

Primary Characteristics

I_F	3.0	A
V_{RRM}	30	V
I_{FSM}	75.0	A
V_F	0.43	V

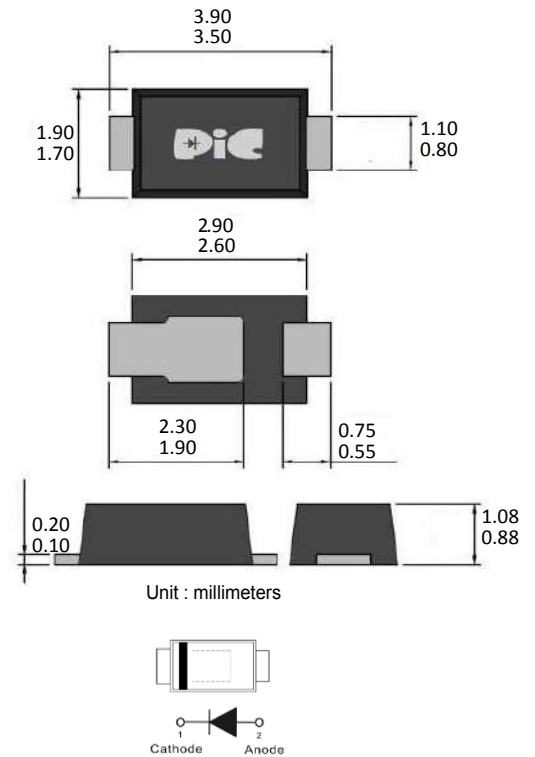
Features

- Low forward voltage drop, low reverse current
- Low power loss, high efficiency.
- Suffix "H" indicates Halogen-free parts, ex. SS3030LHE-H

Mechanical Data

- Case : Molded plastic, SOD-123HE
- Terminals: Solder plated, solderable per MIL-STD-750, method 2026 guaranteed
- Polarity : Color band denotes cathode end

SOD-123HE



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 current by 20%.

Parameter	Symbols	SS3030LHE	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	30	Volts
Maximum RMS Voltage	V_{RMS}	21	Volts
Maximum DC Blocking Voltage	V_R	30	Volts
Maximum Average Forward Rectified Current (See Fig. 1)	$I_{(AV)}$	3.0	Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	75.0	Amp
	$I_F=0.5A, T_J=25^\circ C$	0.32	
	$I_F=1.0A, T_J=25^\circ C$	0.35	
Maximum Forward Voltage at	$I_F=3.0A, T_J=25^\circ C$	0.43	Volts
	$I_F=0.5A, T_J=125^\circ C$	0.23	
	$I_F=1.0A, T_J=125^\circ C$	0.26	
	$I_F=3.0A, T_J=125^\circ C$	0.38	
Maximum Reverse Current at	$V_R=5V, T_J=25^\circ C$	0.15	mAmp
	$V_R=30V, T_J=25^\circ C$	0.40	
	$V_R=5V, T_J=125^\circ C$	15.00	
	$V_R=30V, T_J=125^\circ C$	20.00	
Typical Thermal Resistance Junction to Ambient (Note 1)	$R_{\theta JA}$	178.0	°C/W
Operating Junction Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T^{stg}	-55 to +150	

NOTES: 1- FR-4 PCB, 2 OZ. Copper

Rating and Characteristics Curves

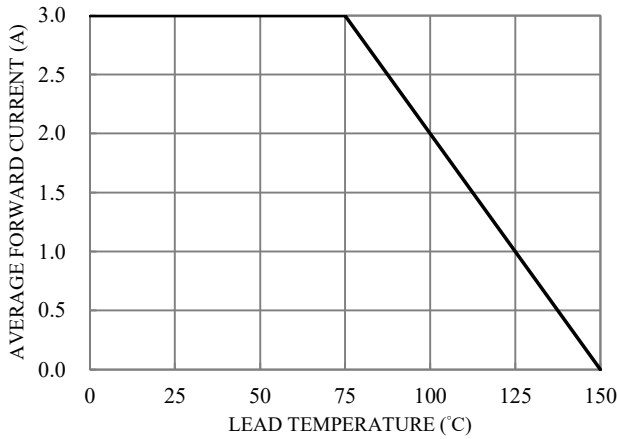


Fig.1-FORWARD CURRENT DERATING CURVE

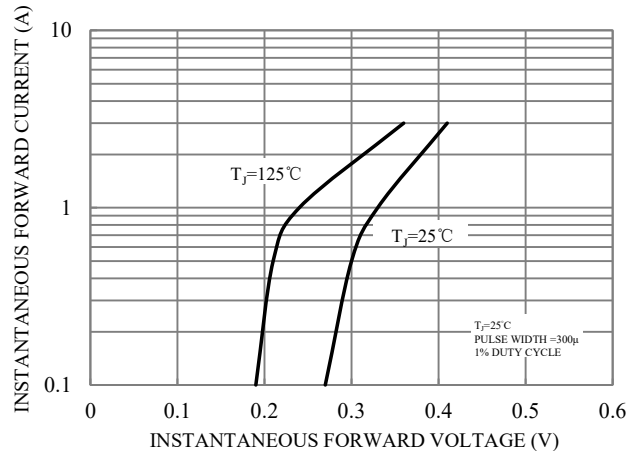


Fig.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

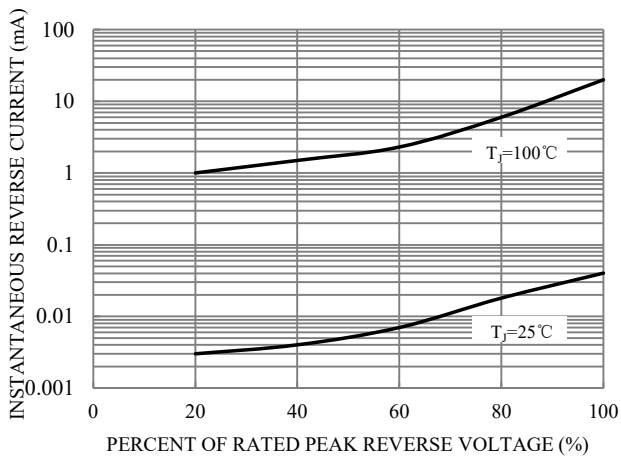


Fig.3-TYPICAL REVERSE CHARACTERISTICS

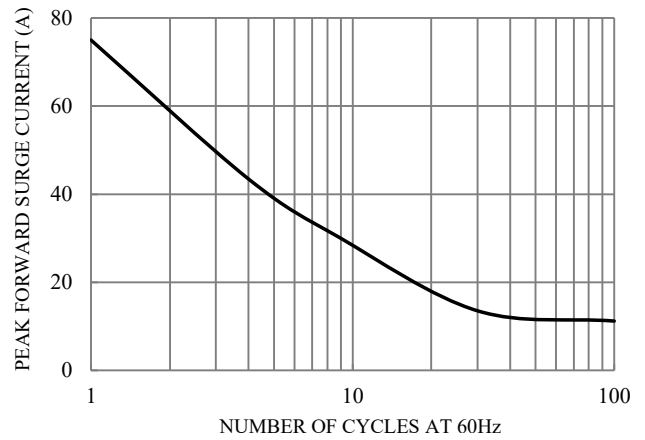
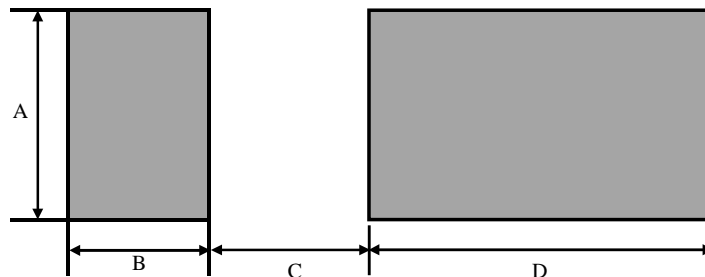


Fig.4-MAXIMUM NON-REPETITIVE SURGE CURRENT

Suggested Solder Pad Layout

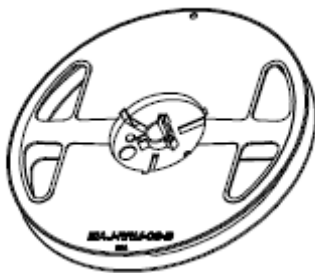
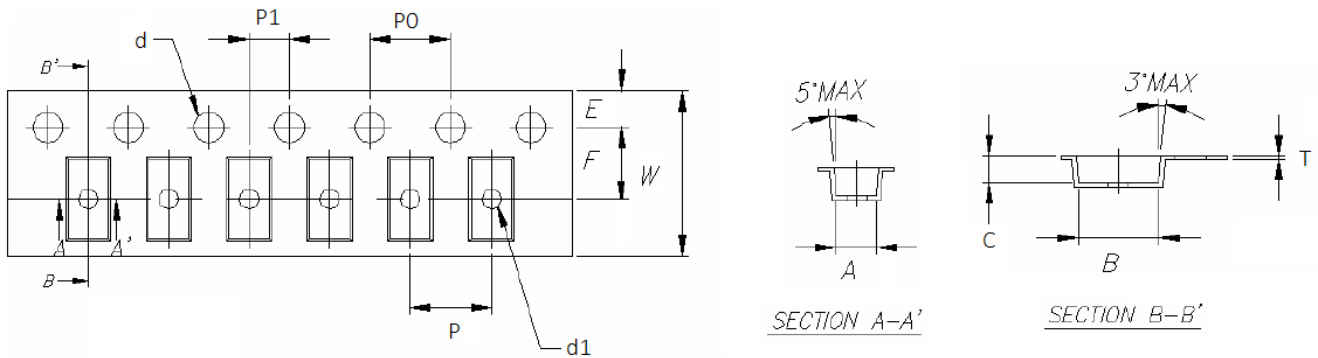


PACKAGE	A	B	C	D
SOD-123HE	1.40	0.90	1.00	2.20

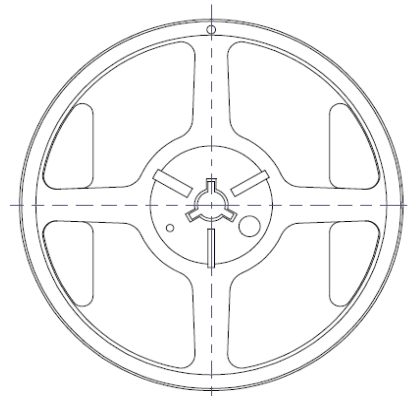
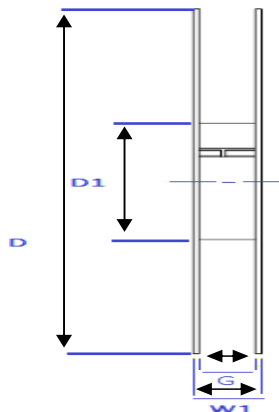
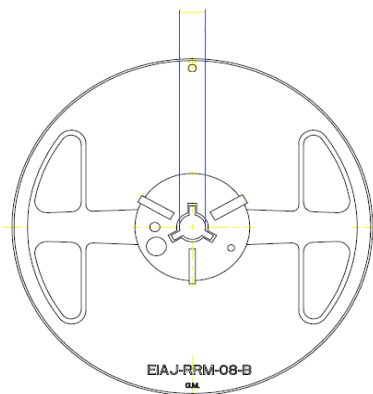
Unit : mm

Packaging Specifications

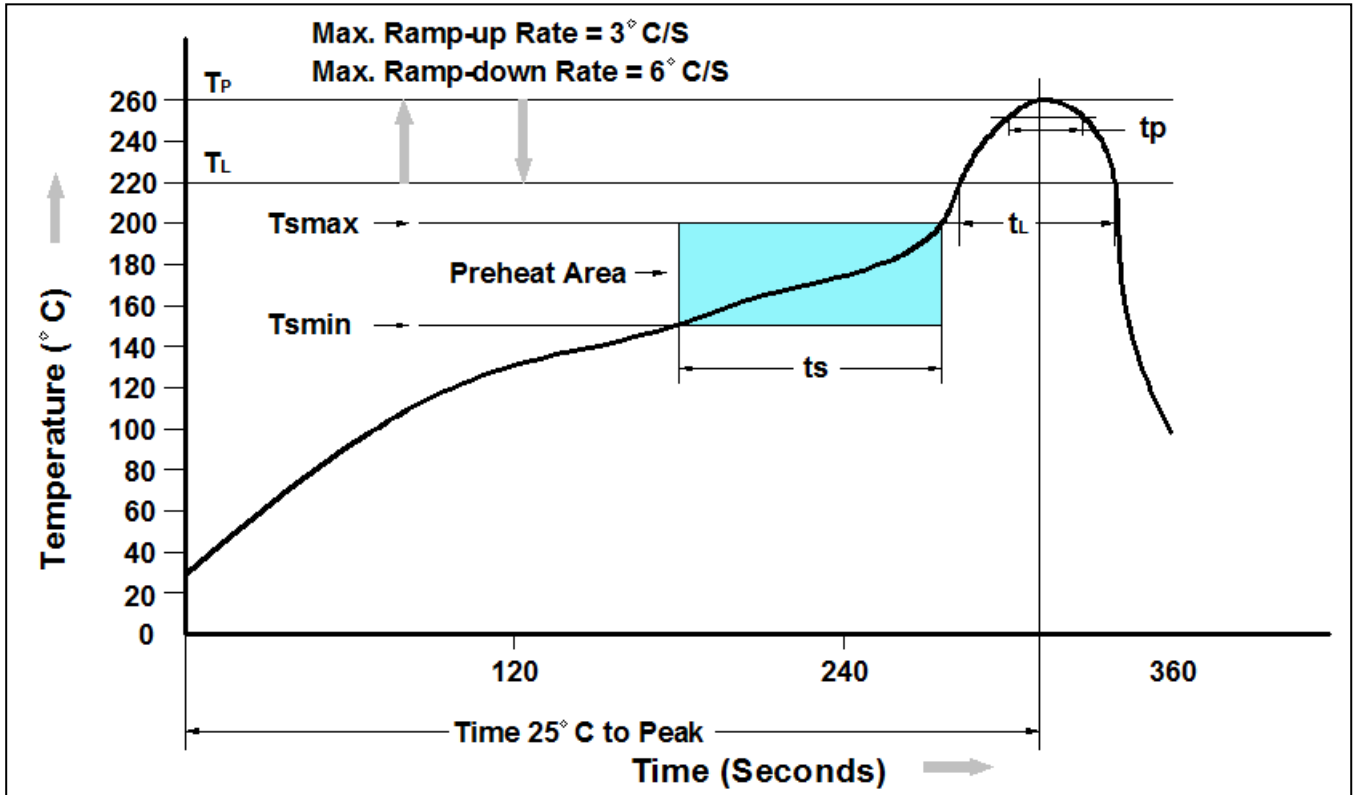
Package	W (mm)	A (mm)	B (mm)	C (mm)	d1 (mm)	d (mm)	E (mm)	F (mm)	P (mm)	P0 (mm)	P1 (mm)	T (mm)
SOD-123FL	8±0.2	2.00±0.1	3.85±0.1	1.1±0.1	1.0	1.50±0.1	1.75±0.1	3.5±0.05	4±0.1	4±0.05	2±0.05	0.23±0.05
SOD-123HE	8±0.3	2.00±0.1	4.00±0.1	1.45±0.1	1.0	1.55±0.1	1.75±0.1	3.5±0.05	4±0.1	4±0.10	2±0.05	0.23±0.10
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. (Tsmin)	150°C
Temperature Max. (Tsmax)	200°C
Time (ts) from (Tsmin 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
SS3030LHE	SOD-123HE Reel	3000 pcs

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