TECH PUBLIC
台舟电子

ESD5Z5CL

Low Capacitance Bi-directional TVS Diode

www.sot23.com.tw

Features

* Protects one data or power line
* Operating voltage: ±5V
* Ultra low clamping voltage
* Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±22kV
    Contact discharge: ±20kV
  – IEC61000-4-5 (SURGE) 2A (8/20us)

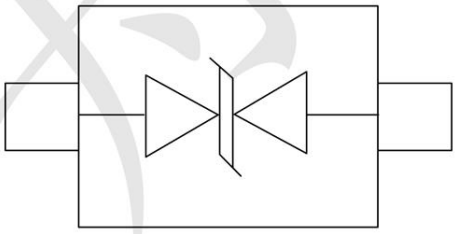
Mechanical Characteristics

* Package：SOD523
* Ultra low leakage: nA level
* Case Material: “Green” Molding Compound.
* UL Flammability Classification Rating 94V-0
* Moisture Sensitivity: Level 3 per J-STD-020
* Shipping Qty :3000/7Inch Tape & Reel

Applications

* Mobile Phones and Accessories
* Battery Protection
* USB VBus
* Power Line Protection
* Hand Held Portable Applications

Dimensions and Pin Configuration



SOD523

Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±25 ±20	kV
Operating Temperature Range	TJ	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	I_T = 1mA(Pin1-Pin2)	6.5		9	V
Reverse Leakage Current	I_R	V_{RWM} = 5. 0V(Pin2-Pin1)			0.08	μA
Clamping Voltage	V_C	I_{PP} = 1A (8 x 20us pulse) (Pin1-Pin2)			9	V
Clamping Voltage	V_C	I_{PP} = 2A (8 x 20us pulse) (Pin1-Pin2)			15	V
Junction Capacitance	C_J	VR = 0V, f = 1MHz (Pin1-Pin2)		0.6	0.9	pF

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

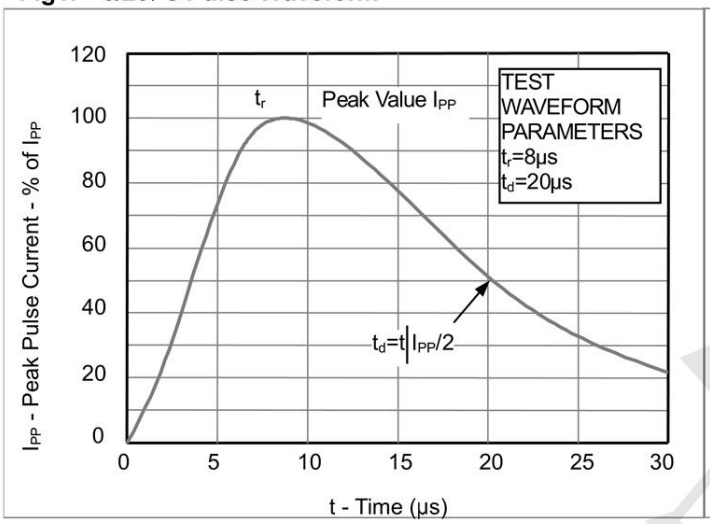


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

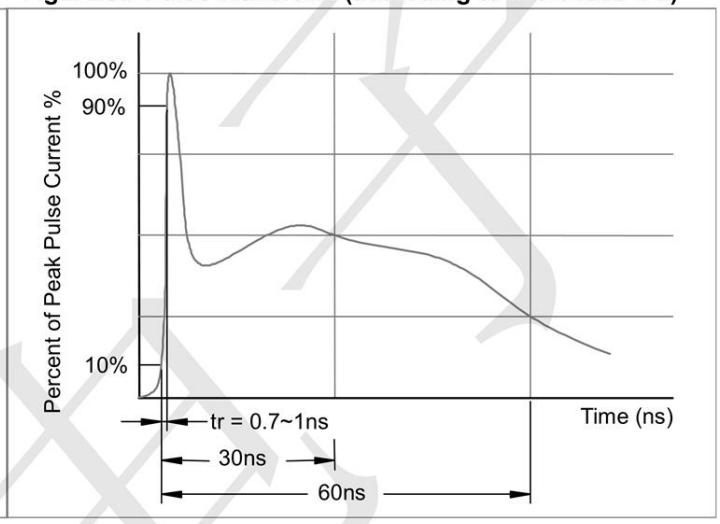
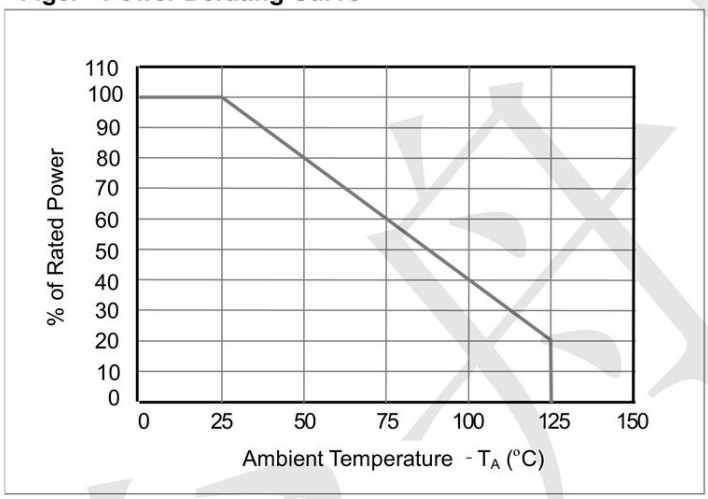
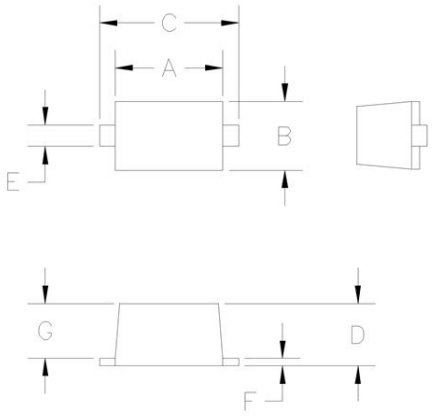


Fig3. Power Derating Curve



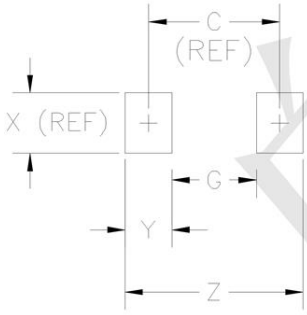
SOD-523 Package Outline Drawing



DIMENSIONS					
DIM	INCHES		MM [1]		NOTE
	MIN	MAX	MIN	MAX	
A	.043	.051	1.10	1.30	–
B	.028	.035	0.70	0.90	–
C	.059	.067	1.50	1.70	–
D	.020	.028	0.50	0.70	–
E	.010	.014	0.25	0.35	–
F	.004	.008	0.10	0.20	–
G	.020	.028	0.50	0.70	–

[1] CONTROLLING DIMENSION: MILLIMETERS

Suggested Land Pattern



DIMENSIONS					
DIM	INCHES		MM [1]		NOTE
	MIN	MAX	MIN	MAX	
C	–	.067	–	1.70	REF
G	–	.043	–	1.10	–
X	–	.031	–	0.80	REF
Y	–	.024	–	0.60	–
Z	–	.091	–	2.30	–

[1] CONTROLLING DIMENSION: MILLIMETERS