

### Characteristics

$I_o$	3.0	A
$V_{RRM}$	20~60	V
$I_{FSM}$	80.0	A
$V_F$	0.50~0.75	V

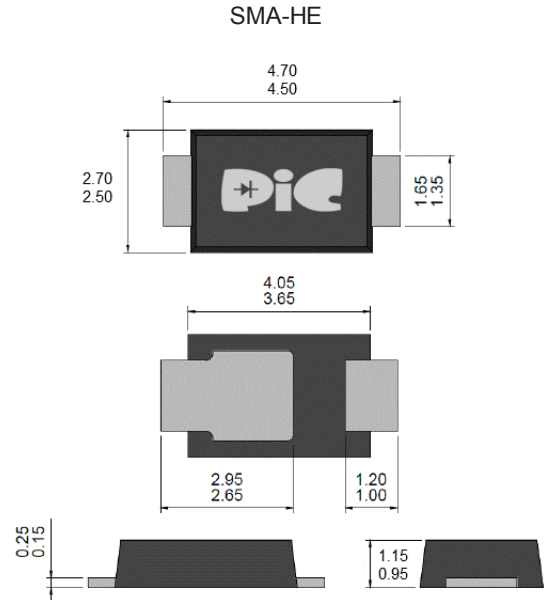
### Features

- 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

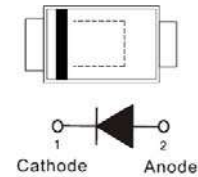
### Mechanical Data

- 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

### Package Outline Dimensions



Unit : millimeters



### Maximum Ratings (TA=25°C unless otherwise noted)

	Symbol	SS32AHE	SS34AHE	SS36AHE	UNITS
Recurrent Peak Reverse Voltage	$V_{RRM}$	20	40	60	Volts
RMS Voltage	$V_{RMS}$	14	28	42	Volts
DC Blocking Voltage	$V_R$	20	40	60	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	$V_F$	0.5		0.75	Volts
DC Reverse Current at Rated DC Blocking Voltage $T_J=25^\circ C$	$I_R$	0.1			mA
Typical Thermal Resistance, Junction to Lead (NOTE1)	$R_{\theta JL}$	20			°C/W
Junction to Ambient (NOTE1)	$R_{\theta JA}$	150			
Operating Junction Temperature and Storage Temperature Range	$T_J, T_{STG}$	-55~+150			°C

Notes:

- (1) Mounted on an FR4 PCB, single-sided copper, with 48cm<sup>2</sup> copper pad area.
- (2) Mounted on an FR4 PCB, single-sided copper, mini pad.

### Rating and Characteristics Curves

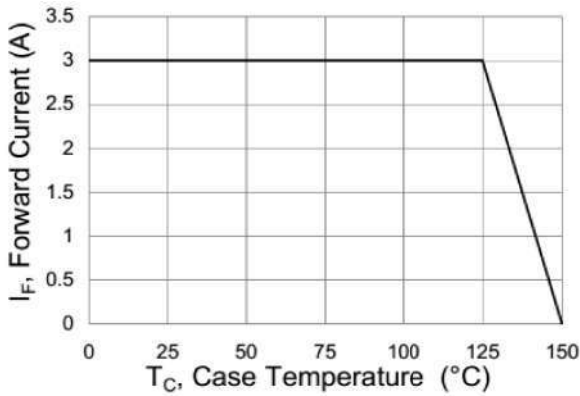


Fig. 1 Forward Current Derating Curve

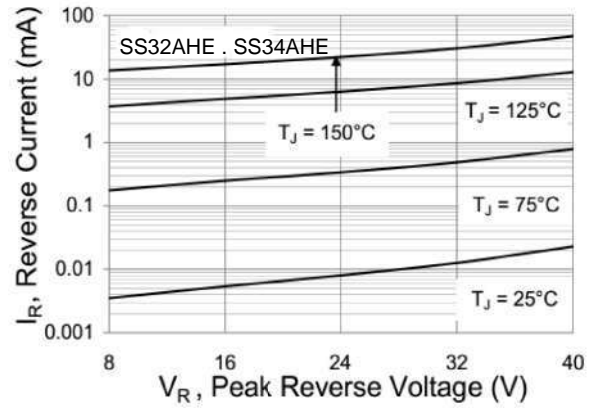


Fig. 2 Typical Junction Capacitance

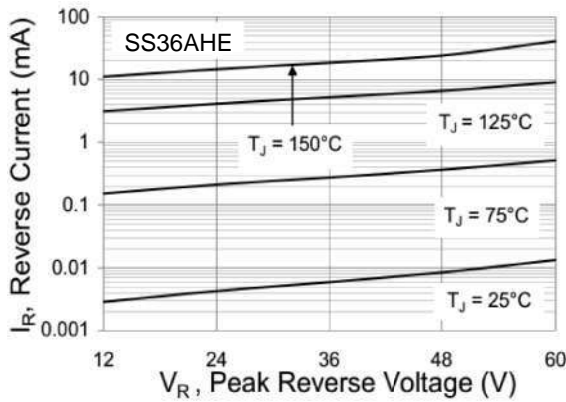


Fig. 3 Typical Reverse Characteristics

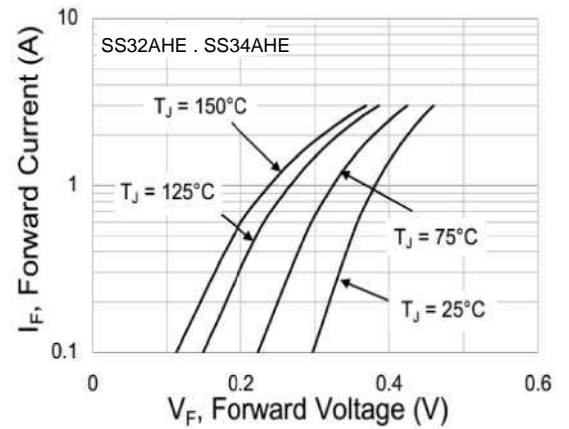


Fig. 4 Typical Forward Characteristics

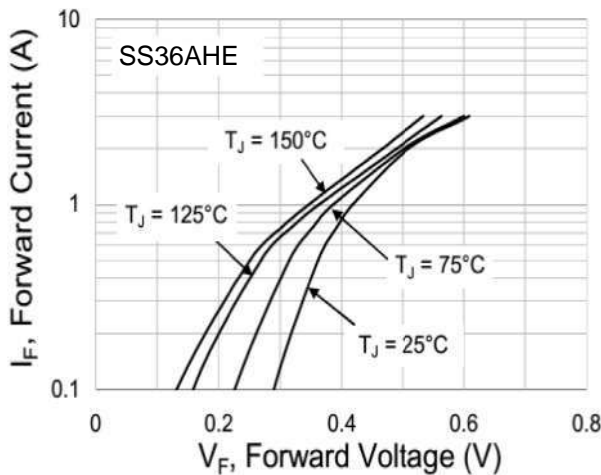
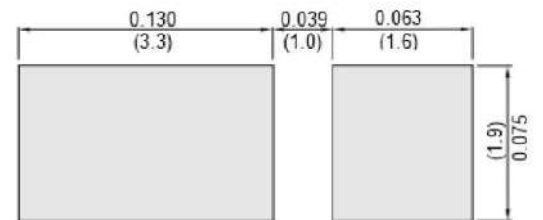


Fig. 5 Typical Reverse Characteristics

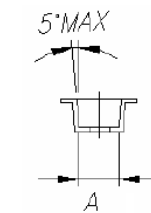
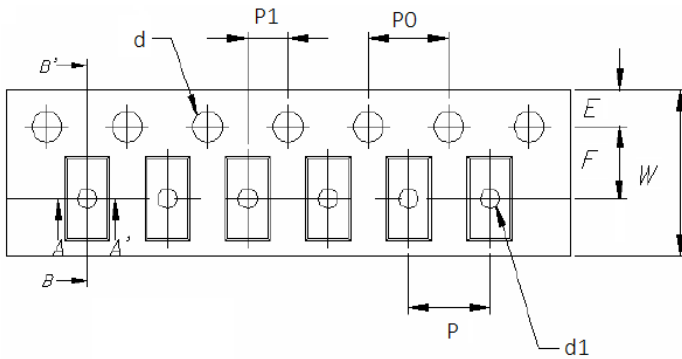
### Pad Layout



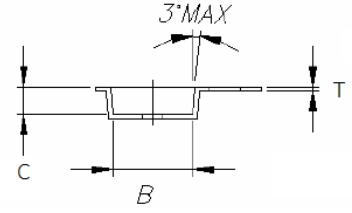
Unit: mm

### Packaging Specifications

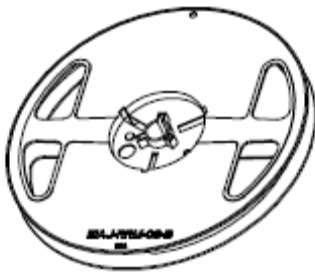
Package	W (mm)	A (mm)	B (mm)	C (mm)	d1 (mm)	d (mm)	E (mm)	F (mm)	P (mm)	P0 (mm)	P1 (mm)	T (mm)
SOD-123FL	8±0.2	2.00±0.1	3.85±0.1	1.1±0.1	1.0	1.50±0.1	1.75±0.1	3.5±0.05	4±0.1	4±0.05	2±0.05	0.23±0.05
SOD-123HE	8±0.3	2.00±0.1	4.00±0.1	1.45±0.1	1.0	1.55±0.1	1.75±0.1	3.5±0.05	4±0.1	4±0.10	2±0.05	0.23±0.10
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



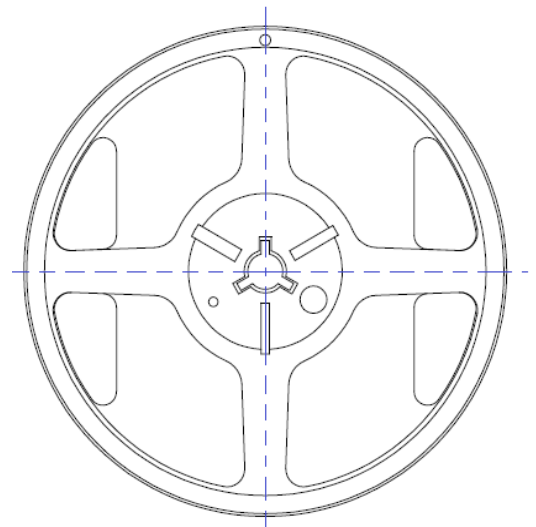
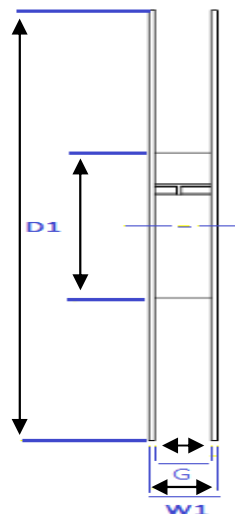
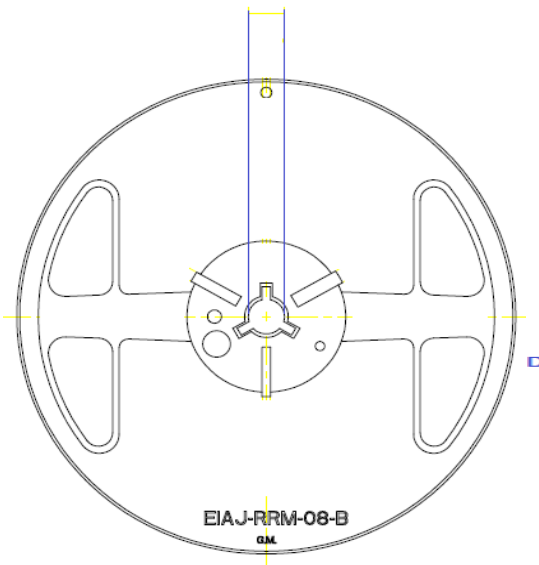
SECTION A-A'



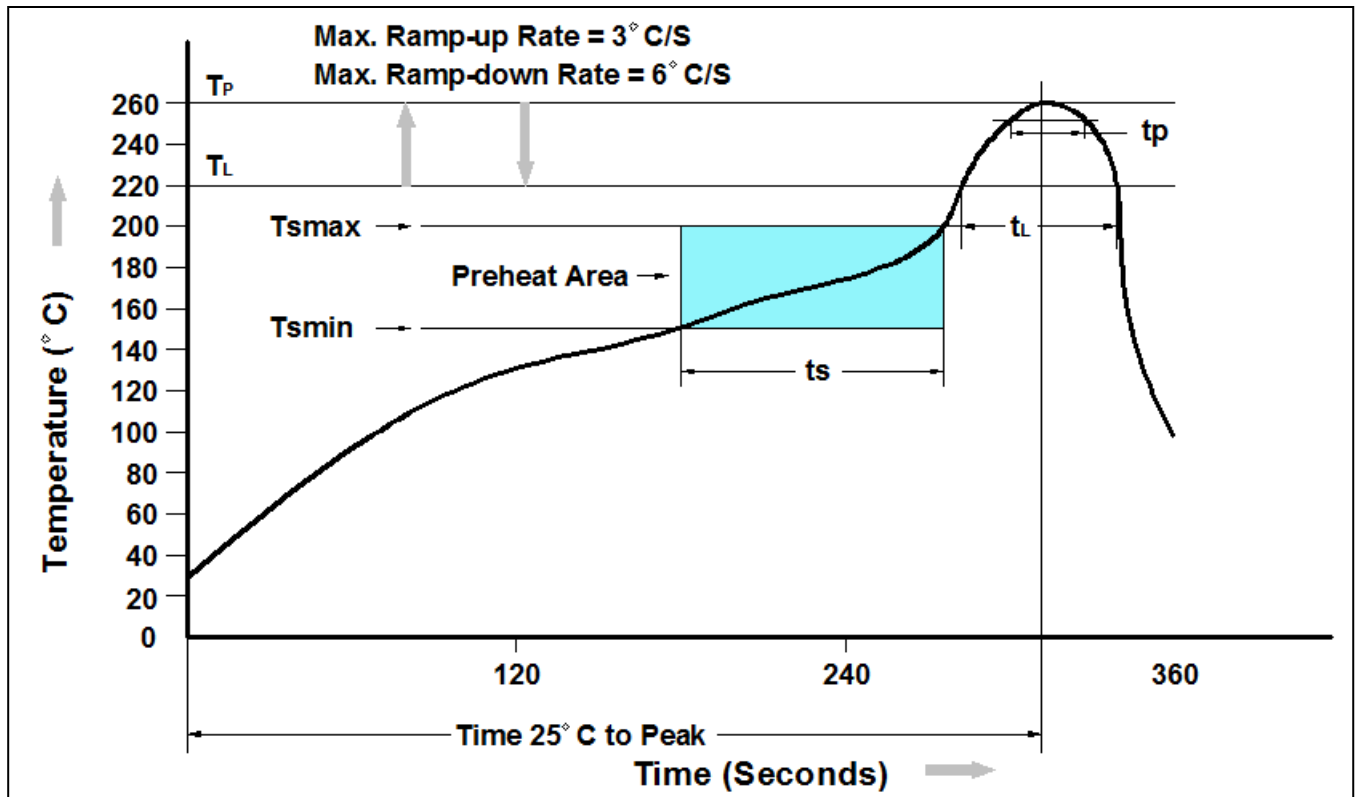
SECTION B-B'



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
SS32AHE~SS36AHE	SMA-HE Reel	3000 pcs

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