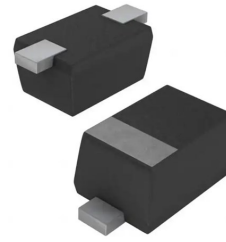


Features

- * Ultra low leakage: nA level
- * Low clamping voltage
- * RoHS Compliant
- * REACH & SVHC Compliant
- * Halogen Compliant
- * SOD-923 Package



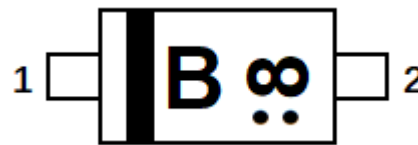
Ordering Information

Part Number	Packaging	Reel Size
ESD9B3.3ST5G-CN	8000/Tape & Reel	7 inch

Circuit Diagram



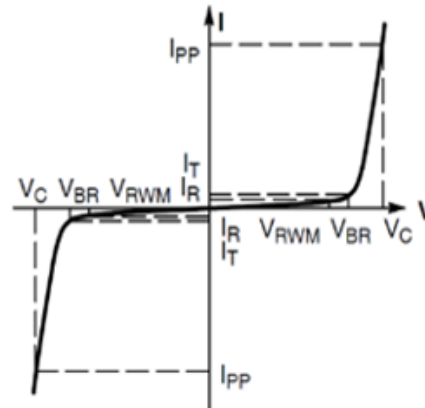
Marking Diagram



Top view

Portion Electronics Parameter

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_R
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}



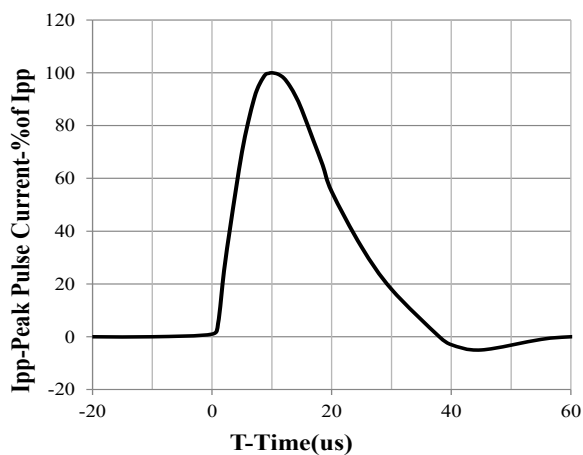
Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs pulse)	P_{pk}	104	W
Peak Pulse Current (8/20 μs pulse)	I_{PP}	8	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	T_J	-40 to +125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

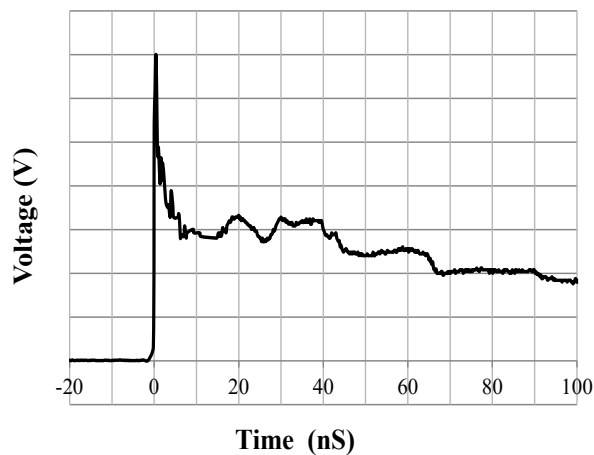
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				3.3	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	4	4.8	6	V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3\text{V}$		<10	100	nA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8 / 20 μs pulse)		6.3	9	V
Clamping Voltage	V_C	$I_{PP} = 8\text{A}$ (8 / 20 μs pulse)		9	13	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$,		15	20	pF

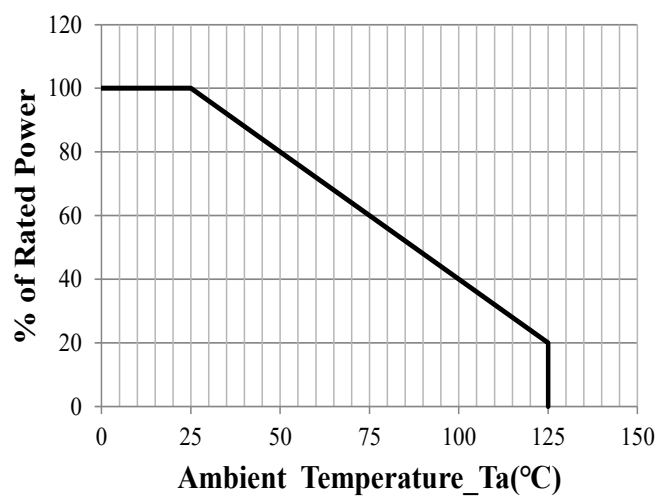
Typical Performance Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise Specified)



8 / 20us Pulse Waveform

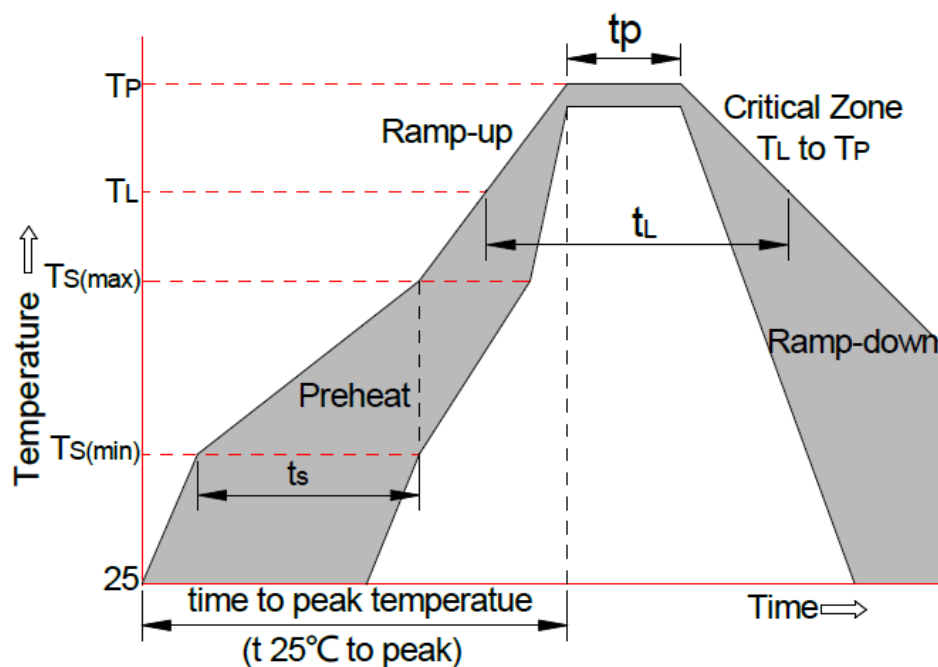


IEC61000-4-2 Pulse Waveform



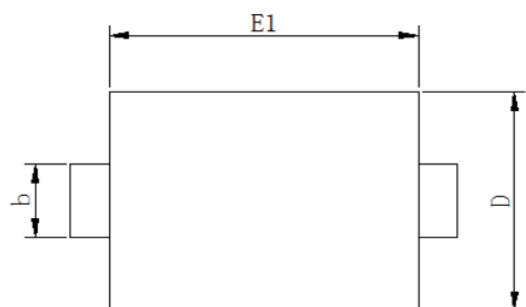
Power Derating Curve

Soldering Parameters

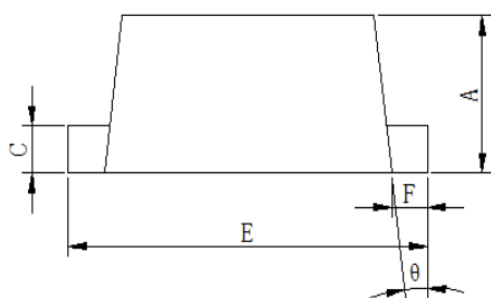


Reflow Condition		Pb-Free Assembly
Pre-heat	-Temperature Min ($T_{s \text{ (min)}}$)	+150°C
	-Temperature Max ($T_{s \text{ (max)}}$)	+200°C
	-Time (Min to Max) (t_s)	60-180 secs
Average ramp up rate(Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s \text{ (max)}}$ to T_L -Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature (T_L) (Liquid us)	+217°C
	-Temperature (t_L)	60-150 secs
Peak Temp (T_p)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6 °C/secs. Max
xTime 25°C to Peak Temp (T_p)		8 min. Max
Do not exceed		+260°C

SOD-923 Package Outline Drawing



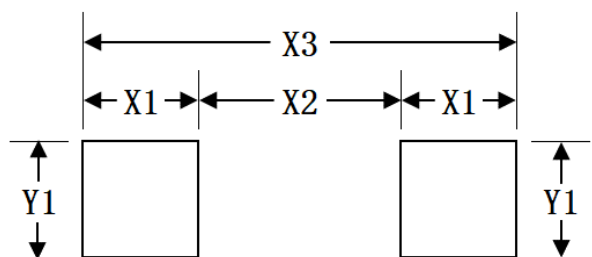
TOP VIEW



SIDE VIEW

SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	Min	Typ	Max	Min	Typ	Max
A	0.36	0.40	0.44	0.0142	0.0157	0.0173
b	0.15	0.20	0.25	0.0059	0.0079	0.0098
c	0.07	0.12	0.17	0.0028	0.0047	0.0067
D	0.55	0.60	0.65	0.0217	0.0236	0.0256
E	0.95	1.00	1.10	0.0374	0.0394	0.0433
E1	0.75	0.80	0.85	0.0295	0.0315	0.0335
F	0.05	0.10	0.15	0.0020	0.0039	0.0059
θ	0	2°	5°	0	2°	5°

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X1	0.40	0.016
X2	0.70	0.028
X3	1.50	0.059
Y1	0.40	0.016

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