

FEATURES

| Low Positive Pressure Drop , Can Ignore The Reverse

Recovery Time

| Meet AEC-Q101 Requirements



SOD-323



Schematic Symbol

APPLICATIONS

| Schottky Diode, Meet The Stringent Requirements Of

Automotive Applications

APPROVALS

RoHS | Compliance with 2011/65/EU

HF | Compliance with IEC61249-2-21:2003

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

Parameter	Symbol	SD103AWSQ	SD103BWSQ	SD103CWSQ	Unit
Marking		QS4	QS5	QS6	
Peak Repetitive Reverse Voltage	V_{RRM}	40	30	20	V
Working Peak Reverse Voltage	V_{RWM}	40	30	20	V
DC Reverse Voltage	V_R	40	30	20	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	21	14	V
Non-Repetitive Peak Forward Current	I_{FM}	350			mA
Non-Repetitive Peak Forward Surge Current	I_{FSM}	1.5			A
Power Dissipation	P_D	200			mW
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	625			$^{\circ}\text{C}/\text{W}$
Junction and Storage Temperature Range	T_J, T_{STG}	-65~125			$^{\circ}\text{C}$

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

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Forward Voltage Drop	V_{FM}	$I_F=20\text{mA}$				0.37	V
		$I_F=200\text{mA}$				0.6	V
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R=10\mu\text{A}$	SD103AWSQ	40			V
			SD103BWSQ	30			
			SD103CWSQ	20			
Instantaneous Reverse Current	I_{RM}	$V_R=30\text{V}$	SD103AWSQ			5.0	μA
		$V_R=20\text{V}$	SD103BWSQ				
		$V_R=10\text{V}$	SD103CWSQ				
Total Capacitance	C_T	$V_R=0\text{V}, f=1.0\text{MHz}$			50		pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=200\text{mA}, R_L=100\Omega$ $I_{rr}=0.1 \times I_R$			10		nS

CHARACTERISTIC CURVES

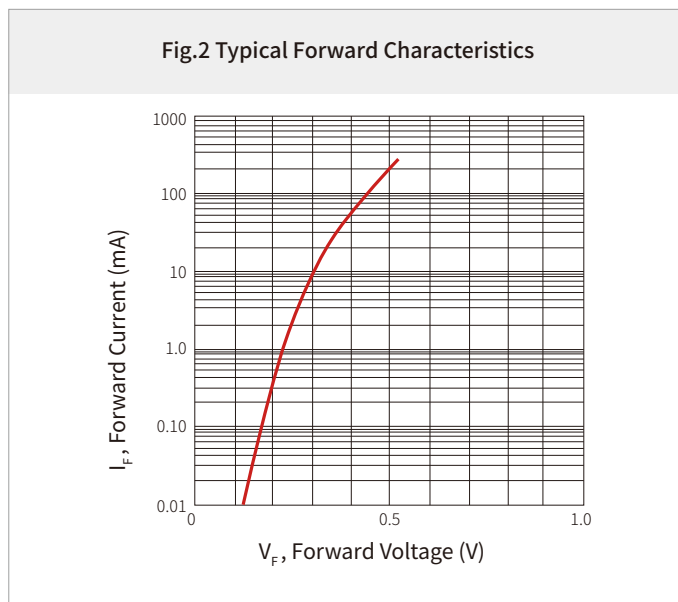
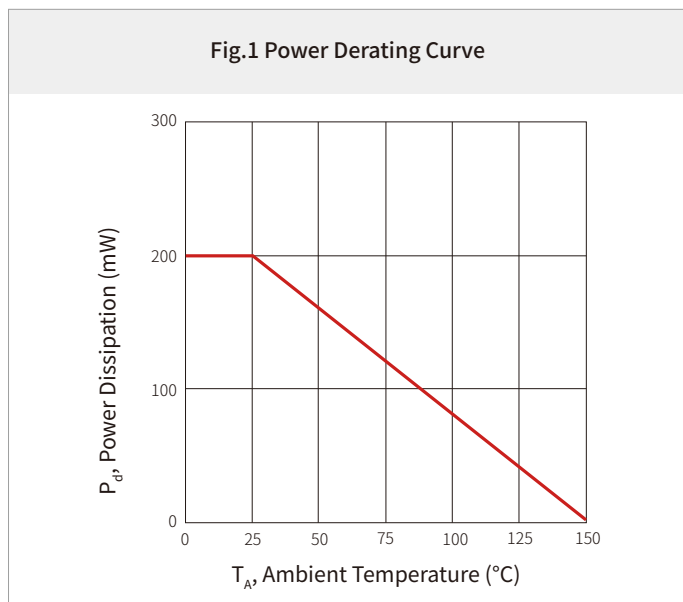
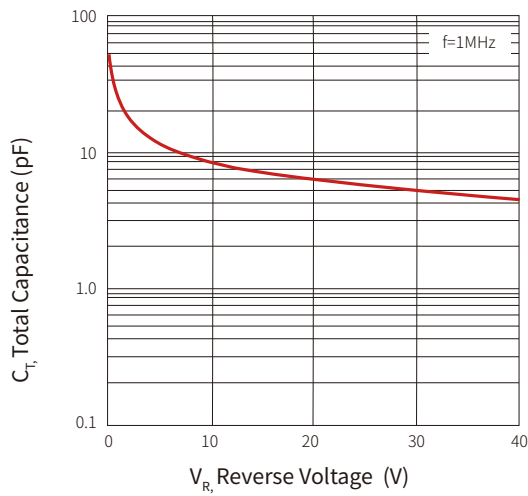
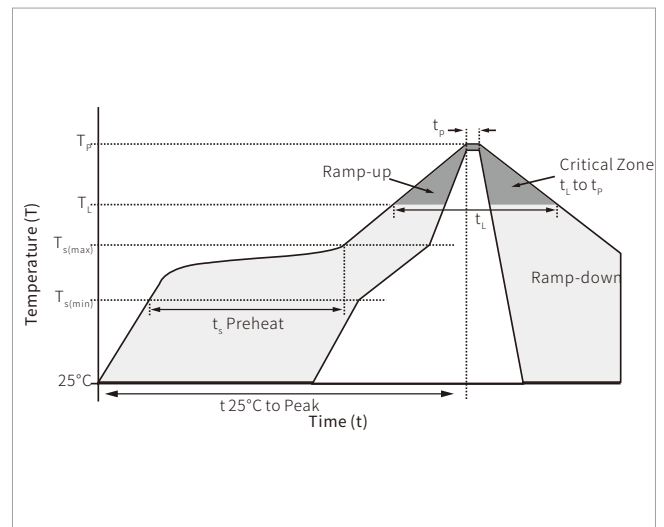


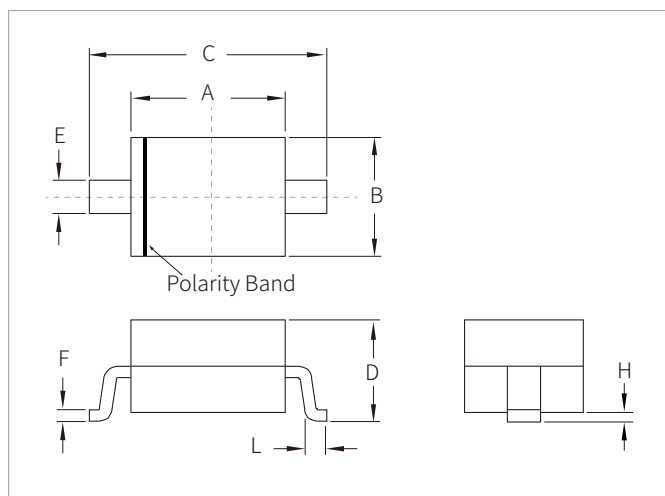
Fig.3 Capacitance Characteristics


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

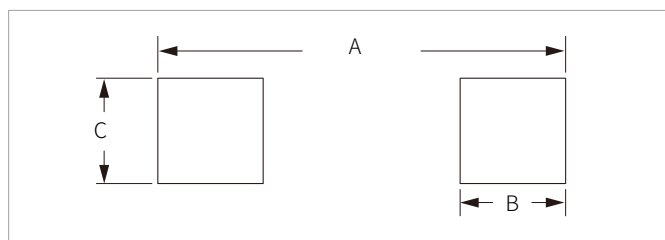


SOD-323 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.60	1.90	0.063	0.075
B	1.15	1.45	0.045	0.057
C	2.35	2.70	0.093	0.106
D	0.80	1.10	0.031	0.042
E	0.25	0.40	0.010	0.016
F	0.10	0.20	0.004	0.008
H	-	0.10	-	0.004
L	0.20	-	0.008	-

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.87	3.12	0.113	0.123
B	0.66	0.91	0.026	0.036
C	0.66	0.91	0.026	0.036

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SD103AWSQ-BWSQ-CWSQ	SOD-323	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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