

ES1AW THRU ES1JW



Super Fast Recovery Rectifiers

Reverse Voltage: 50 to 600 Volts

Forward Current: 1.0 Ampere

RoHS Device

Halogen Free



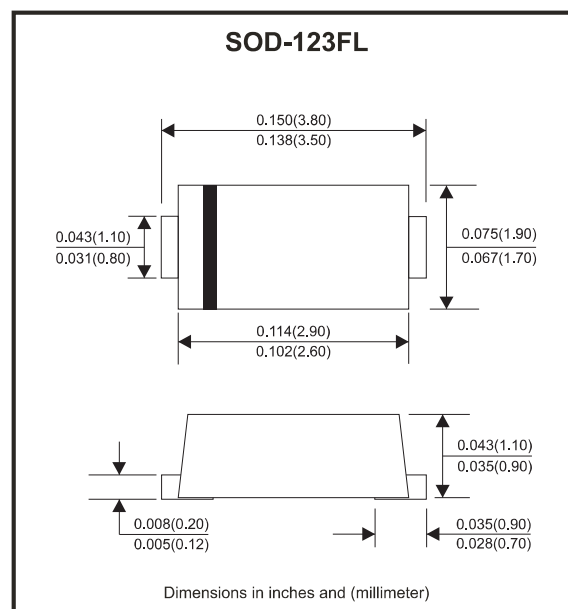
Features

- 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	ES1AW	ES1BW	ES1CW	ES1DW	ES1EW	ES1GW	ES1JW	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°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°C T _a =125°C	I _R	5 100							μA
Typical junction capacitance at V _R = 4V, f = 1MHz	C _j	15							pF
Maximum reverse recovery time (Note 1)	t _{rr}	35							ns
Typical thermal resistance (Note 2)	R _{θJA}	85							°C/W
Operating and storage temperature range	T _J , T _{stg}	-55 ~ +150							°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:1.0

Rating and Characteristic Curves

Fig.1 - Max. Average Forward Current Rating

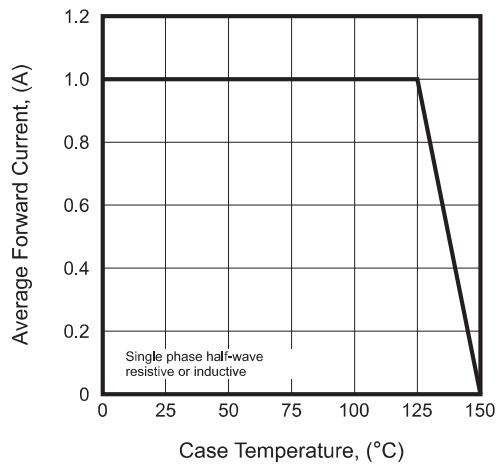


Fig.2 - Typical Reverse Characteristics

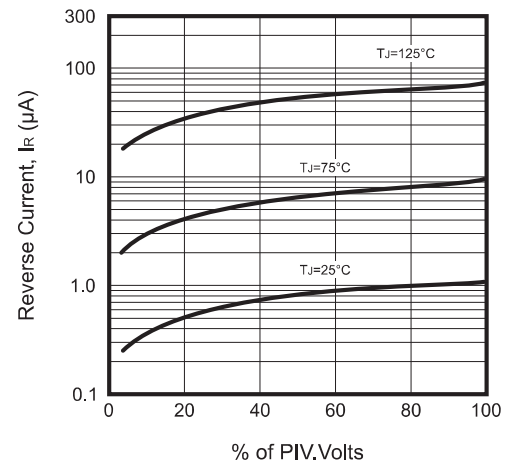


Fig.3 - Typical Forward Characteristic

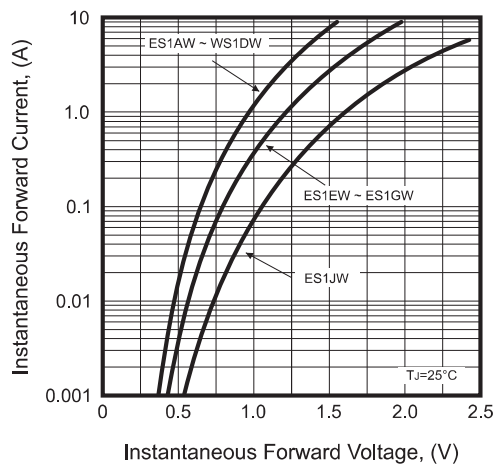


Fig.4 - Typical Junction Capacitance

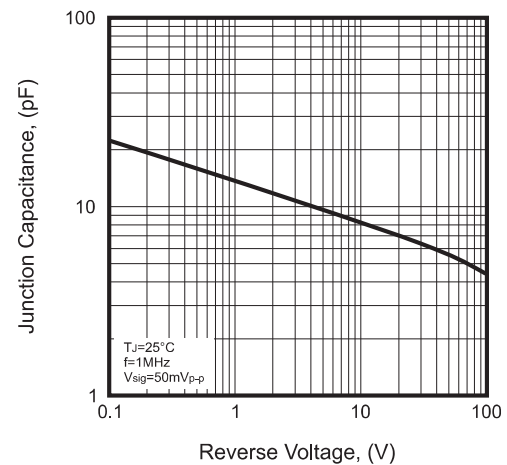
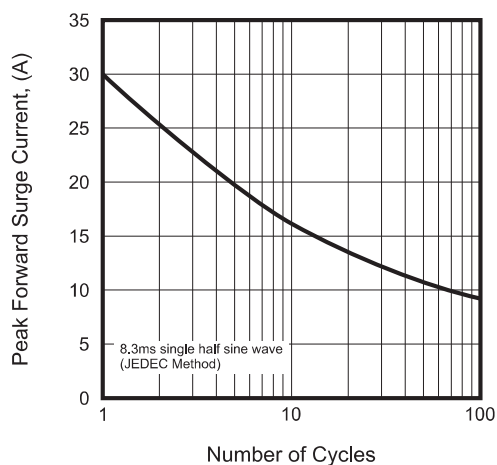


Fig.5 - Maximum Non-Repetitive Peak Forward Surge Current



Marking Code

Part Number	Marking Code
ES1AW	E1A
ES1BW	E1B
ES1CW	E1C
ES1DW	E1D
ES1EW	E1E
ES1GW	E1G
ES1JW	E1J

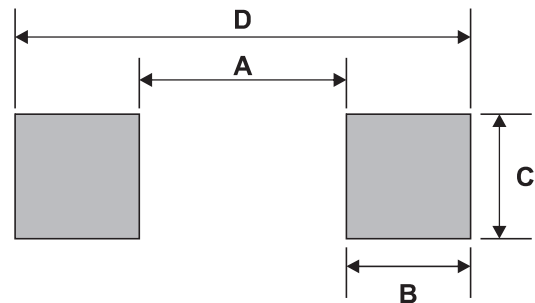


Cathode band

xxx = Product type marking code

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.

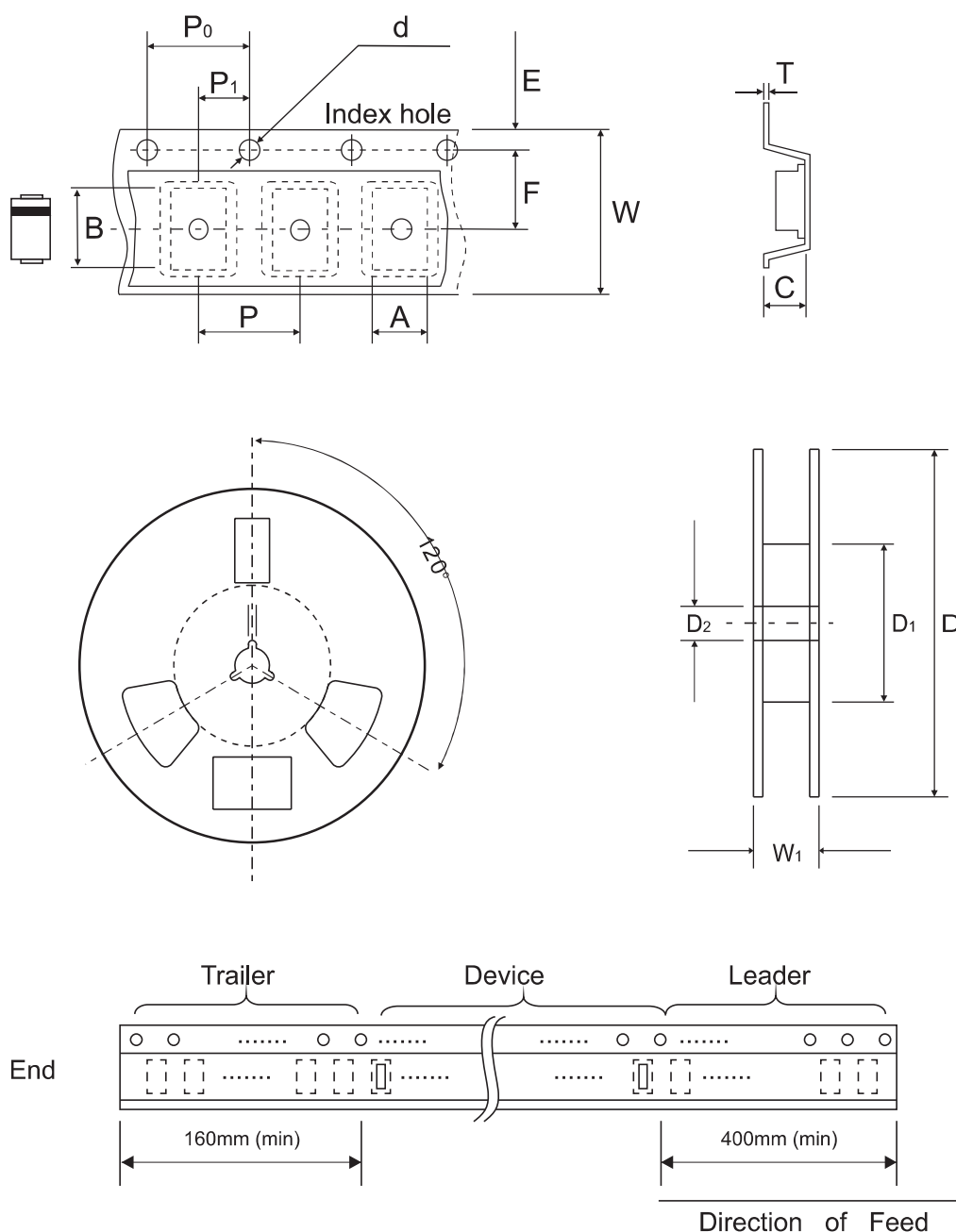
Standard Packaging

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

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Reel Taping Specification



	SYMBOL	A	B	C	d	D	D ₁	D ₂
SOD-123FL	(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

	SYMBOL	E	F	P	P ₀	P ₁	T	W	W ₁
SOD-123FL	(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