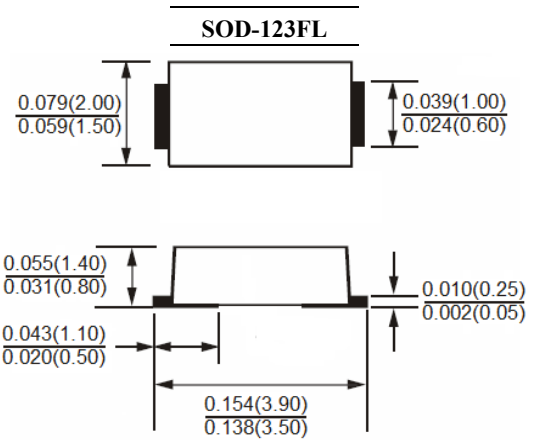
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- For surface mounted applications
- Low profile package
- Easy pick and place
- Built-in strain relief
- Superfast recovery times for high efficiency
- Glass Passivated Die Construction
- Suffix "H" indicates Halogen-free parts, ex. ES1AFLH

### MECHANICAL DATA

Case : Molded plastic, SOD-123FL

Terminals : Solder plated, solderable per MIL-STD-750, method 2026 guaranteed

Polarity : Color band denotes cathode end



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Parameter	Symbols	ES1AFL	ES1BFL	ES1CFL	ES1DFL	ES1EFL	ES1GFL	ES1JFL	Units	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	600	Volts	
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	420	Volts	
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	600	Volts	
Maximum Average Forward Rectified Current $T_A=50^\circ\text{C}$	$I_{(AV)}$	1.0							Amp	
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30							Amp	
Maximum Forward Voltage at 1.0A	$V_F$	0.95				1.25		1.70	Volts	
Maximum Reverse Current at $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A=100^\circ\text{C}$	$I_R$	5.0				100				uAmp
Typical Junction Capacitance (Note 1)	$C_J$	16				18				pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	130							°C/W	
Maximum Reverse Recovery Time (Note 3)	$T_{RR}$	35							nS	
Operating Junction Temperature Range	$T_J$	-65 to +150							°C	
Storage Temperature Range	$T_{stg}$	-65 to +150							°C	

#### NOTES:

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Thermal resistance from junction to lead mounted on P.C.B. with 0.3 x 0.3" (8.0 x 8.0mm) copper pad areas

3- Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{RR}=0.25A$ .

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## SURFACE MOUNT SUPERFAST RECOVERY RECTIFIER



康比電子  
HORNBY ELECTRONIC

### RATINGS AND CHARACTERISTIC CURVES

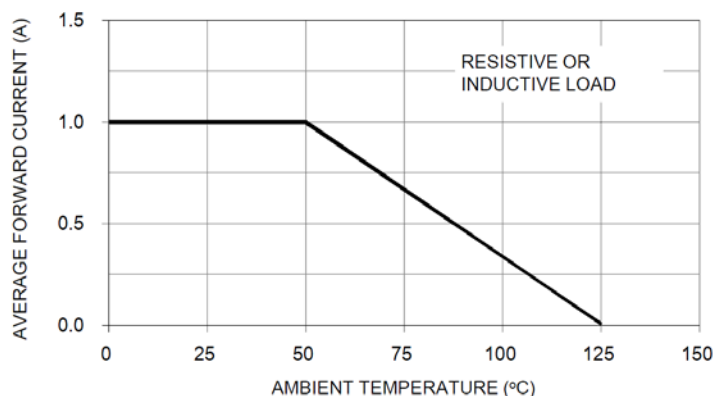


FIG. 1- MAXIMUM AVERAGE FORWARD CURRENT DERATING

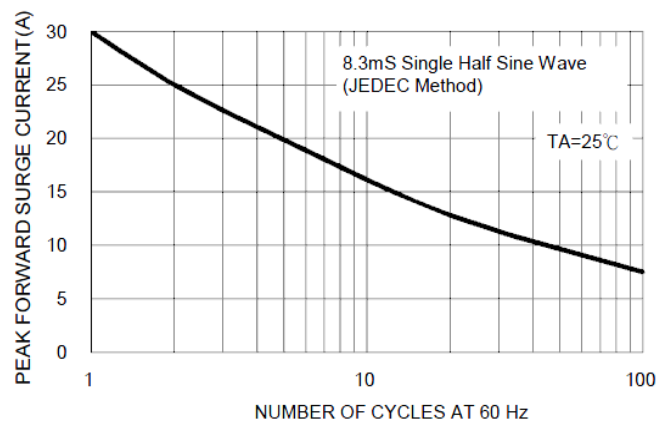


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD PEAK SURGE CURRENT

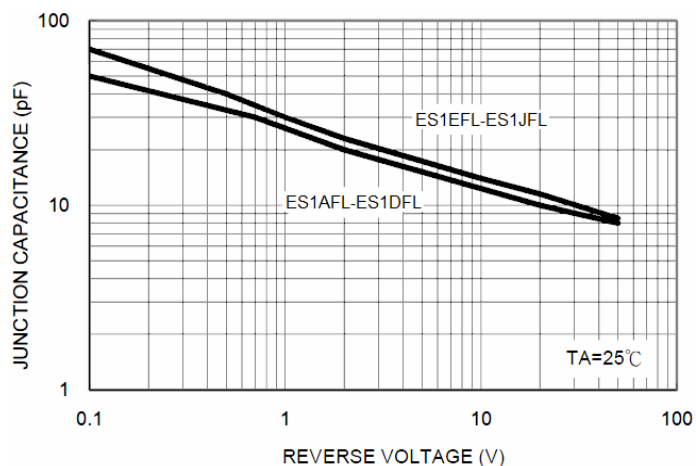


FIG. 4- TYPICAL JUNCTION CAPACITANCE

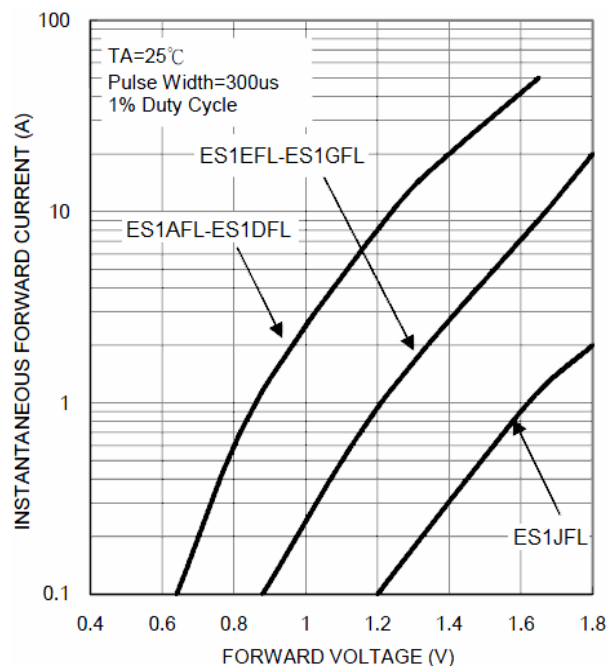


FIG. 2- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

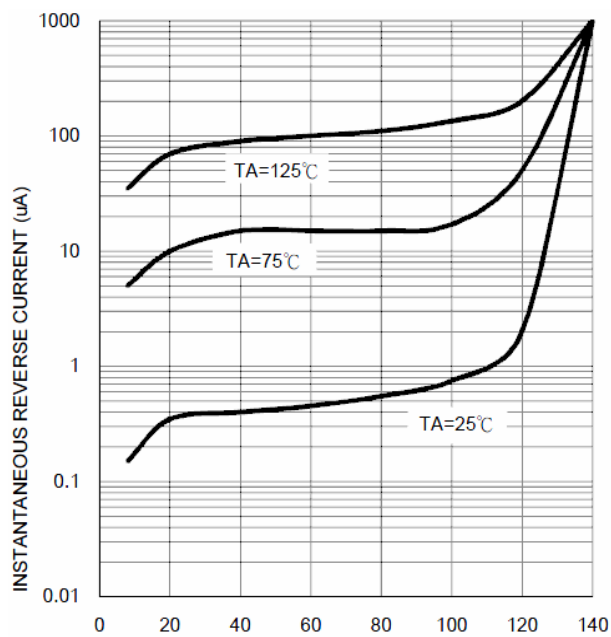


FIG. 5- TYPICAL REVERSE CHARACTERISTICS