

### Primary Characteristics

$I_F$	3.0	A
$V_{RRM}$	60	V
$I_{FSM}$	80.0	A
$V_F$	0.60	V

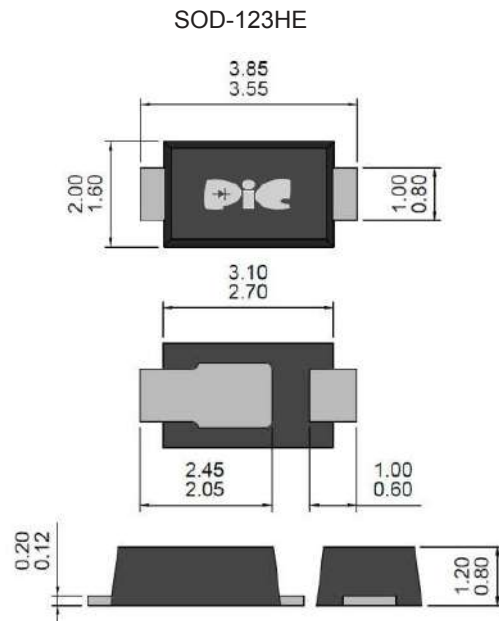
### Features

- Plastic package has Underwriters Laboratory
- Flammability Classification 94V-0
- For surface mounted applications in order to optimize board space
- Low power loss, high efficiency
- High surge capacity
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

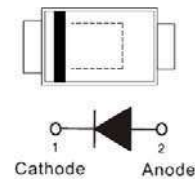
### Mechanical Data

- Case: SOD-1233HE molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end

### Package Outline Dimensions



Unit: millimeters



### Maximum Ratings & Electrical Characteristic

Ratings at 25°C ambient temperature unless otherwise specified. Resistive or inductive load.

Parameter	Symbol	SS3060LHE	UNITS
Marking Code	-	ED	-
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	60	Volts
Maximum RMS Voltage	$V_{RMS}$	42	Volts
Maximum DC Blocking Voltage	$V_{DC}$	60	Volts
Maximum Average Forward Current	$I_{F(AV)}$	3.0	Amps
Peak Forward Surge Current : 8.3ms single half sine-wave super imposed on rated load	$I_{FSM}$	80	Amps
Maximum Forward Voltage at 3A (Note 1)	$V_F$	0.6	Volts
Maximum DC Reverse Current $T_J=25^\circ\text{C}$	$I_R$	200	$\mu\text{A}$
Typical Thermal Resistance (Note 2)	$R_{\theta JL}$ $R_{\theta JA}$	20 105	$^\circ\text{C} / \text{W}$
Operating Junction Temperature Range	$T_J$	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^\circ\text{C}$

Notes: (1) Pulse Test with  $PW = 300\mu\text{sec}$ , 1% Duty Cycle.

(2) Mounted on 50cm<sup>2</sup> FR-4 PCB Board

### Rating & Characteristic Curves

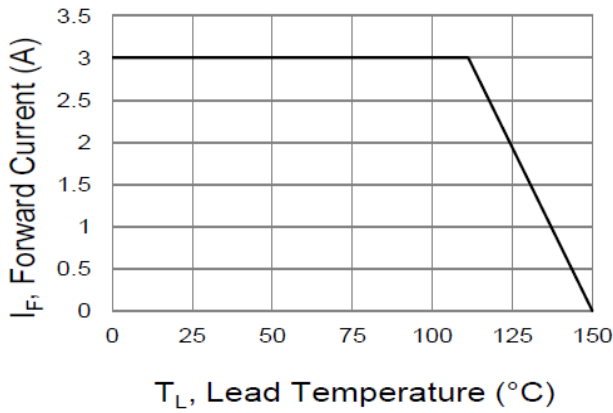


Fig. 1 Forward Current Derating Curve

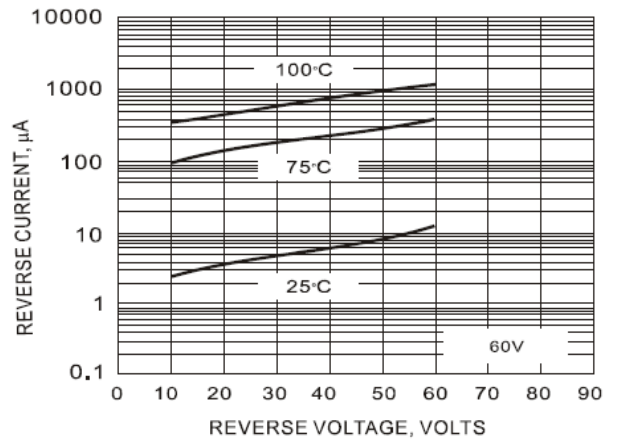


Fig. 2 Typical Reverse Characteristics

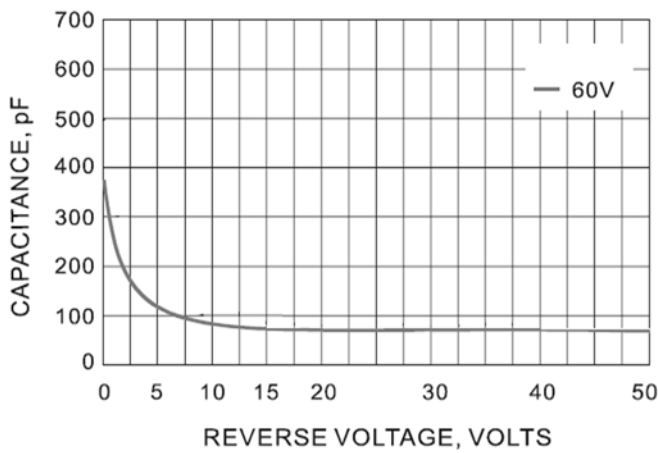


Fig. 4 Typical Junction Capacitance

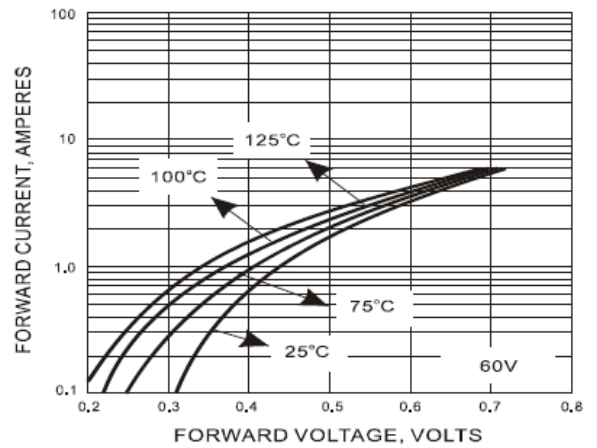


Fig. 6 Typical Instantaneous Forward Characteristics

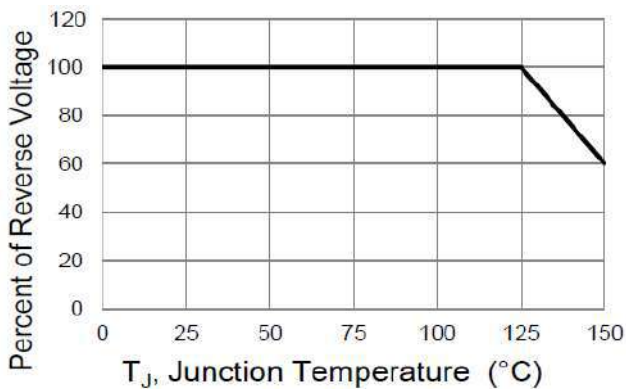
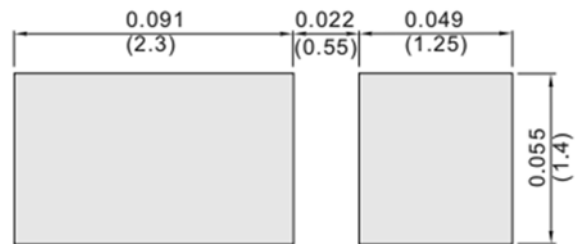


Fig. 7 Operating Temperature Derating

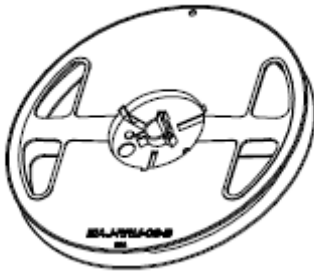
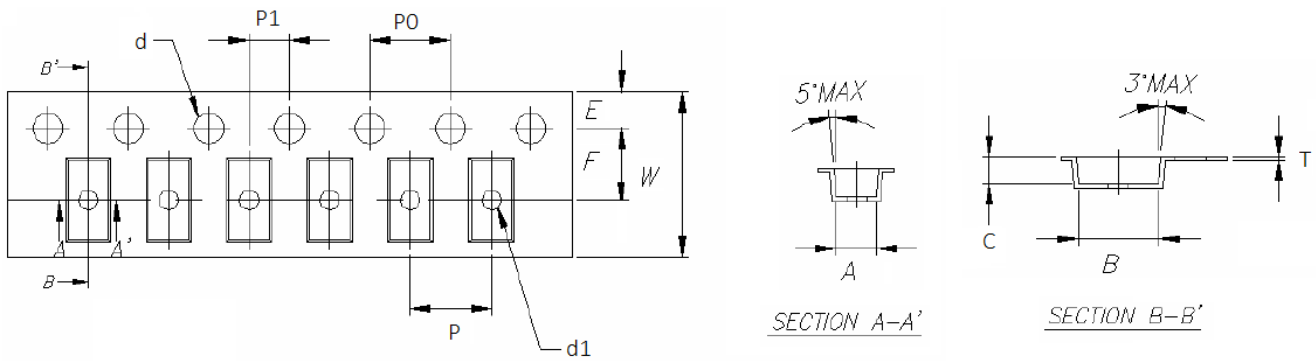
### Pad Layout



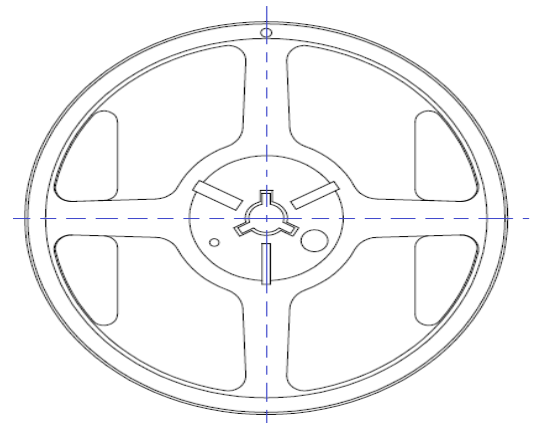
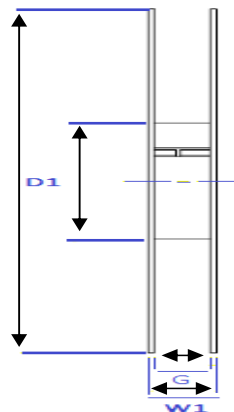
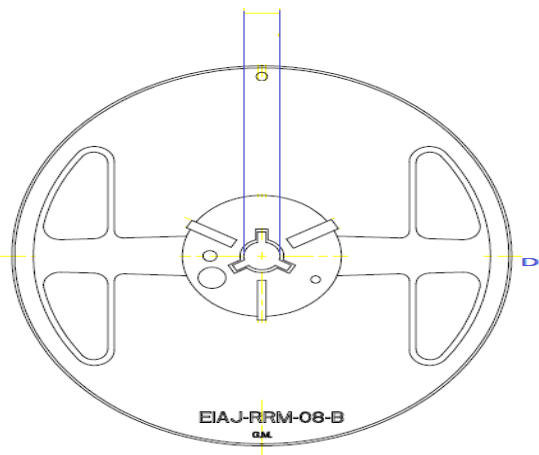
Unit: mm

### Packaging Specifications

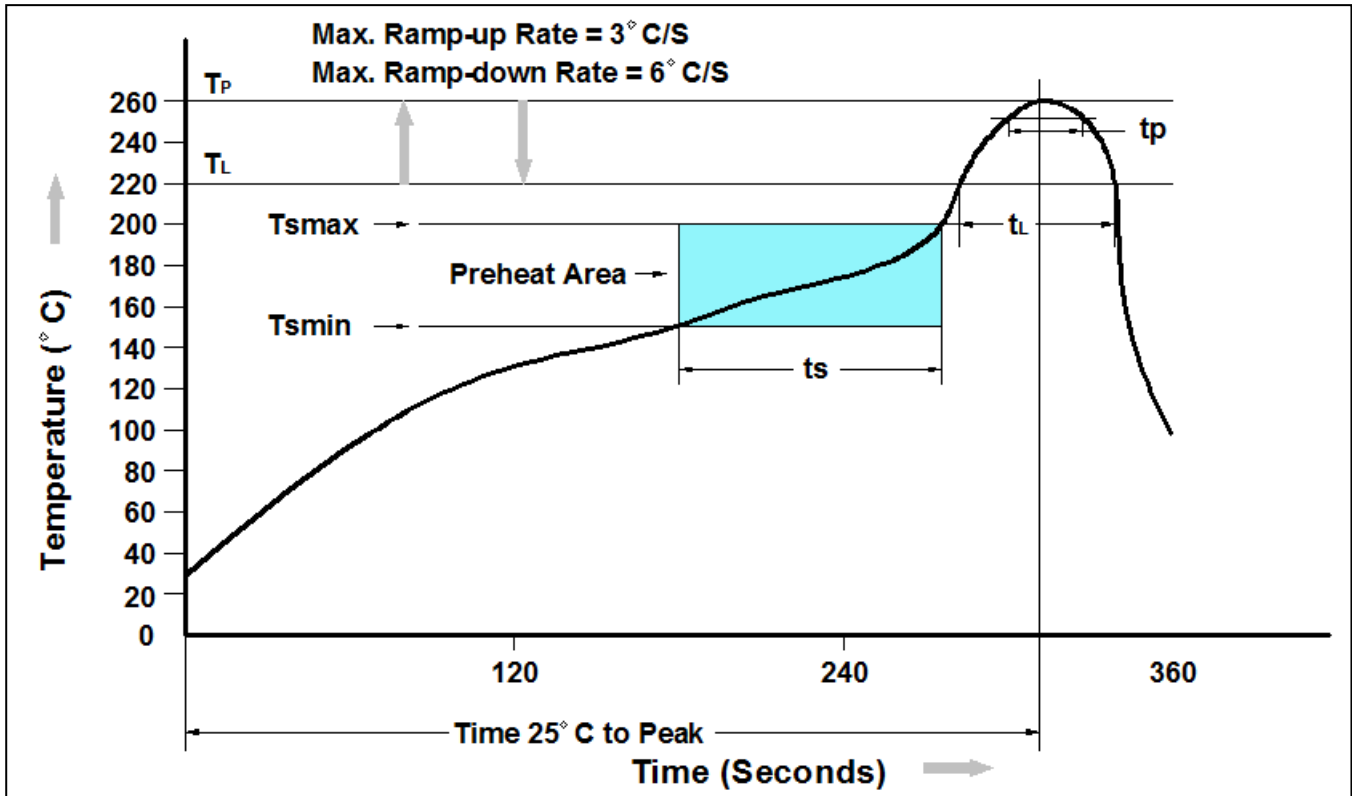
Package	W (mm)	A (mm)	B (mm)	C (mm)	d1 (mm)	d (mm)	E (mm)	F (mm)	P (mm)	P0 (mm)	P1 (mm)	T (mm)
SOD-123FL	8±0.2	2.00±0.1	3.85±0.1	1.1±0.1	1.0	1.50±0.1	1.75±0.1	3.5±0.05	4±0.1	4±0.05	2±0.05	0.23±0.05
SOD-123HE	8±0.3	2.00±0.1	4.00±0.1	1.45±0.1	1.0	1.55±0.1	1.75±0.1	3.5±0.05	4±0.1	4±0.10	2±0.05	0.23±0.10
SOD-323FL	8±0.2	1.37±0.1	2.75±0.1	0.85±0.1	1.00	1.60±0.1	1.75±0.1	3.50±0.05	4±0.1	4±0.10	-	0.20±0.10
SOD-323HE	8±0.3	1.60±0.1	2.80±0.1	0.95±0.1	1.0	1.50±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
SOD-323FL	178	50.2	13.0±0.2	8.0	11.5
SOD-323HE	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
SS3060LHE	SOD-123HE Reel	3000 pcs

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