

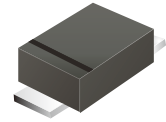
## ES1AWF-HF Thru. ES1JWF-HF

Reverse Voltage: 50 to 600 Volts

Forward Current: 1 Amp

RoHS Device

Halogen Free



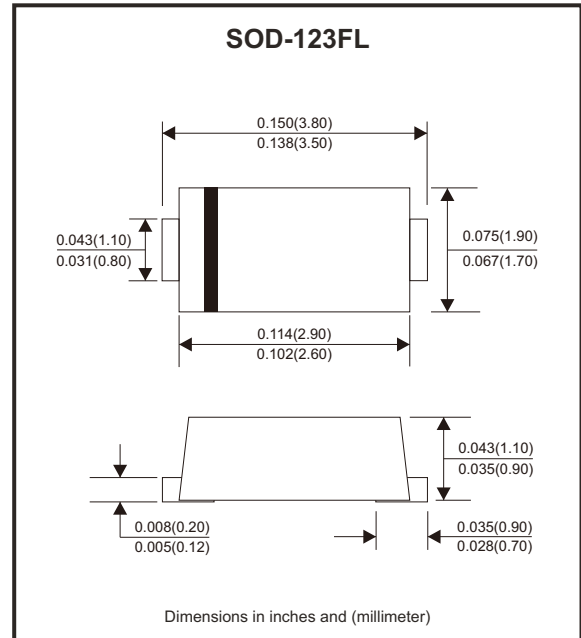
### Features

- Easy pick and place.
- For surface mounted applications.
- Low profile package.
- Built-in strain relief.
- Super fast recovery times for high efficiency.

### Mechanical data

- Case: SOD-123FL
- Terminals: Solderable per MIL-STD-750, method 2026.

### Circuit Diagram



### 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 by 20%

Parameter	Symbols	ES1AWF -HF	ES1BWF -HF	ES1CWF -HF	ES1DWF -HF	ES1EWF -HF	ES1GWF -HF	ES1JWF -HF	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	600	V
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	420	V
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	600	V
Maximum average forward rectified current at $T_c = 125^\circ\text{C}$	$I_{F(AV)}$	1							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	30							A
Max. forward voltage at 1A	$V_F$	1.0				1.25		1.68	V
Maximum DC reverse current at rated DC blocking voltage $T_a = 25^\circ\text{C}$ $T_a = 125^\circ\text{C}$	$I_R$	5 100							$\mu\text{A}$
Typical junction capacitance at $V_R = 4\text{V}$ , $f = 1\text{MHz}$	$C_j$	15							pF
Maximum reverse recovery time (Note 1)	$t_{rr}$	35							ns
Typical thermal resistance (Note 2)	$R_{\theta JA}$	85							$^\circ\text{C/W}$
Operating and storage temperature range	$T_j, T_{stg}$	-55 ~ +150							$^\circ\text{C}$

Notes: 1. Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1\text{A}$ ,  $I_{rr} = 0.25\text{A}$ .  
2. P.C.B. mounted with 2.0" x 2.0" (5 x 5 cm) copper pad areas.

Company reserves the right to improve product design, functions and reliability without notice.

REV:A

## Rating and Characteristic Curves (ES1AWF-HF Thru. ES1JWF-HF)

Fig.1 - Max. Average Forward Current Rating

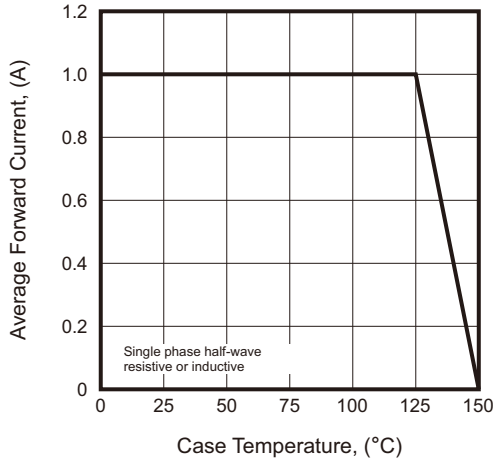


Fig.2 - Typical Reverse Characteristics

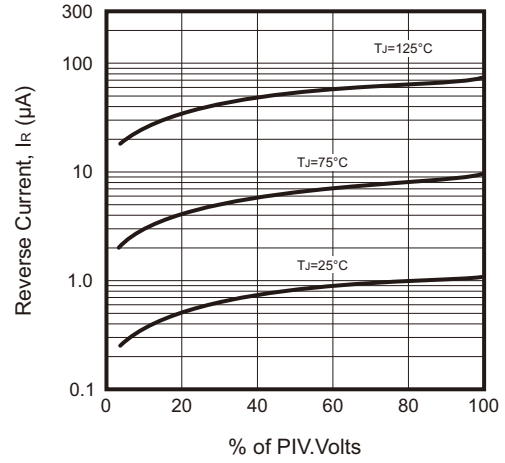


Fig.3 - Typical Forward Characteristic

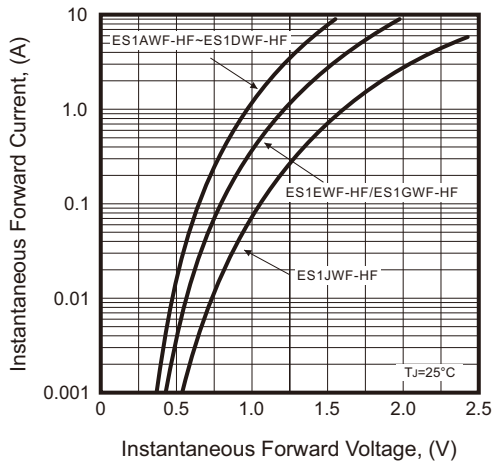


Fig.4 - Typical Junction Capacitance

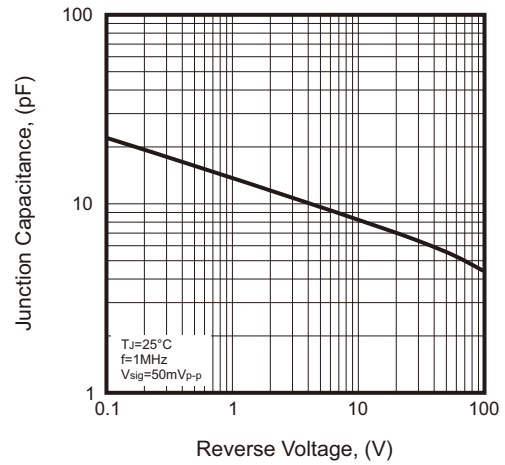
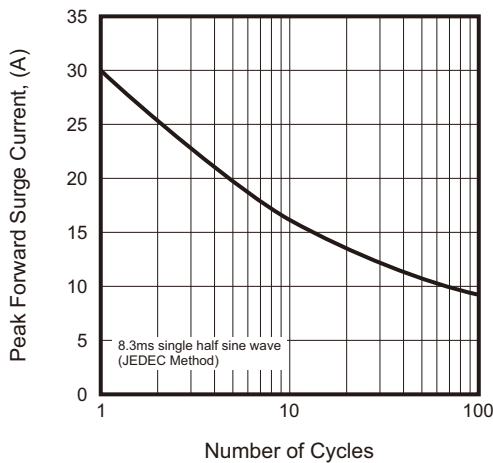
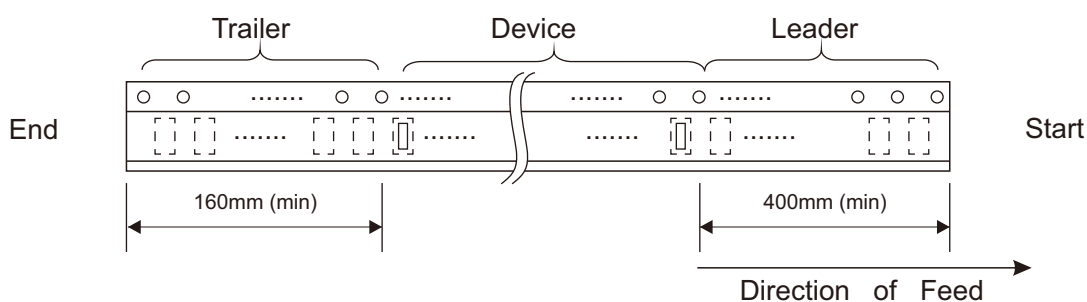
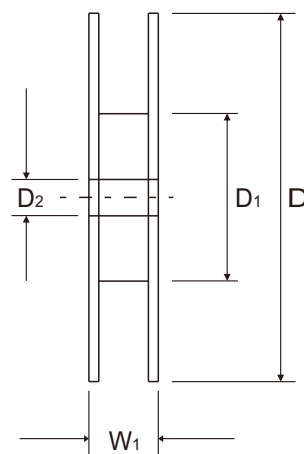
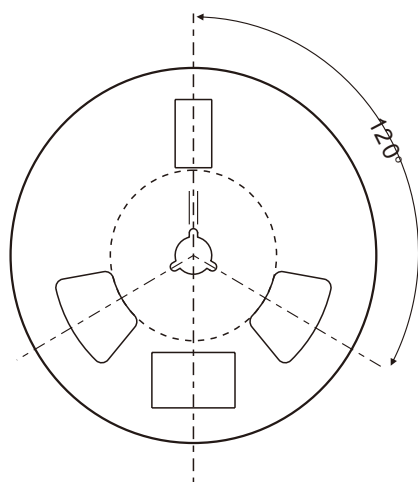
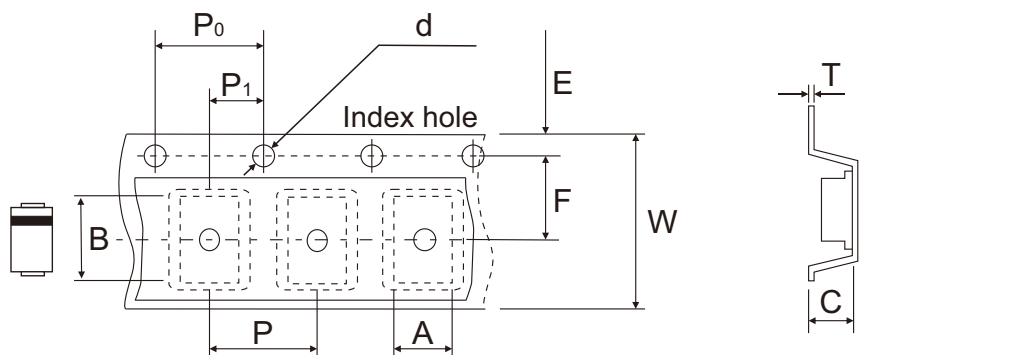


Fig.5 - Maximum Non-Repetitive Peak Forward Surge Current



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## Reel Taping Specification



SOD-123FL	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	2.05 ± 0.10	3.90 ± 0.10	1.28 ± 0.05	1.55 ± 0.05	180 ± 1.00	60.00 ± 1.50	13.00 ± 0.20
	(inch)	0.081 ± 0.004	0.154 ± 0.004	0.050 ± 0.002	0.061 ± 0.002	7.087 ± 0.039	2.362 ± 0.059	0.512 ± 0.008

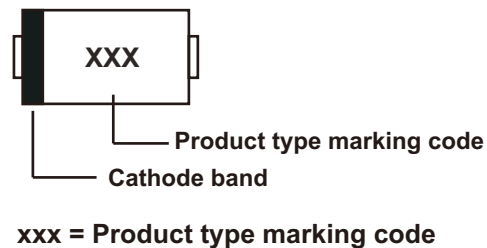
SOD-123FL	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.25 ± 0.02	8.00 ± 0.30	10.70 + 2.00 - 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.010 ± 0.001	0.315 ± 0.012	0.421 + 0.079 - 0.039

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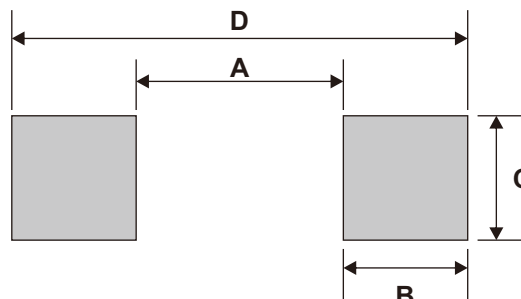
## Marking Code

Part Number	Marking Code
ES1AWF-HF	ESL
ES1BWF-HF	
ES1CWF-HF	
ES1DWF-HF	
ES1EWF-HF	ESM
ES1GWF-HF	
ES1JWF-HF	ESH



## Suggested PAD Layout

SIZE	SOD-123FL	
	(mm)	(inch)
A	2.00	0.079
B	1.20	0.047
C	1.20	0.047
D	4.40	0.173



Note: 1. The pad layout is for reference purpose only.

## Standard Packaging

Case Type	REEL PACK	
	REEL ( pcs )	Reel Size (inch)
SOD-123FL	3,000	7