

Characteristics

I_F	3	A
V_{RRM}	20~200	V
I_{FSM}	70	A
V_F	0.50~0.90	V

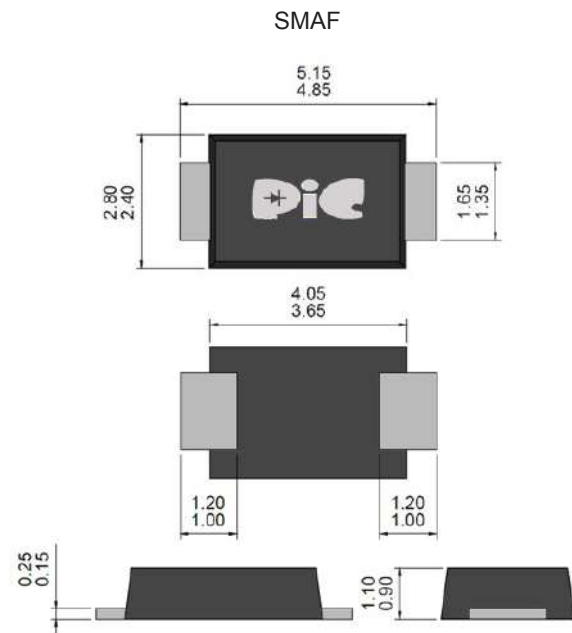
Features

- 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 Date

- 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)

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbol	SS32AF	SS34AF	SS36AF	SS310AF	SS315AF	SS320AF	UNITS
Marking Code	-	S32A	S34A	S36A	S310A	S315A	S320A	-
Recurrent Peak Reverse Voltage	V_{RRM}	20	40	60	100	150	200	V
RMS Voltage	V_{RMS}	14	28	42	70	105	140	V
DC Blocking Voltage	V_R	20	40	60	100	150	200	V
Average Forward Current	$I_{F(AV)}$	3.0						A
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC Method)	I_{FSM}	70						A
Forward Voltage at 3.0A	V_F	0.5	0.75	0.85	0.9			V
DC reverse current at rated DC blocking voltage $T_J=25^\circ\text{C}$	I_R	100			50			μA
Typical thermal resistance, Junction to Lead (NOTE1) Junction to Ambient (NOTE2)	$R_{\theta JL}$ $R_{\theta JA}$	20 150						$^\circ\text{C/W}$
Operating Junction Temperature and Storage Temperature Range	T_J, T_{STG}	-55~+150						$^\circ\text{C}$

- Notes: (1) Mounted on an FR4 PCB, single-sided copper, with 48cm² copper pad area.
(2) Mounted on an FR4 PCB, single-sided copper, mini pad.

Rating and Characteristics Curves

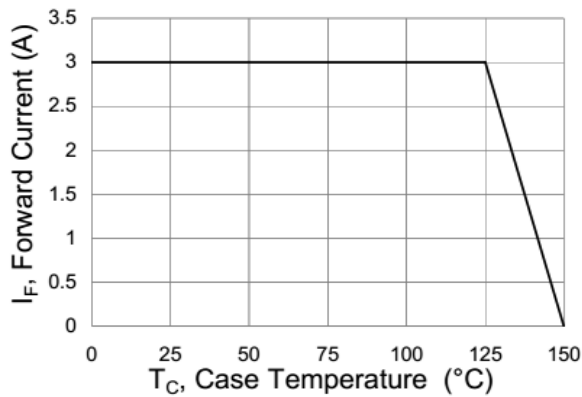


Fig. 1 Forward Current Derating Curve

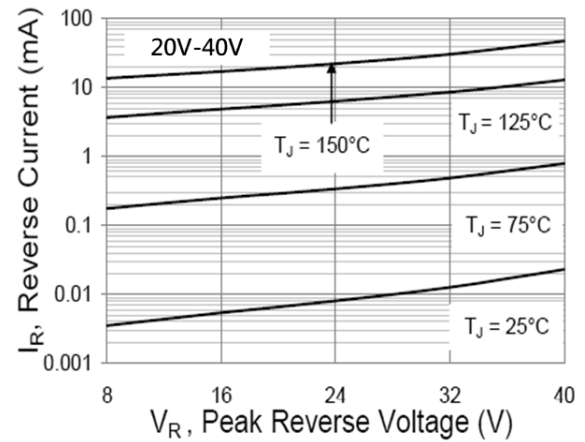


Fig. 2 Typical Reverse Characteristics

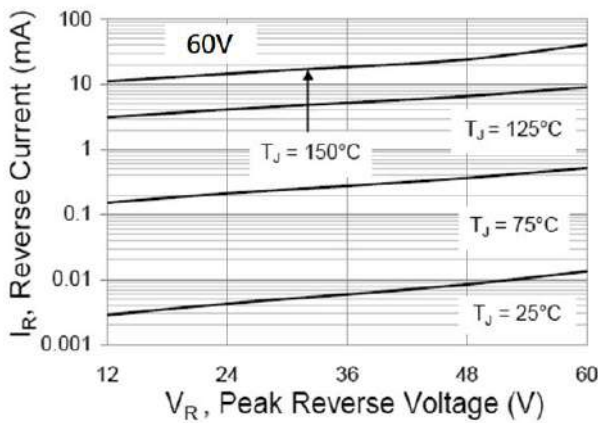


Fig. 3 Typical Reverse Characteristics

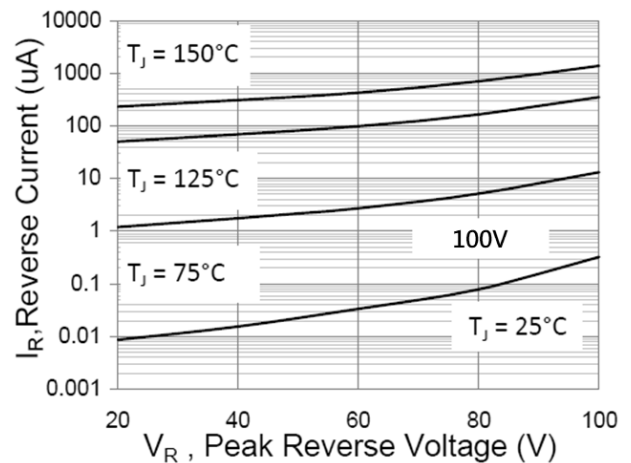


Fig. 4 Typical Reverse Characteristics

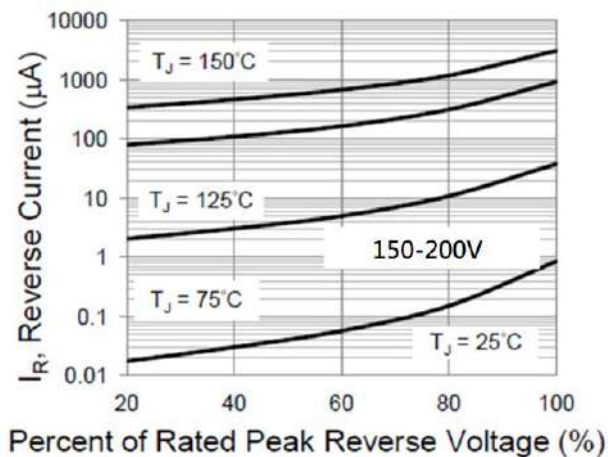


Fig. 5 Typical Reverse Characteristics

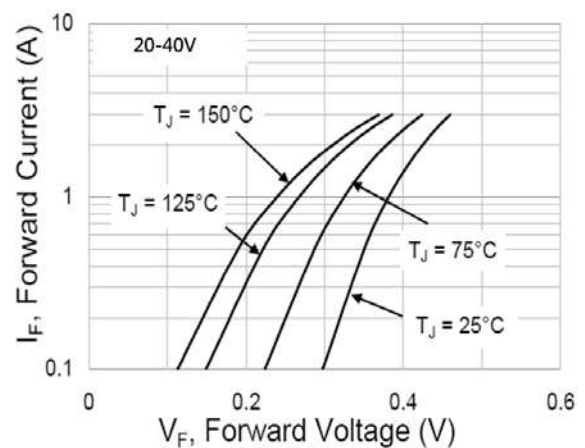


Fig. 6 Typical Forward Characteristics

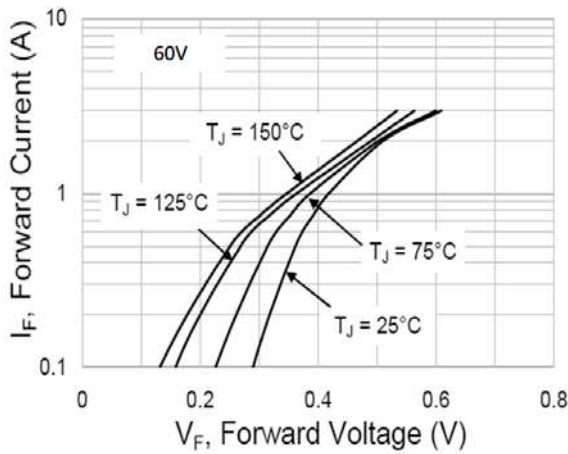


Fig. 7 Typical Forward Characteristics

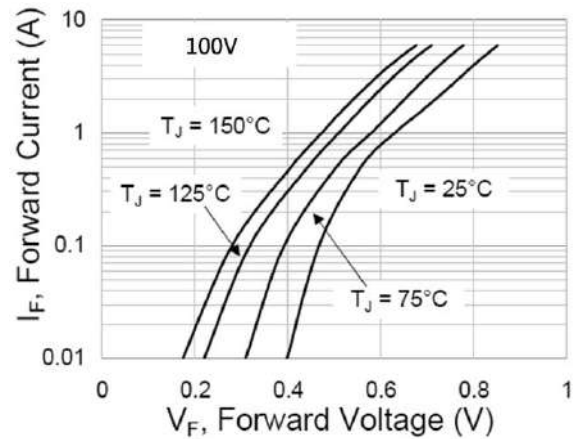


Fig. 8 Typical Forward Characteristics

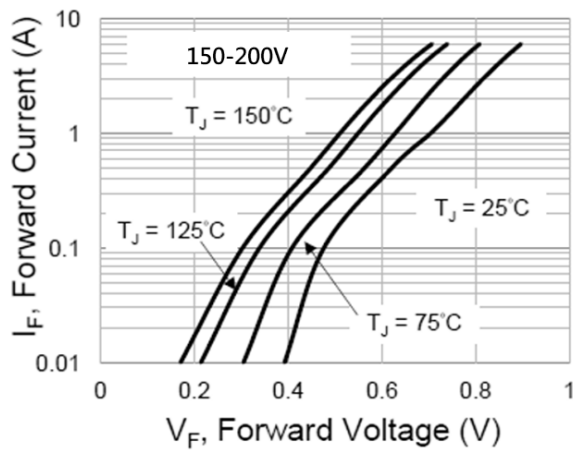


Fig. 9 Typical Forward Characteristics

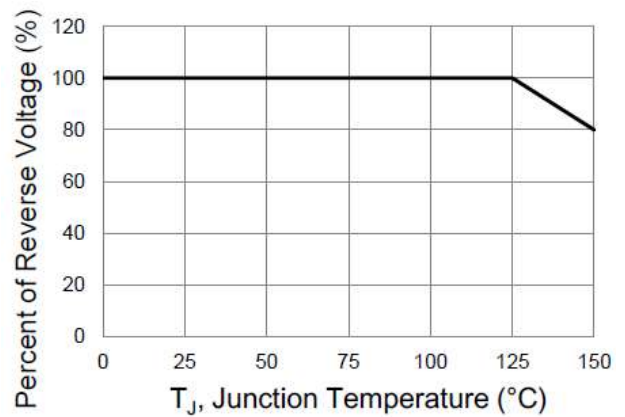
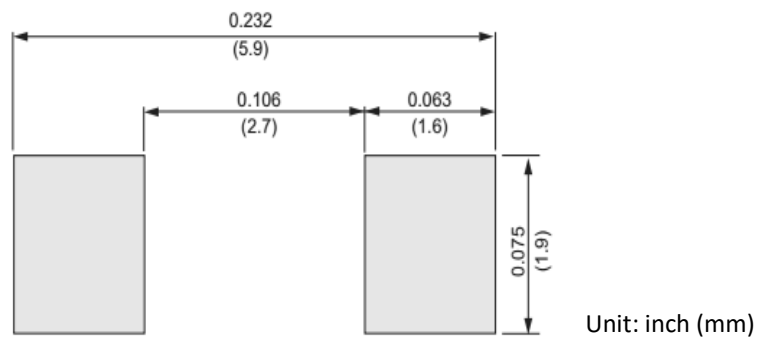


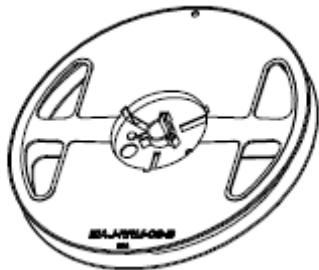
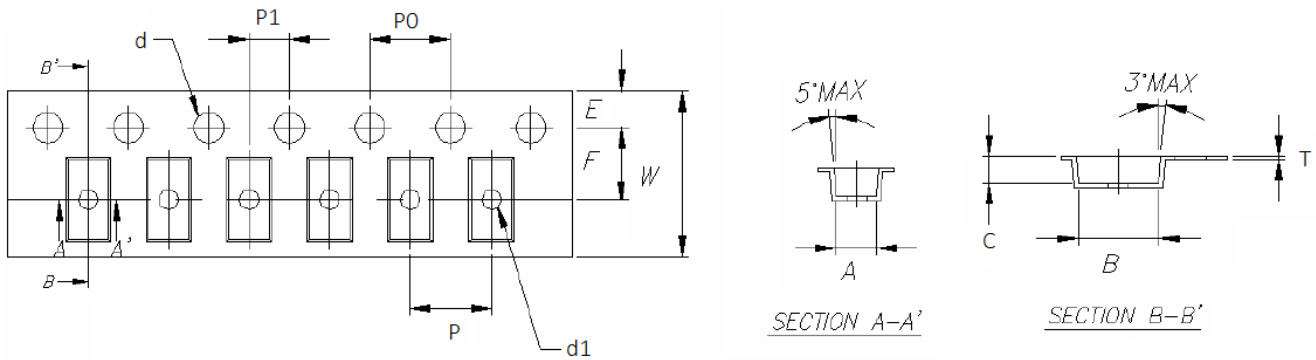
Fig. 10 Operating Temperature Derating Curve

Suggested Pad Layout

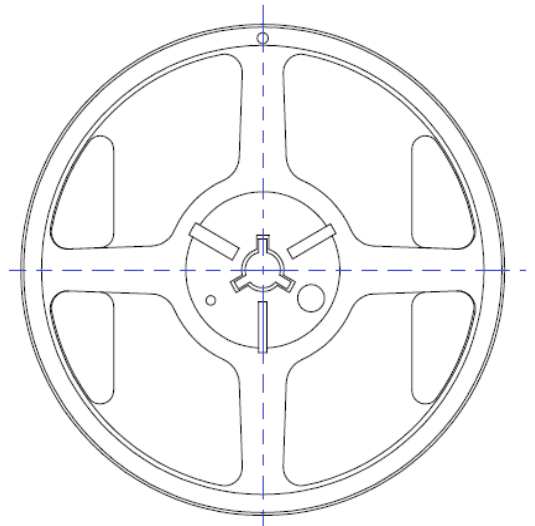
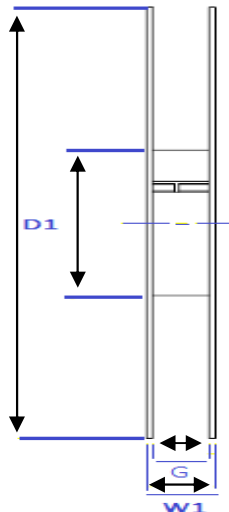
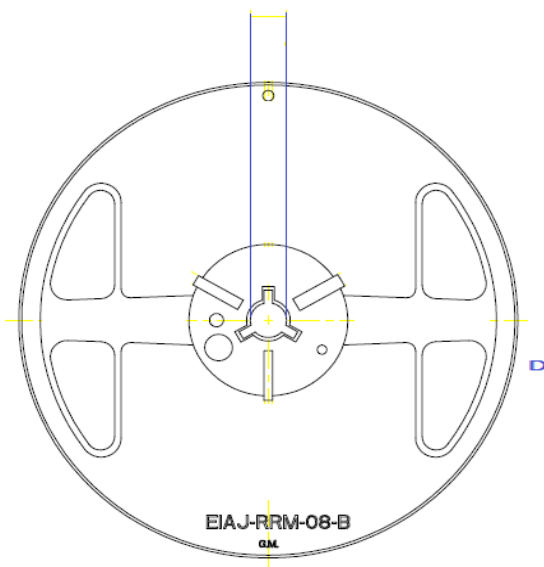


Packaging Specifications

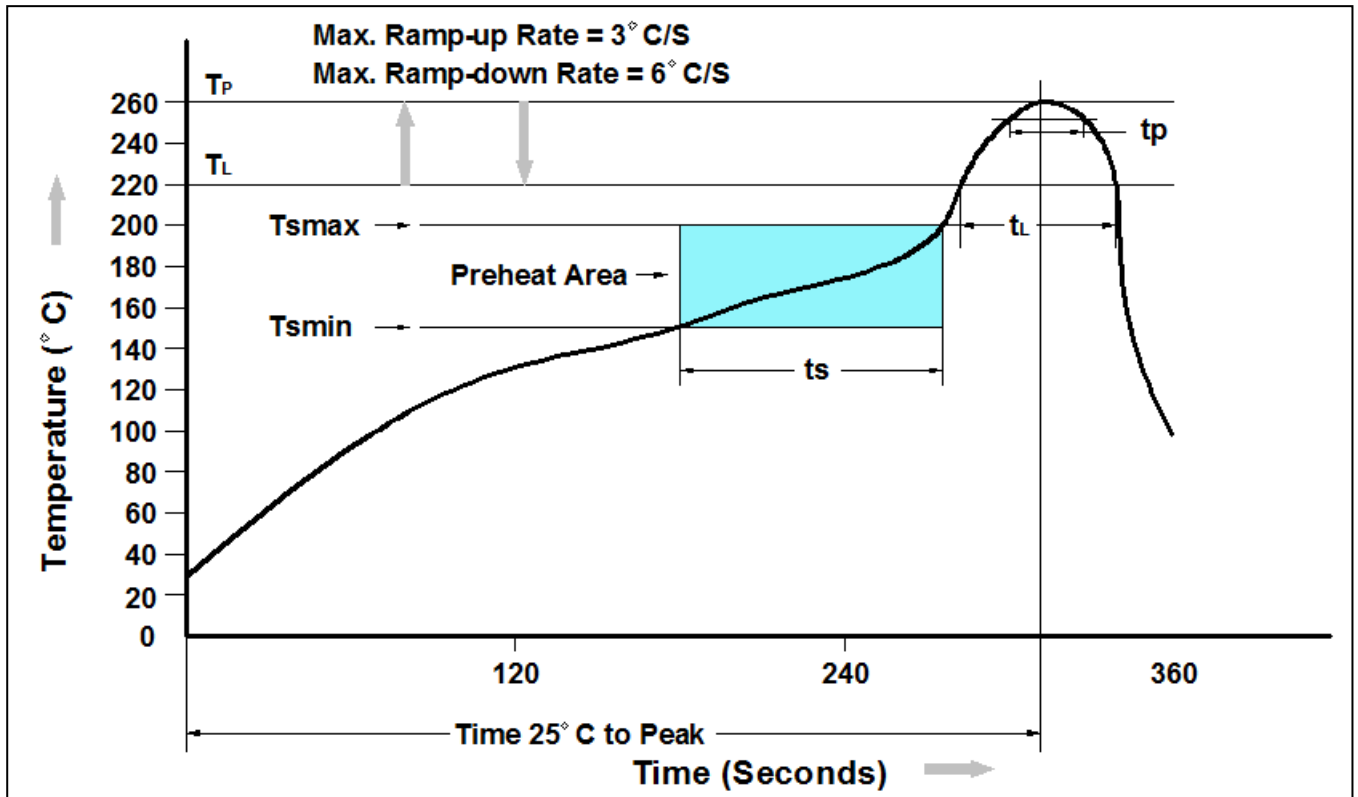
Package	W (mm)	A (mm)	B (mm)	C (mm)	d1 (mm)	d (mm)	E (mm)	F (mm)	P (mm)	P0 (mm)	P1 (mm)	T (mm)
SOD-123FL	8±0.2	2.00±0.1	3.85±0.1	1.1±0.1	1.0	1.50±0.1	1.75±0.1	3.5±0.05	4±0.1	4±0.05	2±0.05	0.23±0.05
SOD-123HE	8±0.3	2.00±0.1	4.00±0.1	1.45±0.1	1.0	1.55±0.1	1.75±0.1	3.5±0.05	4±0.1	4±0.10	2±0.05	0.23±0.10
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 _{smin})	150°C
Temperature Max. (T _{smax})	200°C
Time (t _s) from (T _{smin} to T _{smax})	60-120 seconds
Average Ramp-up Rate (t _L to t _P)	3°C/second max.
Liquidous Temperature (T _L)	217°C
Time (t _L) Maintained Above (T _L)	60 – 150 seconds
Peak Temperature	260°C +0°C / -5°C
Time (t _P) within 5°C of actual Peak Temperature	30 seconds
Ramp-down Rate (T _P to T _L)	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.

Ordering Information

Part Number	Description	Quantity
SS32AF~SS320AF	SMAF Reel	3000 pcs

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