

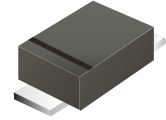
US1AWF-HF Thru. US1MWF-HF

Reverse Voltage: 50 to 1000 Volts

Forward Current: 1 Amp

RoHS Device

Halogen Free



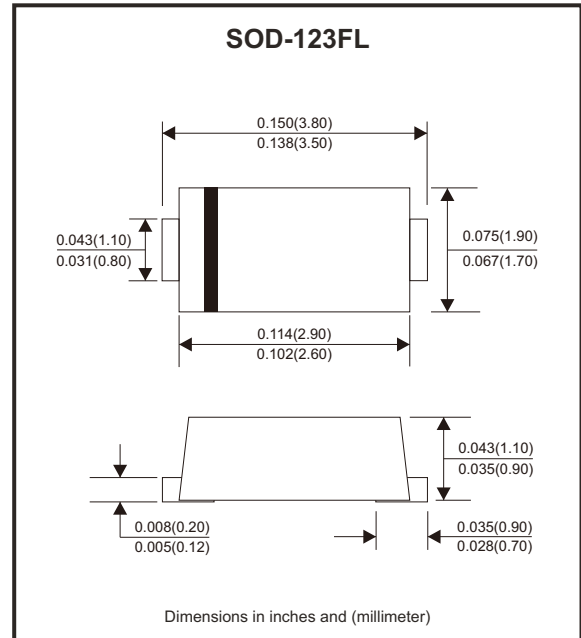
Features

- For surface mounted applications.
- Low profile package.
- Glass passivated chip junction.
- 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	US1AWF -HF	US1BWF -HF	US1DWF -HF	US1GWF -HF	US1JWF -HF	US1KWF -HF	US1MWF -HF	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	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. instantaneous forward voltage at 1A	V_F	1.0		1.3		1.65			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							μA
Maximum reverse recovery time (Note 1)	t_{rr}	50				75			ns
Typical junction capacitance (Note 2)	C_j	15							pF
Typical thermal resistance (Note 3)	$R_{\theta JA}$	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. Measured at 1 MHz and applied reverse voltage of 4 V D.C
3. P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

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Rating and Characteristic Curves (US1AWF-HF Thru. US1MWF-HF)

Fig.1 - Forward Current Derating Curve

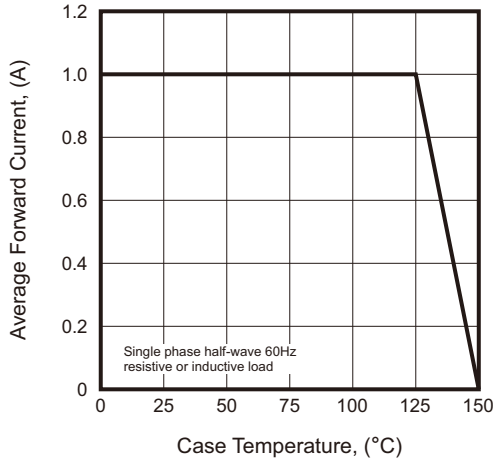


Fig.2 - Typical Reverse Characteristics

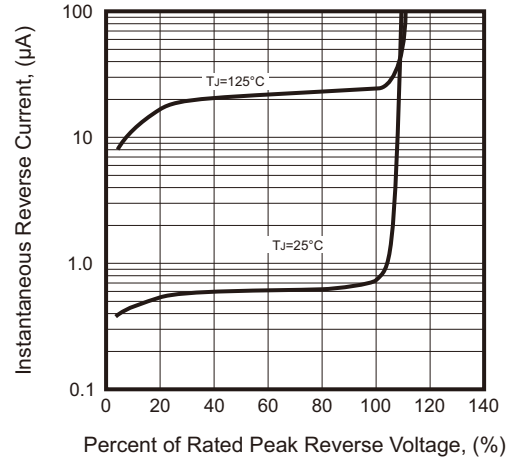


Fig.3 - Typical Forward Characteristic

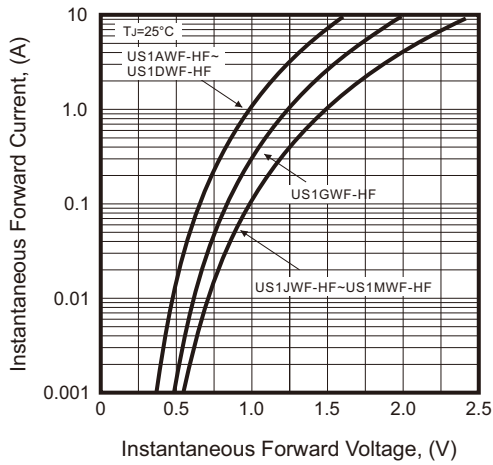


Fig.4 - Maximum Non-Repetitive Peak Forward Surge Current

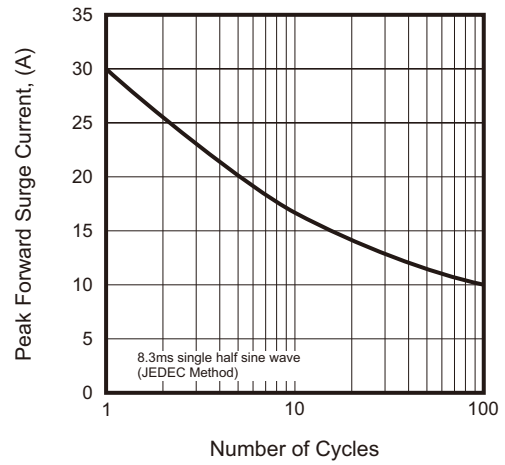


Fig.5 - Typical Transient Thermal Impedance

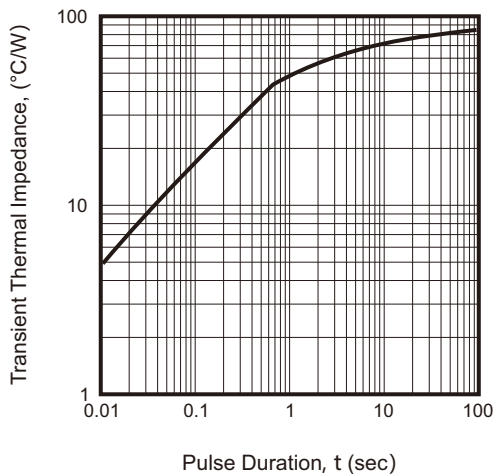
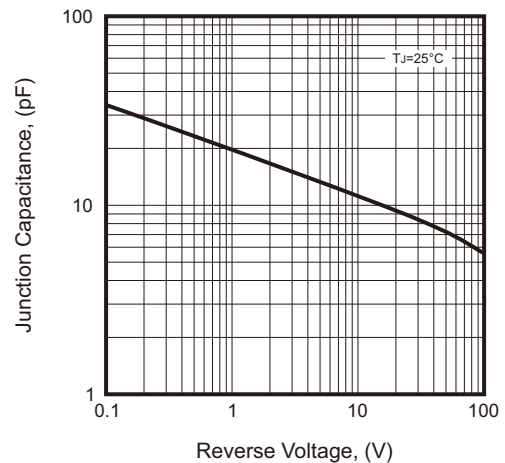
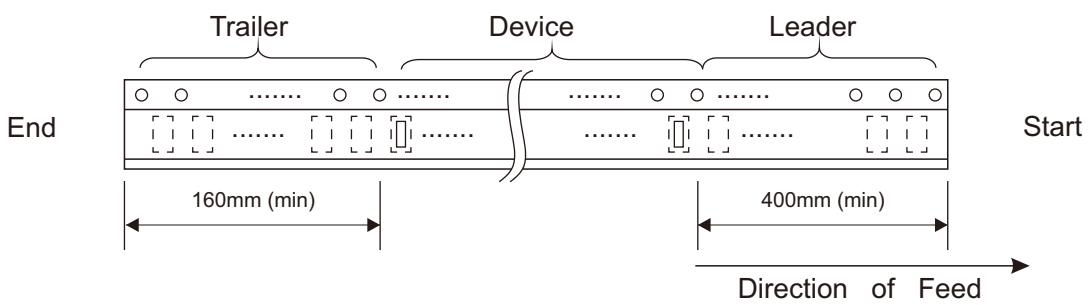
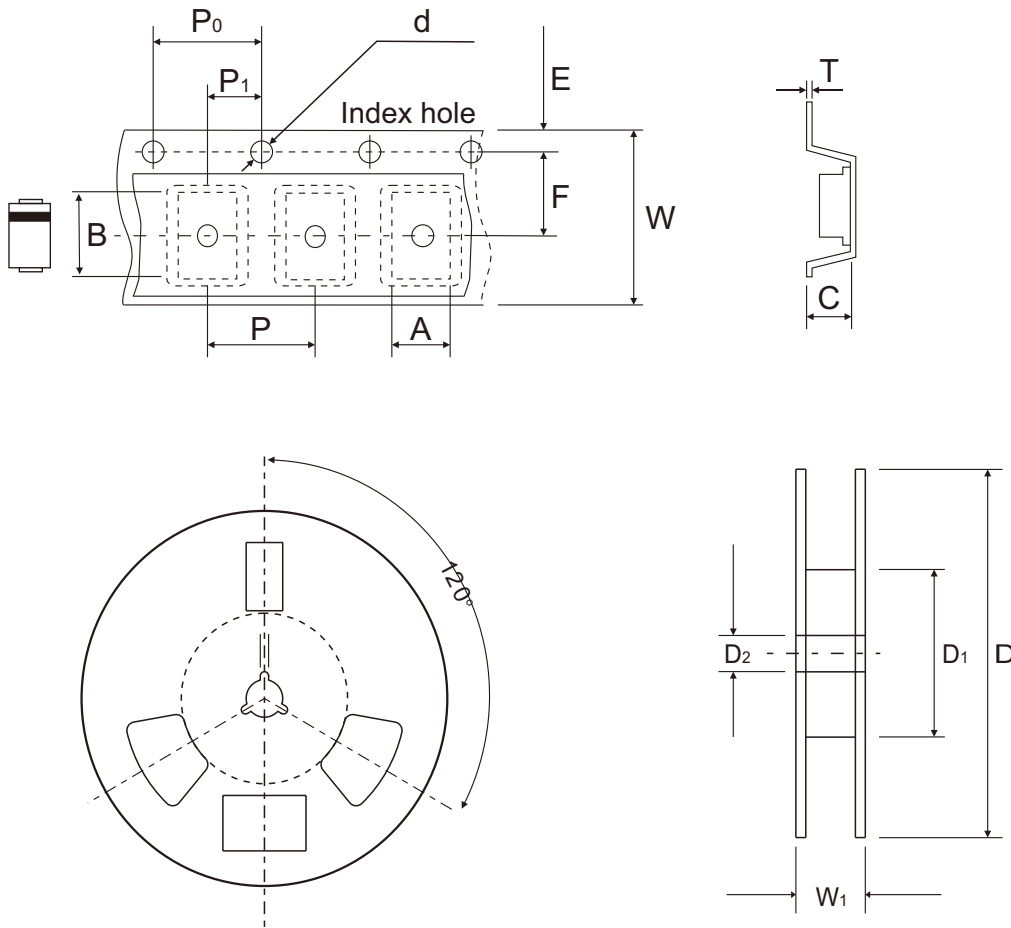


Fig.6 - Typical Junction Capacitance



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Reel Taping Specification



SOD-123FL	SYMBOL	A	B	C	d	D	D ₁	D ₂
	(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	P ₀	P ₁	T	W	W ₁
	(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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