

Characteristics

I_F	3.0	A
V_{RRM}	45	V
I_{FSM}	80.0	A
V_F	0.42	V

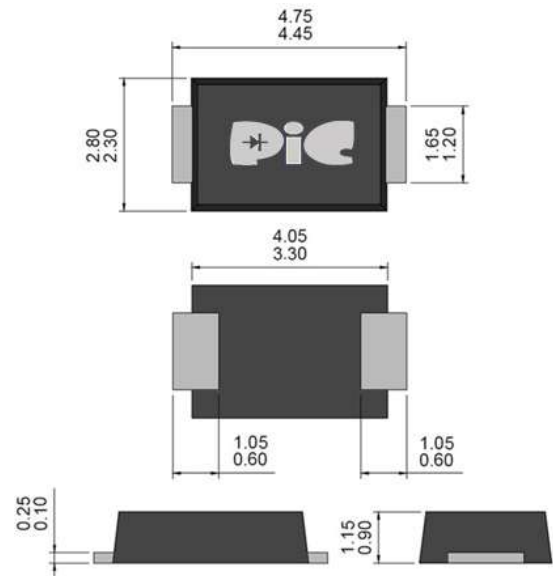
Features

- For surface mounted applications in order to optimize board space
- High surge capacity
- Low power loss, high efficiency.
- Package suitable for Automated Handling
- Ultra Thin Profile Package for Space Constrained Utilization
- Meet with EU RoHS 2011/65/EU compliance
- Lead free and Green device

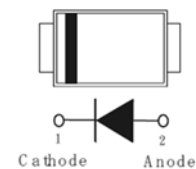
Mechanical Data

- Epoxy: UL94V-0 rated flame retardant
- Case: Epoxy, Molded
- Terminals: Solder plated solderable per MIL-STD-750 Method 2026
- Polarity: Color band denotes cathode end
- Weight: Approx. 0.032grams

SMA-S



Unit: millimeters



Maximum Ratings & Electrical Characteristic

Rating at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or

Parameter	Symbol	SS3045LAS	UNITS
Marking Code	-	345LS	-
Recurrent Peak Reverse Voltage	V_{RRM}	45	Volts
RMS Voltage	V_{RMS}	32	Volts
DC Blocking Voltage	V_R	45	Volts
Average Forward Current	$I_{F(AV)}$	3.0	Amps
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC Method)	I_{FSM}	80	Amps
Forward Voltage at 3.0A	V_F	0.42	Volts
DC reverse current at rated DC blocking voltage $T_J=25^\circ\text{C}$	I_R	0.5	mA
Typical thermal resistance, Junction to Lead (NOTE1)	$R_{\theta JL}$	20	°C/W
Junction to Ambient (NOTE2)	$R_{\theta JA}$	150	
Operating Junction Temperature and Storage Temperature Range	T_J, T_{STG}	-55~+150	°C

inductive load. For capacitive load, derate current by 20%.

Notes: (1) Mounted on an FR4 PCB, single-sided copper, with 48cm²copper pad area.

(2) Mounted on an FR4 PCB, single-sided copper, mini pad.

Rating & Characteristic Curves

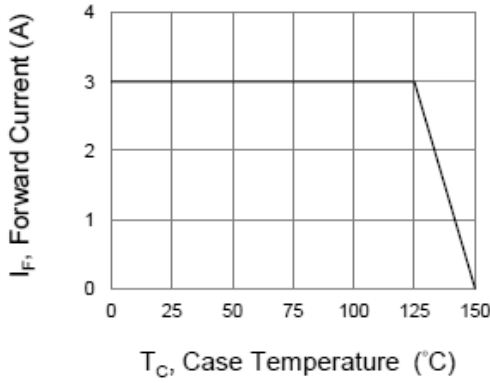


Fig. 1 Forward Current Derating Curve

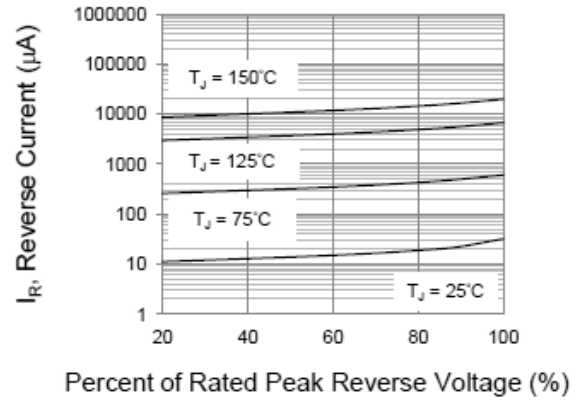


Fig. 2 Typical Reverse Characteristics

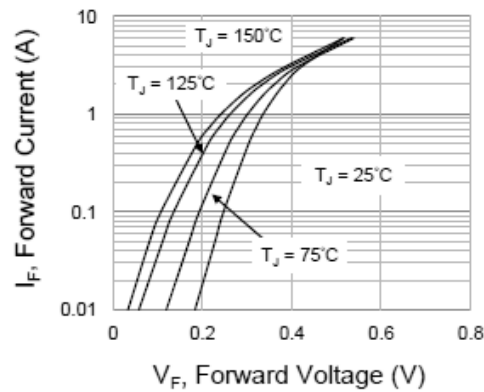
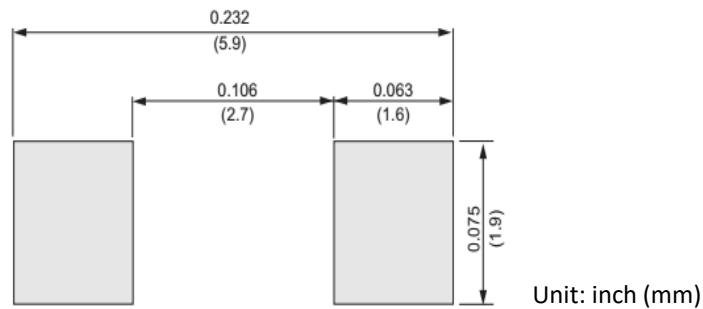


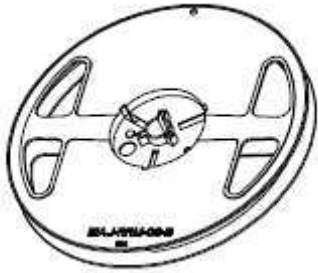
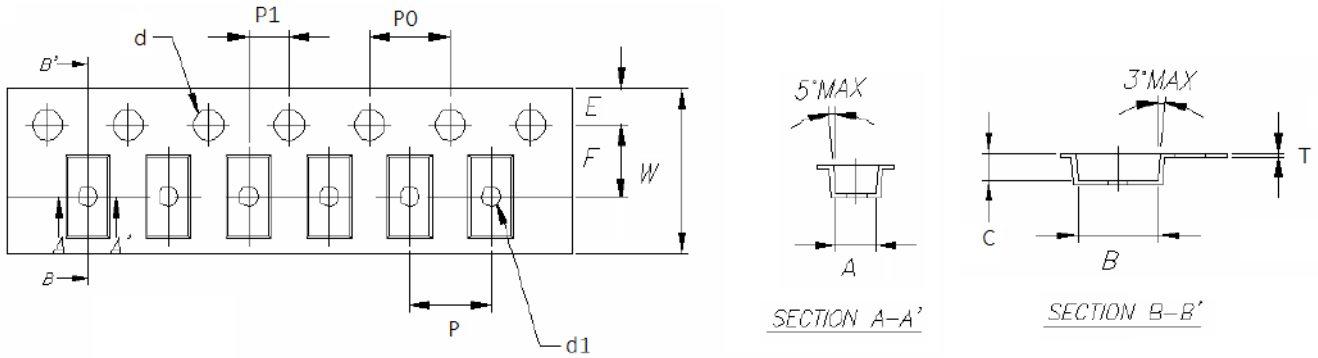
Fig. 3 Typical Forward Characteristics

Suggested Pad Layout

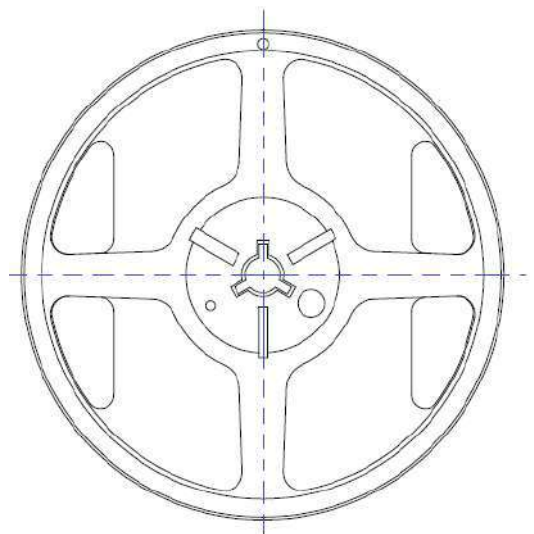
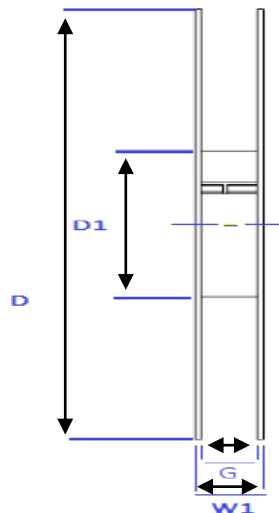
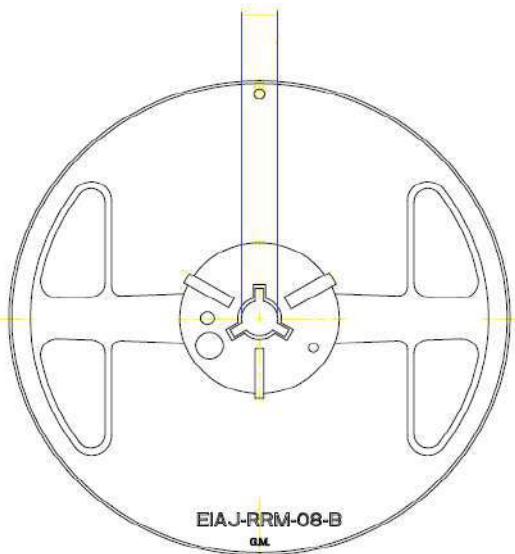


Packaging Specifications

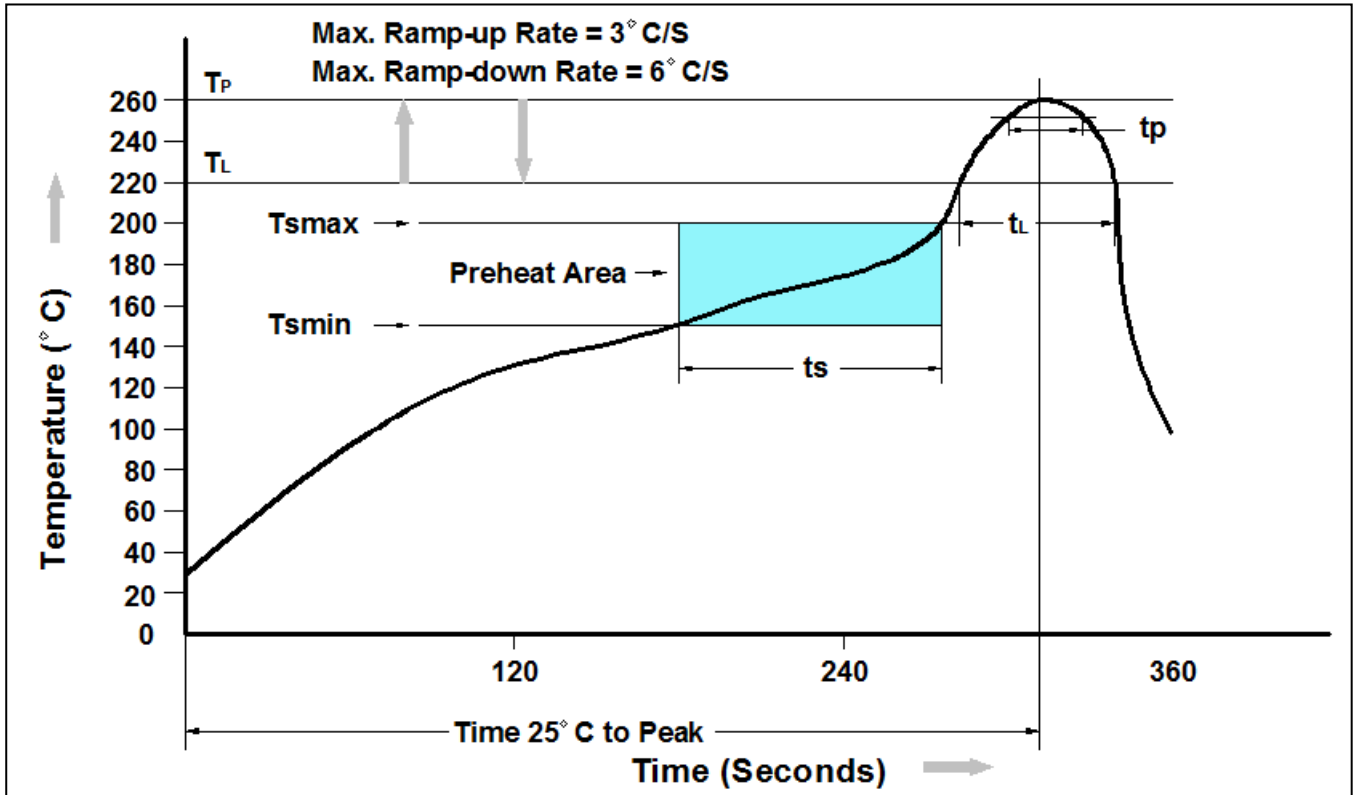
Package	W (mm)	A (mm)	B (mm)	C (mm)	d1 (mm)	d (mm)	E (mm)	F (mm)	P (mm)	P0 (mm)	P1 (mm)	T (mm)
SOD-123FL	8±0.2	2.00±0.1	3.85±0.1	1.1±0.1	1.0	1.50±0.1	1.75±0.1	3.5±0.05	4±0.1	4±0.05	2±0.05	0.23±0.05
SOD-123HE	8±0.3	2.00±0.1	4.00±0.1	1.45±0.1	1.0	1.55±0.1	1.75±0.1	3.5±0.05	4±0.1	4±0.10	2±0.05	0.23±0.10
SMAF	12±0.3	2.9±0.1	5.5±0.1	2.1±0.1	1.5	1.55±0.1	1.75±0.1	5.5±0.05	4±0.1	4±0.10	2±0.05	0.23±0.10
SMA-S	12±0.2	2.65±0.1	5.25±0.1	1.35±0.1	1.0	1.55±0.1	1.75±0.1	5.5±0.05	4±0.1	4±0.05	2±0.05	0.23±0.10
SMA-HE	12±0.2	2.65±0.1	5.25±0.1	1.35±0.1	1.0	1.55±0.1	1.75±0.1	5.5±0.05	4±0.1	4±0.05	2±0.05	0.23±0.10



Package	D (max.) (mm)	D1 (min.) (mm)	D2 (mm)	G (min.) (mm)	W1 (min.) (mm)
SOD-123FL	178	50.0	13.0±0.2	8.4	11.4
SOD-123HE	178	50.0	13.0±0.2	8.4	11.4
SMAF	178	50.0	13.0±0.2	12.4	18.0
	330	50.0	13.0±0.2	12.4	18.0
SMA-S	178	50.0	13.0±0.2	12.4	18.0
SMA-HE	178	50.0	13.0±0.2	12.4	18.0



Recommend IR Reflow Soldering Thermal Profile



Profile Feature	Pb-Free Assembly Profile
Temperature Min. (T Amin)	150°C
Temperature Max. (Tsmax)	200°C
Time (ts) from (T Amin to Tsmax)	60-120 seconds
Average Ramp-up Rate (tL to tP)	3°C/second max.
Liquidous Temperature (TL)	217°C
Time (tL) Maintained Above (TL)	60 – 150 seconds
Peak Temperature	260°C +0°C / -5°C
Time (tP) within 5°C of actual Peak Temperature	30 seconds
Ramp-down Rate (TP to TL)	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.

Ordering Information

Part Number	Description	Quantity
SS3045LAS	SMA-S Reel	3000 pcs

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