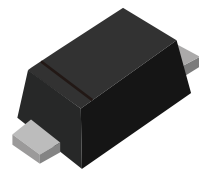
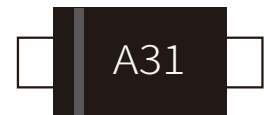


## FEATURES

- | Low profile package
- | Ideal for automated placement
- | Guardring for overvoltage protection
- | Low power losses, high efficiency
- | High forward surge capability



SOD-323HE



Marking



Schematic Symbol

## MECHANICAL DATA

- | Encapsulation: SOD-323HE Small Outline Plastic Package
- | Polarity: Color band denotes cathode end
- | Mounting Position: Any

## APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

## MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ )

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	30	V
Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1)	$I_O$	1.0	A
Surge(non-repetitive)forward current @60Hz half-sine wave, 1 cycle, $T_J=25^{\circ}\text{C}$	$I_{FSM}$	30	A
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, $T_J=25^{\circ}\text{C}$	$I_{FSM}$	60	A
Current squared time @1ms $\leq t \leq 8.3\text{ms}$ $T_J=25^{\circ}\text{C}$ , Rating of per diode	$I^2t$	3.74	A <sup>2</sup> S
Typical junction capacitance @Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	$C_J$	43	pF
Thermal Resistance	$R_{\theta J-A}$	90 <sup>(1)</sup>	$^{\circ}\text{C}/\text{W}$
	$R_{\theta J-C}$	46 <sup>(1)</sup>	$^{\circ}\text{C}/\text{W}$
Operating junction temperature range	$T_J$	-50 to 125	$^{\circ}\text{C}$
Storage temperature range	$T_{STG}$	-50 to 125	$^{\circ}\text{C}$

Note: (1) Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B with 3mm\*3mm copper pad areas.

## ELECTRICAL CHARACTERISTICS( $T_A=25^{\circ}\text{C}$ )

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse breakdown voltage	$V_{BR}$	$I_R=250\mu\text{A}$	30			V
Reverse current	$I_R$	$V_R=30\text{V}$			100	$\mu\text{A}$
Forward Voltage	$V_F$	$I_F=1\text{A}$			0.47	V

## CHARACTERISTIC CURVES

Fig.1  $I_o$ - $T_L$  Curve

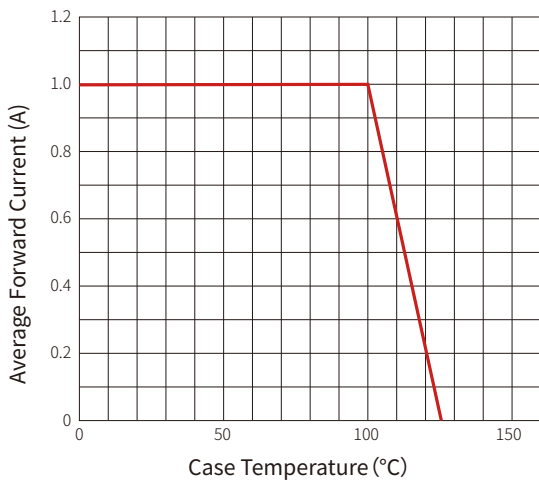


Fig.2 Surge Forward Current Capability

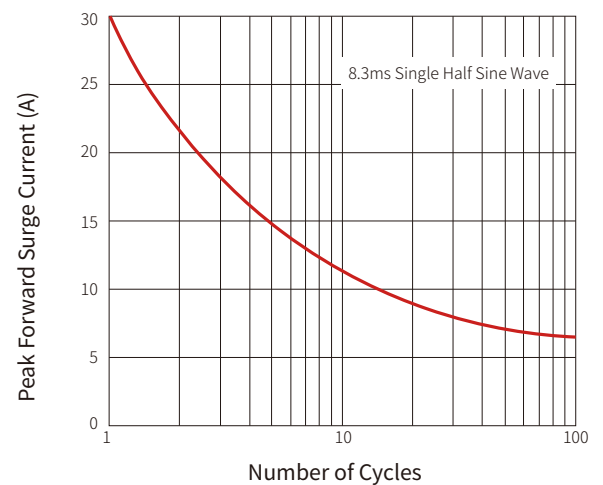


Fig.3 Forward Voltage

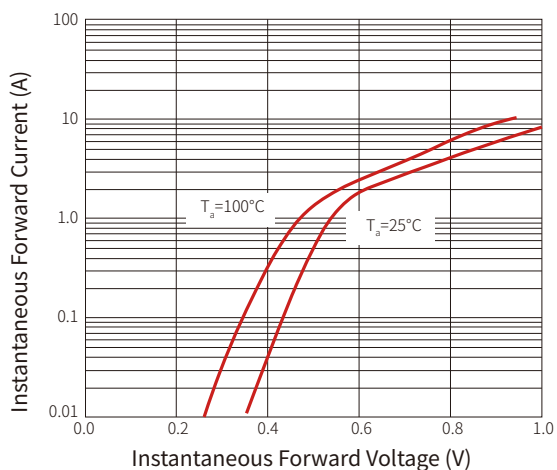
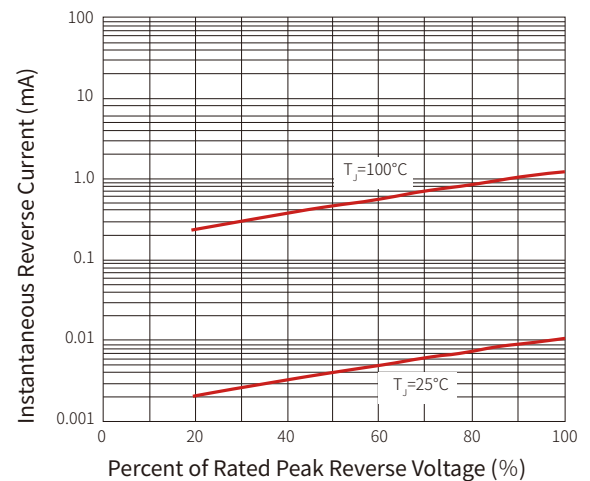
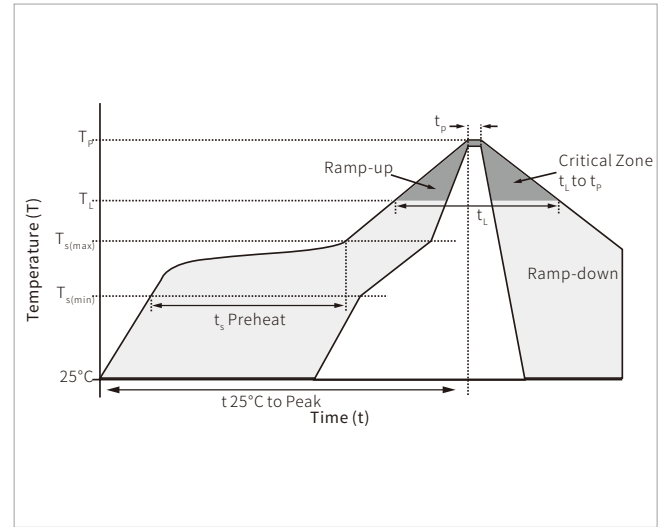


Fig.4 Instantaneous Reverse Characteristics

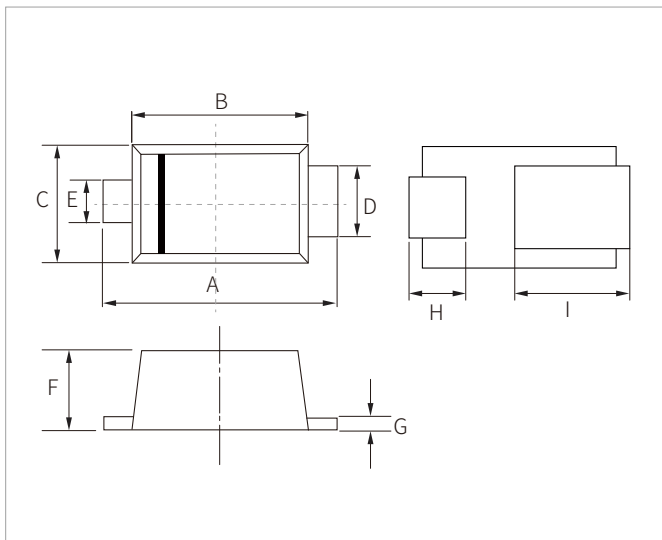


## SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ( $T_{s(min)}$ )	150°C
	Temperature Max ( $T_{s(max)}$ )	200°C
	Time (min to max) ( $t_s$ )	60 – 180 secs
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak		3°C/second max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/second max
Reflow	Temperature ( $T_L$ ) (Liquidus)	217°C
	Time (min to max) ( $t_L$ )	60 – 150 seconds
Peak Temperature ( $T_p$ )		260°C
Time within 5°C of actual peak Temperature ( $t_p$ )		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature ( $T_p$ )		8 minutes max.
Do not exceed		260°C

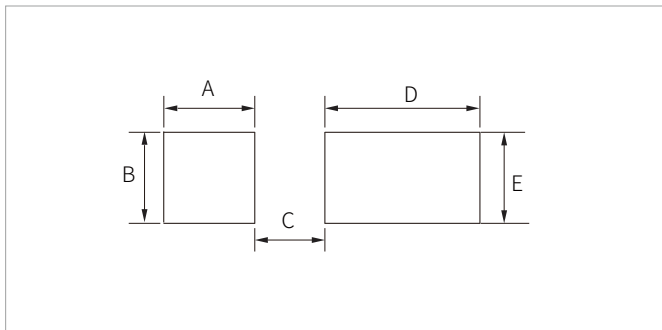


## SOD-323HE PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.30	2.70	0.091	0.106
B	1.75	2.30	0.069	0.091
C	1.15	1.45	0.046	0.057
D	0.65	0.95	0.026	0.037
E	0.50	0.80	0.020	0.031
F	0.55	0.85	0.022	0.033
G	0.10	0.20	0.004	0.008
H	0.40	0.80	0.016	0.031
I	1.10	1.55	0.043	0.061

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
	Min.	Min.
A	0.80	0.031
B	0.80	0.031
C	0.50	0.020
D	2.00	0.079
E	1.10	0.043

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BS3010A	SOD-323HE	3000PCS	7"

**Headquarters**

No.3387 Shendu Road  
Pujiang I&E Park  
Minhang Shanghai China  
201000

**Hotline**

400-021-5756

**Web**

<https://www.semiware.com>

**Sales Center**

Tel: 86-21-3463-7458  
Email: [sales18@semiware.com](mailto:sales18@semiware.com)

**Customer Service**

Tel: 86-21-5484-1001  
Email: [sales17@semiware.com](mailto:sales17@semiware.com)

**Technical Support**

Tel: 86-21-3463-7654  
Email: [fae01@semiware.com](mailto:fae01@semiware.com)

**Complaint & Suggestions**

Tel: 86-21-3463-7172  
Ext: 8868  
Email: [cs03@semiware.com](mailto:cs03@semiware.com)

**By QR Code**

Website



Wechat

To find your local partner within Semiware's global website: [www.semiware.com](http://www.semiware.com)

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