TECH PUBLIC
台舟电子

ESD5V0U90-923

1-Lin Uni-directional TVS Diode

www.sot23.com.tw

Features

* 140W peak pulse power (8/20μs)
* 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: ±30kV
  Contact discharge: ±30kV
  – IEC61000-4-5 (SURGE) 10A (8/20us)

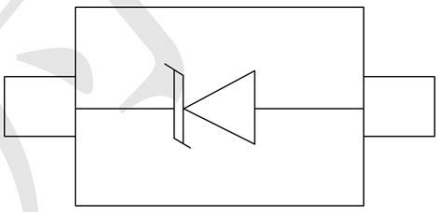
Mechanical Characteristics

* Package：SOD-923(0402)
* 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 :8000 /7Inch Tape & Reel

Applications

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

Dimensions and Pin Configuration



SOD923

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	140	W
Peak Pulse Current (8/20μs)	IPP	10	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±30 ±30	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			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)			8	V
Clamping Voltage	V_C	I_{PP} = 10A (8 x 20us pulse) (Pin1-Pin2)			15	V
Junction Capacitance	C_J	VR = 0V, f = 1MHz			90	pF

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

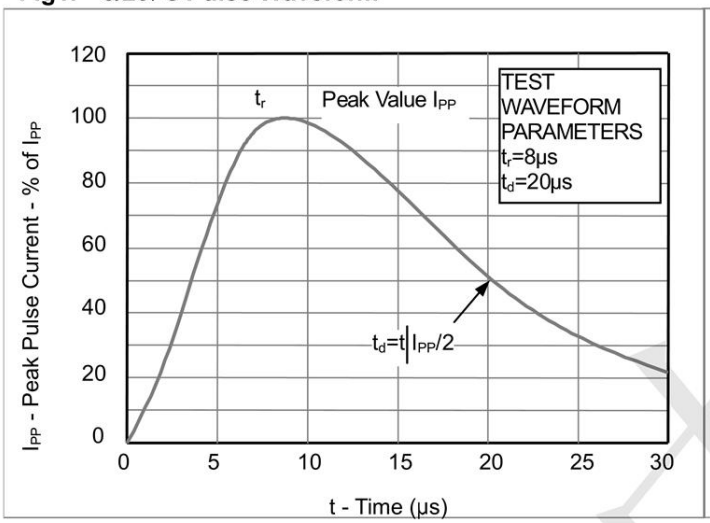


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

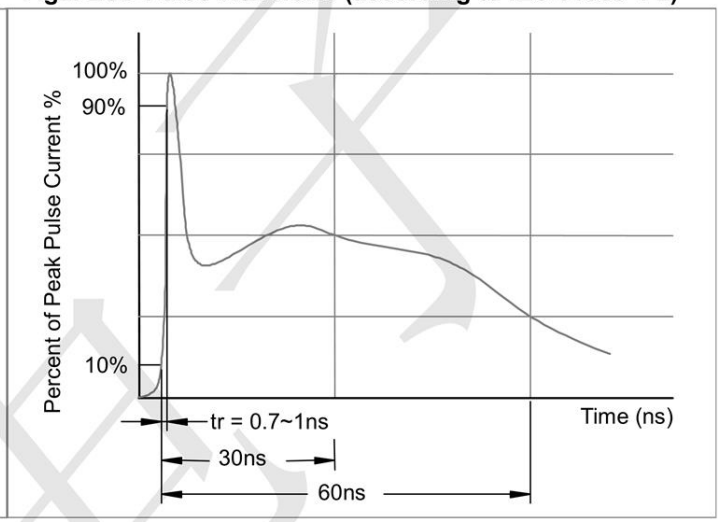
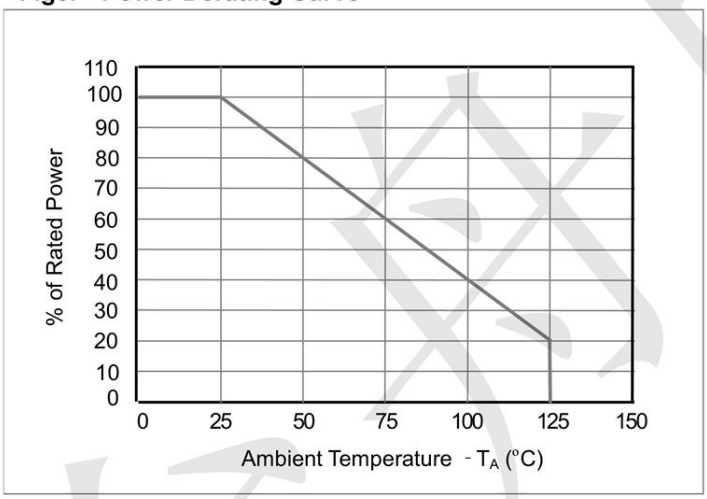
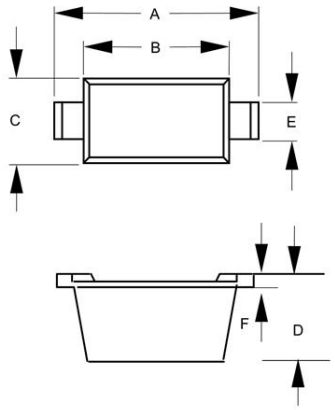


Fig3. Power Derating Curve



Outline Drawing - SOD-923(0402)



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.037	.041	0.95	1.05	
B	.030	.033	0.75	0.85	
C	.022	.026	0.55	0.65	
D	.014	.017	0.36	0.43	
E	.006	.010	0.15	0.25	
F	.003	.007	0.07	0.17	

Land Pattern - SOD-923(0402)

