TECH PUBLIC
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TPNUP2202W1T2G

Low Capactiance 2-Line TVS Array

www.sot23.com.tw

Features

- Ultra low capacitance: 0.3pF typical (I/O to I/O)
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- Up to 2 data lines and one power line protects
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±30kV
    - Contact discharge: ±30kV
  - IEC 61000-4-5 Surge 8A (8/20us)
  - IEC61000-4-4 (EFT) 40A (5/50ns)
- ROHS Compliant

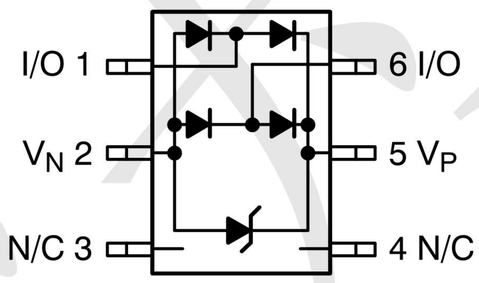
Mechanical Characteristics

- Package: SOT363
- Lead Finish: Matte Tin
- 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

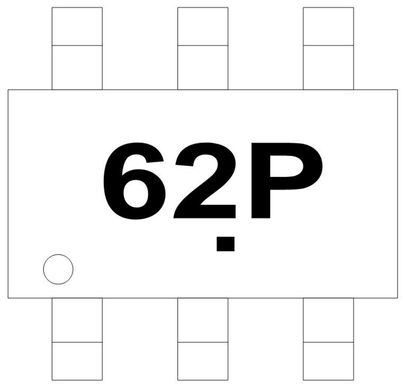
- High Speed Communication Line Protection
- USB 1.1 and 2.0 Power and Data Line Protection
- Digital Video Interface (DVI) and HDMI
- Monitors and Flat Panel Displays
- MP3

Dimensions and Pin Configuration



SOT-363

Marking



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

Parameter	Symbol	Value	Unit
ESD per IEC61000-4-2 (Air) ESD per IEC61000-4-2 (Contact)	V_{ESD}	±30 ±30	kV
Operating Temperature Range	T_J	-55 to +125	℃
Storage Temperature Range	T_{stg}	-55 to +150	℃

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	7.5	9.5	V	I_T=1mA
Leakage Current	I_{Leak}			100	nA	V_{RWM}=5V
Clamping Voltage（I/O-GND）	V_C			13	V	I_{PP}=4.5A,Tp=8/20μs
Clamping Voltage(Vcc-GND)	V_C			14	V	I_{PP}=8A,Tp=8/20 μs
Junction Capacitance (I/O to GND)	C_J		0.6	0.7	pF	V_R=0V, f=1MHz,
Junction Capacitance (I/O to I/O)	C_J		0.3	0.5	pF	V_R=0V, f=1MHz,

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

Fig1. 8/20μs Pulse Waveform

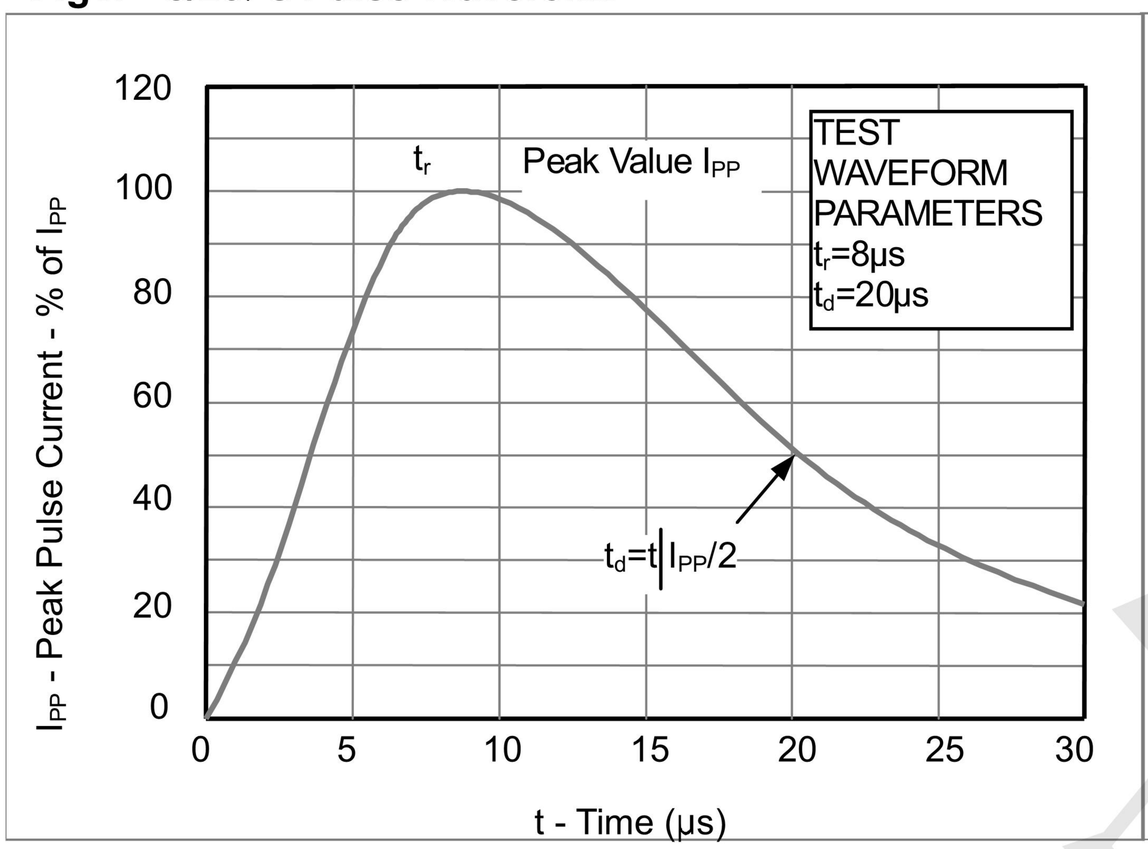


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

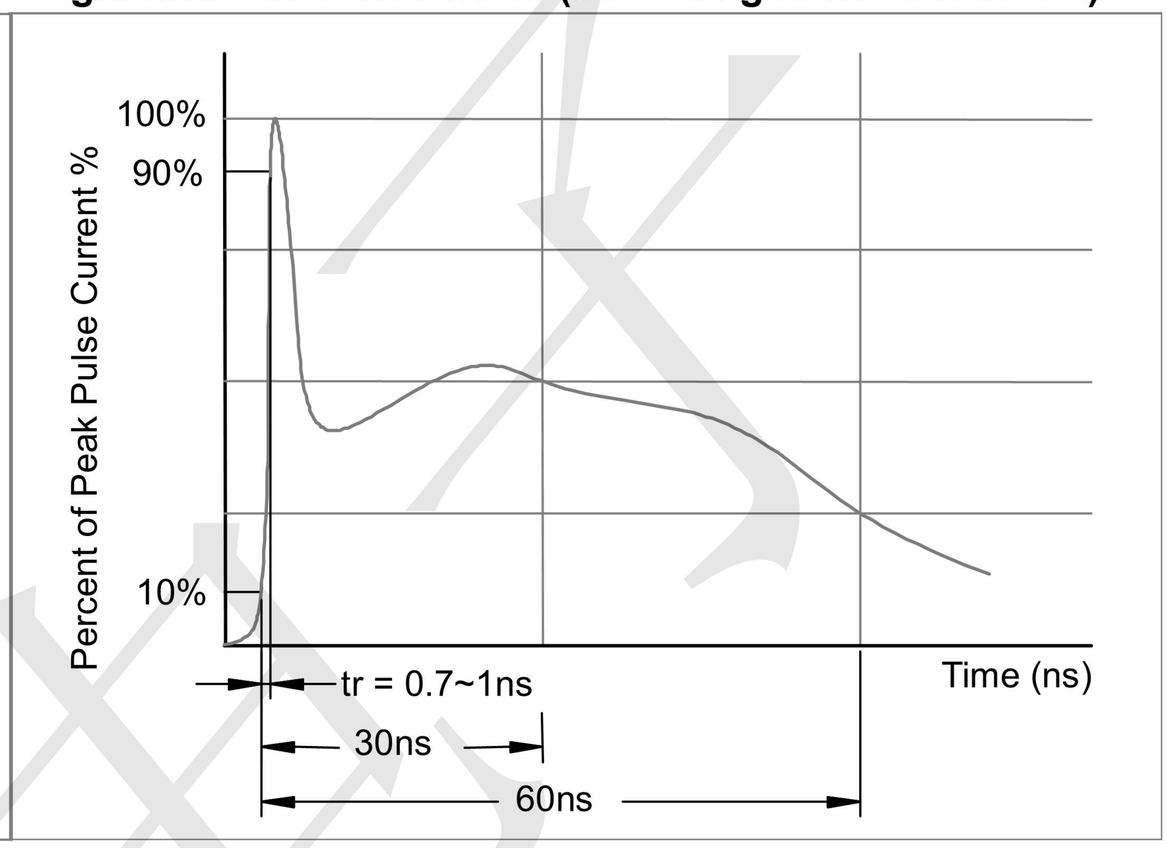
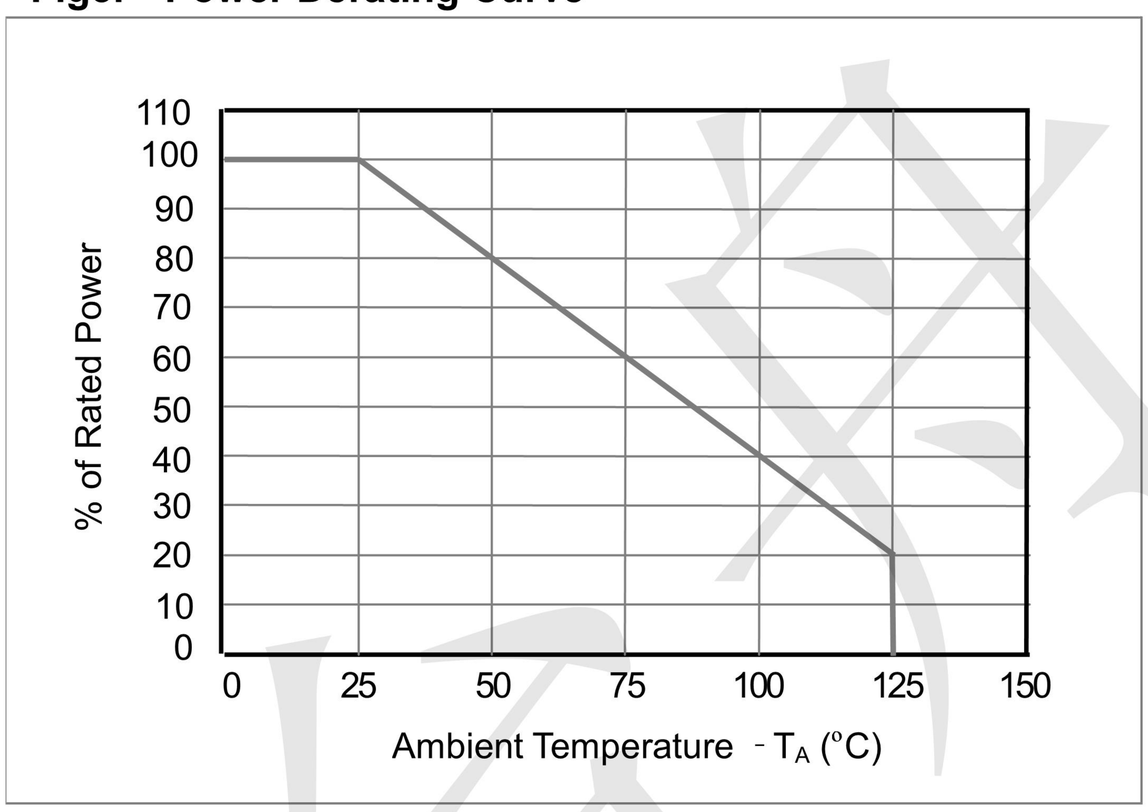
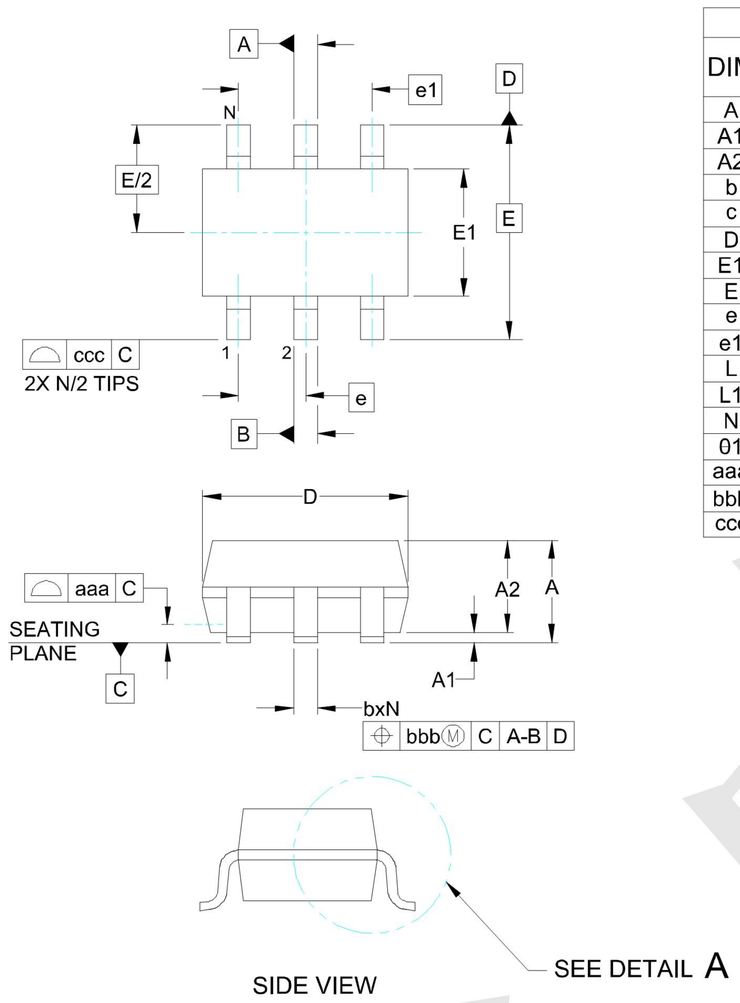


Fig3. Power Derating Curve

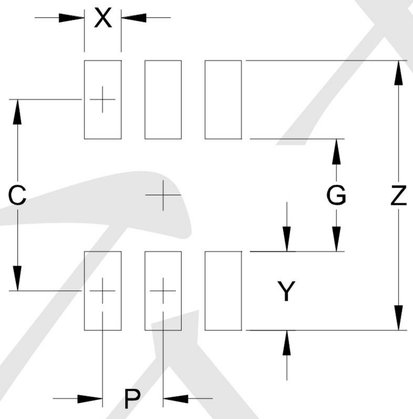


Outline Drawing - SOT-363(2.0X2.1)



DIMENSIONS						
DIM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	-	-	.043	-	-	1.10
A1	.000	-	.004	0.00	-	0.10
A2	.028	.035	.039	0.70	0.90	1.00
b	.006	-	.012	0.15	-	0.30
c	.003	-	.009	0.08	-	0.22
D	.071	.079	.087	1.80	2.00	2.20
E1	.045	.049	.053	1.15	1.25	1.35
E	.083 BSC			2.10 BSC		
e	.026 BSC			0.65 BSC		
e1	.051			1.30 BSC		
L	.010	.014	.018	0.26	0.36	0.46
L1	(.017)			(0.42)		
N	6			6		
θ1	0°	-	8°	0°	-	8°
aaa	.004			0.10		
bbb	.004			0.10		
ccc	.012			0.30		

Land Pattern - SOT-363



DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	(.073)	(1.85)
G	.039	1.00
P	.026	0.65
X	.016	0.40
Y	.033	0.85
Z	.106	2.70

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