TECH PUBLIC
台舟电子

ESD0522P

Low Capacitance TVS Diode

www.sot23.com.tw

Features

- Ultra small package: 1.6x1.0x0.5mm
- Ultra low capacitance: 0.3 pF typical (io to io)
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- - IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±25kV
  Contact discharge: ±20kV
  – IEC61000-4-5 (Lightning) 4A (8/20 μs)
- These are Pb–Free Devices

Mechanical Characteristics

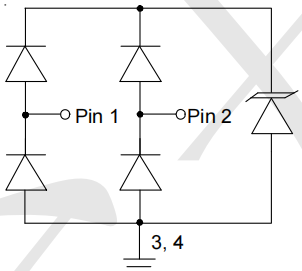
- Package: DFN1610-6
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Shipping Qty :3000pcs/7Inch Tape & Reel

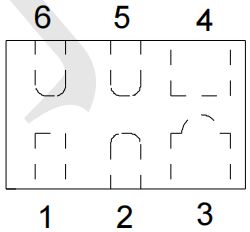
Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals

Dimensions and Pin Configuration

Internal Structure





Pin	Identification
1 - 2	Input Lines
5 - 6	Output Lines (No Internal Connection)
3 - 4	Ground

Marking:0522P

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	80	W
Peak Pulse Current (8/20μs)	Ipp	4	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±25 ±20	kV
Operating Temperature Range	T_J	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

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

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5	V	
Breakdown Voltage	V_{BR}	6.5	7.5	9	V	I_T = 1mA
Reverse Leakage Current	I_R			0.07	uA	V_{RWM} = 5V
Clamping Voltage	V_C			9	V	Ipp=1A(8x 20us pulse)
Clamping Voltage	V_C			13	V	Ipp=4A(8x 20us pulse)
Junction Capacitance	C_J		0.5	0.8	pF	VR = 0V, f = 1MHz, any I/O pin to ground
Junction Capacitance			0.3		pF	VR = 0V, f = 1MHz, between I/O pins

Typical Performance Characteristics (T_A=25°C unless otherwise Specified)

Fig1. 8/20μs Pulse Waveform

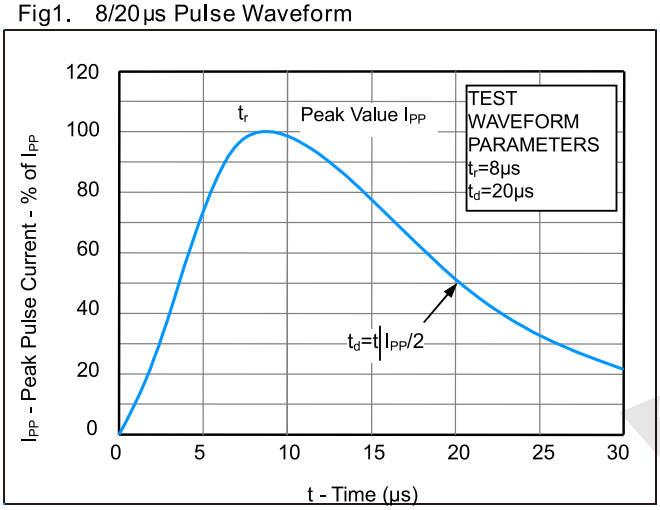


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

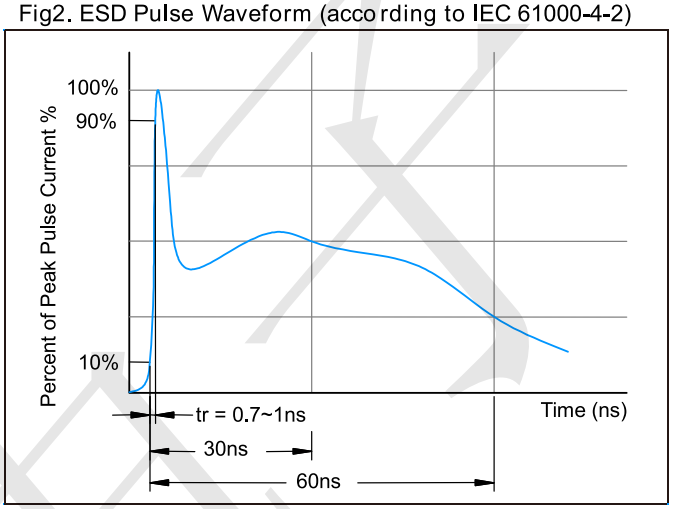
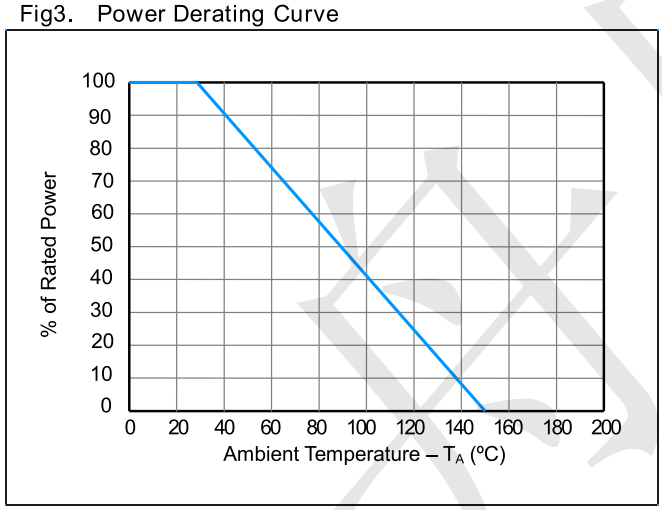
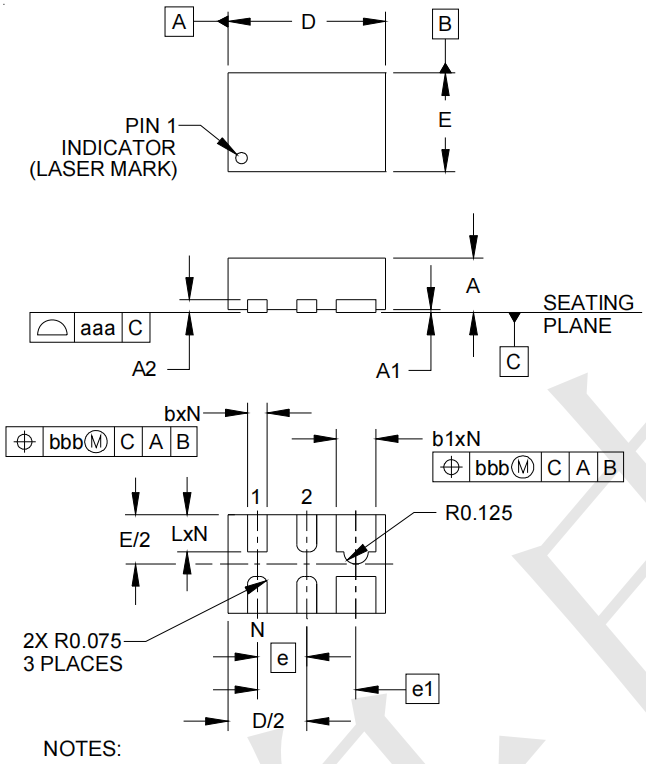


Fig3. Power Derating Curve



Outline Drawing - DFN1610-6



DIMENSIONS						
DIM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.020	.023	.026	0.50	0.58	0.65
A1	0.00	.001	.002	0.00	0.03	0.05
A2		(.005)			(0.13)	
b	.006	.008	.010	0.15	0.20	0.25
b1	.014	.016	.018	0.35	0.40	0.45
D	.059	.063	.067	1.50	1.60	1.70
E	.035	.039	.043	0.90	1.00	1.10
e	.020 BSC			0.50 BSC		
e1	.039 BSC			1.00 BSC		
L	.012	.015	.017	0.30	0.38	0.43
N	4			4		
aaa	.003			0.08		
bbb	.004			0.10		