

FEATURES

- Fast Switching Device (TRR <4.0 nS)
- Power Dissipation of 380mW
- High Stability and High Reliability
- Low reverse leakage



SOD-123

MECHANICAL DATA

- SOD-123 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°C)

Parameter	Symbol	Value	Unit
Reverse Voltage	V _R	80	V
Peak Reverse Voltage	V _{RM}	100	V
Power Dissipation	P _D	380	mW
Average Rectified Current	I _O	215	mA
Working Inverse Voltage	W _{IV}	75	V
Non-repetitive Peak Forward Current	I _{FM}	500	mA
Peak Forward Surge Current @tp=1us; T _A =25°C	I _{FSM}	2.0	A
Thermal resistance from junction to ambient	R _{th(j-a)}	330	K/W
Thermal resistance from junction to solder point	R _{th(j-sp)}	70	K/W
Operating junction temperature	T _J	150	°C
Storage temperature range	T _{STG}	-55 to 150	°C

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

Parameter	Test Condition	Symbol	Min.	Max.	Unit
Reverse Voltage	$I_R = 100\mu\text{A}$	B_V	100		V
	$I_R = 5\mu\text{A}$		80		V
Reverse Leakage Current	$V_R = 25\text{V}$	I_R		30	nA
	$V_R = 80\text{V}$			0.5	μA
Forward Voltage	$I_F = 150\text{mA}$	V_F		1.25	V
	$I_F = 50\text{mA}$			1.00	V
	$I_F = 10\text{mA}$			0.855	V
	$I_F = 1.0\text{mA}$			0.715	V
Reverse Recovery Time	$I_F = 10\text{mA}, I_R = 10\text{mA}$ $R_L = 100\Omega, I_{RR} = 1\text{mA}$	T_{RR}		4	nS
Capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	C_T		1.5	pF

CHARACTERISTIC CURVES

Fig 1. Forward current as a function of forward voltage; typical values

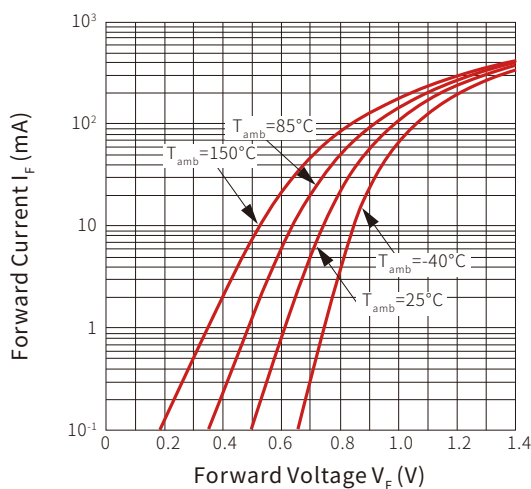


Fig 2. Non-repetitive peak forward current as a function of pulse duration; maximum values

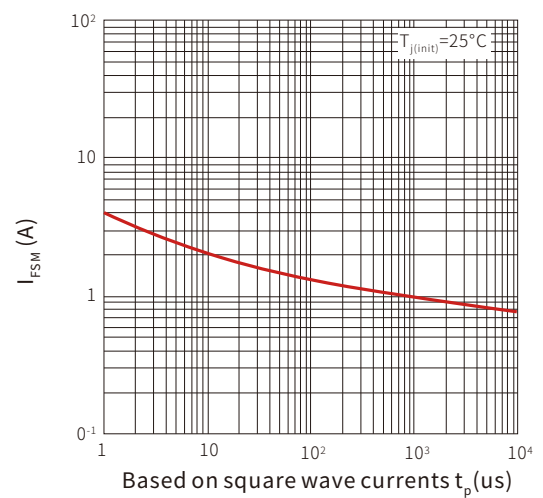


Fig 3. Reverse current as a function of reverse voltage ; typical values

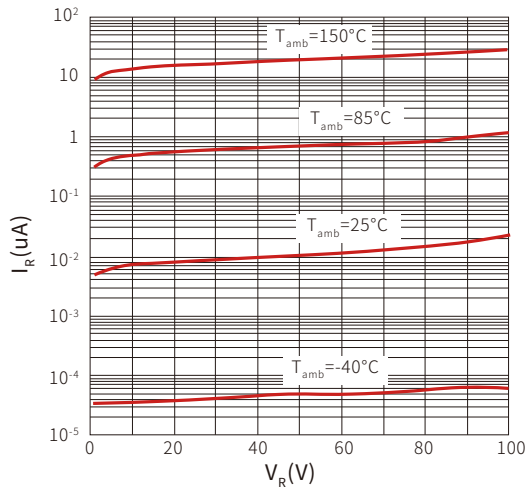
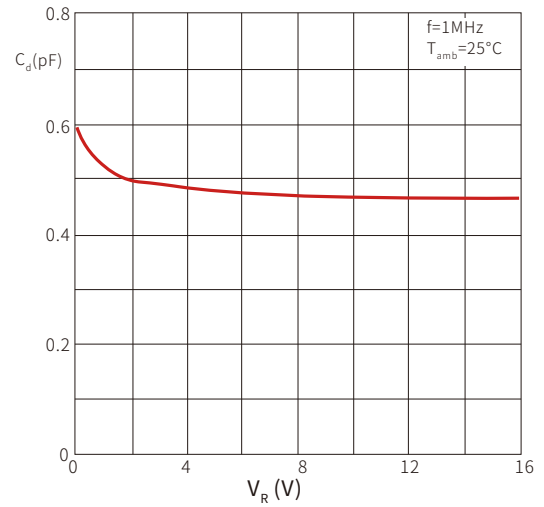
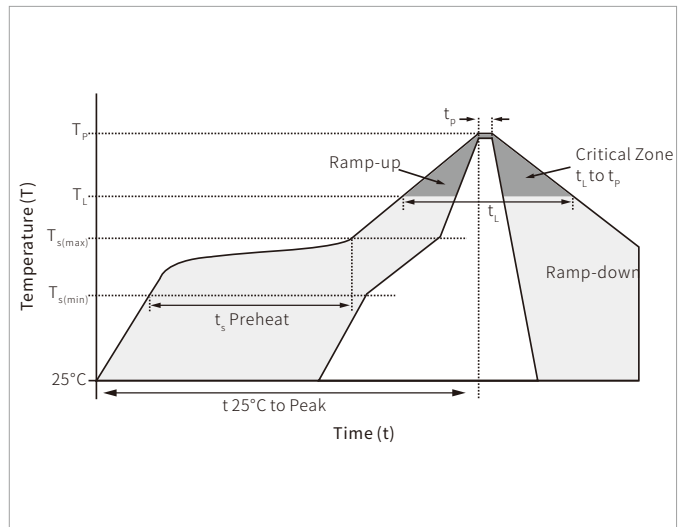


Fig 4. Diode capacitance as a function of reverse voltage ; typical values

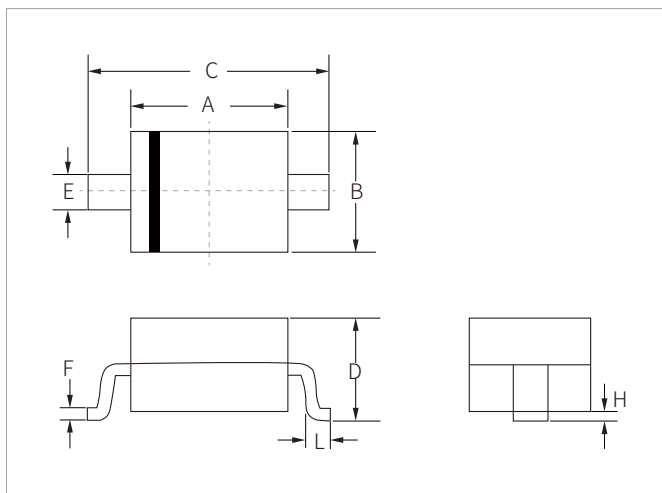


SOLDERING PARAMETERS

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

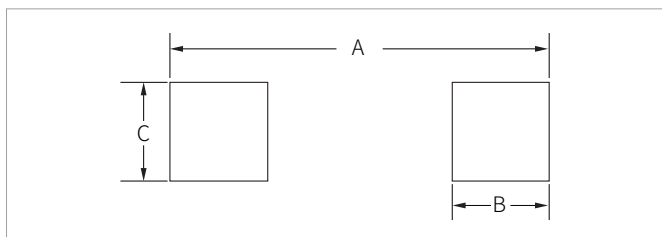


SOD-123 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.60	2.80	0.102	0.110
B	1.50	1.70	0.059	0.067
C	3.55	3.85	0.140	0.152
D	1.05	1.25	0.041	0.049
E	0.45	0.65	0.018	0.026
F	0.80	0.15	0.003	0.006
H	-	0.10	-	0.004
L	0.25	0.45	0.010	0.018

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.85	4.05	0.152	0.159
B	0.75	0.85	0.030	0.033
C	0.95	1.05	0.037	0.041

ORDERING INFORMATION

Part Number	Marking	Component Package	QTY/Reel	Reel Size
BAS16H	A1	SOD-123	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

Customer Service

Tel: 86-21-5484-1001
Email: sales17@semiware.com

Technical Support

Tel: 86-21-3463-7654
Email: fae01@semiware.com

Complaint & Suggestions

Tel: 86-21-3463-7172
Ext: 8868
Email: cs03@semiware.com

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Website



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