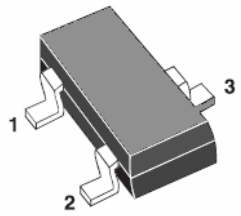
SOT05C—SOT36C

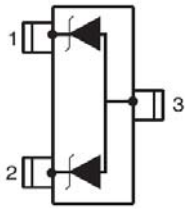
Dual Transient Voltage Suppressors for ESD Protection

Features



SOT23

- SOT-23 Package
- 2 Unidirectional Transil functions
- Peak Power Dissipation 300W @8 x 20 us Pulse
- Low Leakage
- Fast Response Time < 1 ns
- Protects RS232 I/O Port
- ESD Protection to IEC 61000-4-2 Level 4,15KV(Air), 8KV(Contanct)
- 16KV Human Body Model ESD Requirements
- RoHS Compliant in Lead-Free Versions



Applications

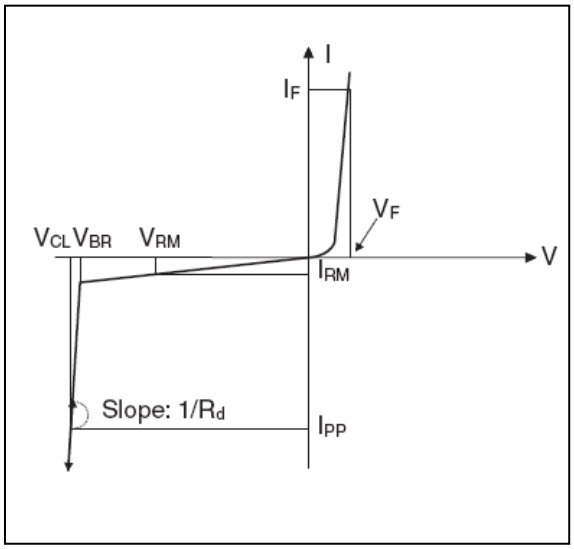
- Computers
- Printers
- Communication Systems

Absolute Maximum Ratings

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (t_p = 8/20μs)	300	W
T_L	Maximum lead temperature for soldering during 10s	260	°C
T_{stg}	Storage Temperature Range	-55 to +15	°C
T_{op}	Operating Temperature Range	-40 to +125	°C
T_j	Maximum junction temperature	150	°C
V_{PP}	Electrostatic discharge MIL STD 883C -Method 3015-6 IEC61000-4-2 air discharge IEC61000-4-2 contact discharge	 25 16 9	kv

Electrical Characteristics

Symbol	Parameter
V_{RM}	Stand-off voltage
V_{BR}	Breakdown voltage
V_{CL}	Clamping voltage
I_{RM}	Leakage current
I_{PP}	Peak pulse current
αT	Voltage temperature coefficient
V_F	Forward voltage drop
C	Capacitance
R_d	Dynamic resistance



Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Part Numbers	Marking	Rated Stand-off Voltage	Maximum Leakage Current	Minimum Breakdown Voltage	Maximum Clamping Voltage		Maximum Pulse Peak Current	Maximum Capacitance
			@ V_{RM}	1mA	1A [1)]	5A [1)]	tp=8/20us	0v, 1MHz
		V_{RM}	I_{RM}	V_{BR}	V_{CL}		I_{PPM}	C
		V	μA	V	V	V	A	pF
SESOT04C	04C	4.0	20.0	5.0	8.5	10.5	17	300
SESOT05C	05C	5.0	20.0	6.0	9.8	12.5	17	220
SESOT08C	08C	8.0	5.0	8.5	13.4	15.0	15	190
SESOT12C	12C	12.0	1.0	13.3	19.0	28.0	12	150
SESOT15C	15C	15.0	1.0	16.7	24.0	35.0	10	140
SESOT24C	24C	24.0	1.0	26.7	43.0	60.0	5	83
SESOT36C	36C	36.0	1.0	40	60.0	75.0	2	80
1).8/20 waveform used. (see fig2.)								

Typical Characteristics

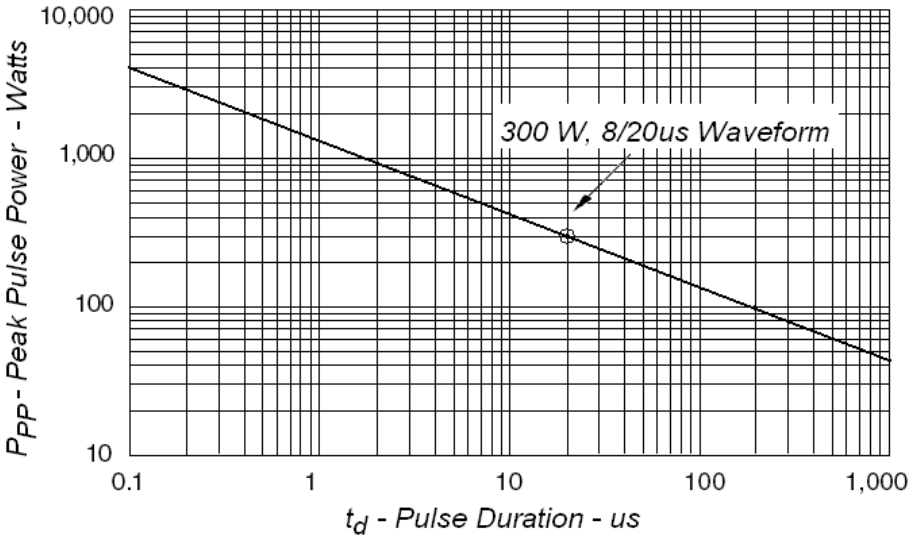


Fig1. Peak Pulse Power VS Pulse Time

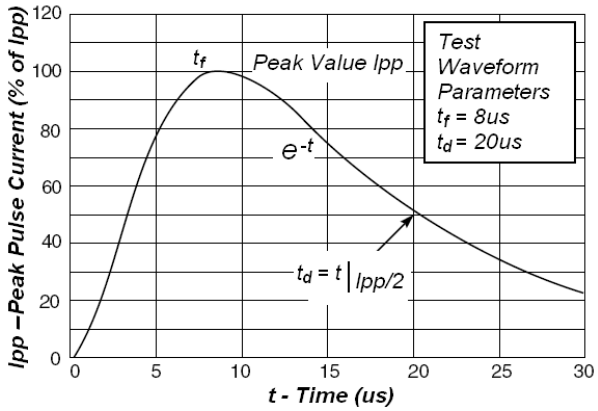


Fig2. Pulse Waveform

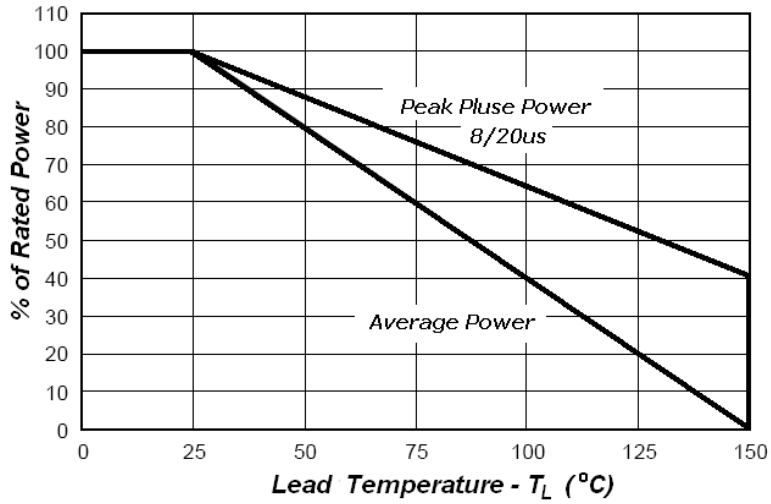


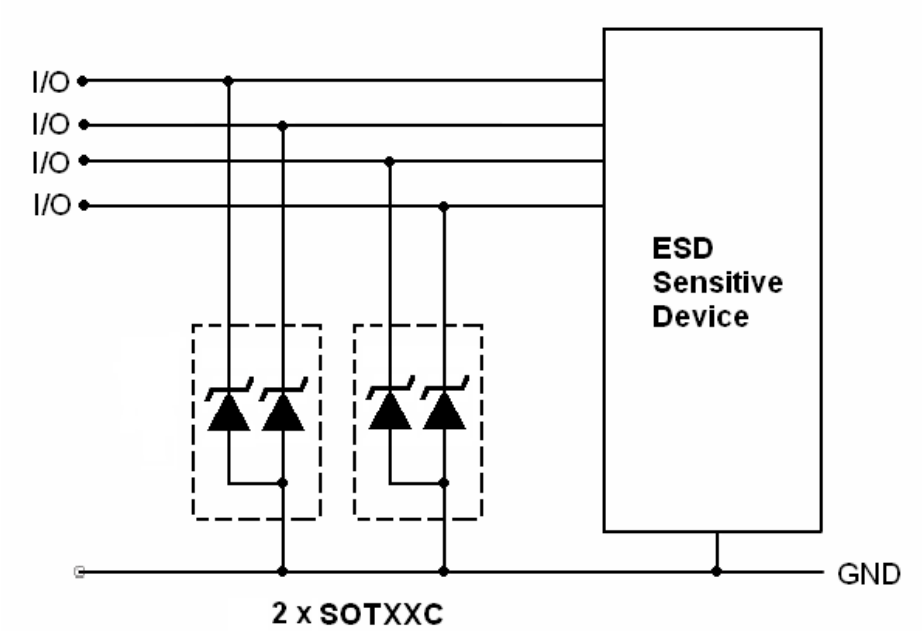
Fig3.Power Derating

Application Note:

Electrostatic discharge (ESD) is a major cause of failure in electronic systems. Transient Voltage Suppressors (TVS) are an ideal choice for ESD protection. They are capable of clamping the incoming transient to a low enough level such that damage to the protected semiconductor is prevented.

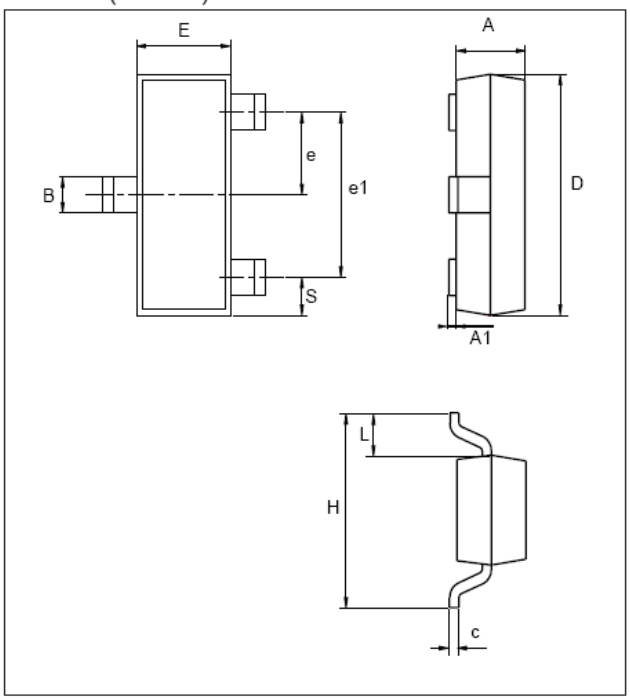
Surface mount TVS arrays offer the best choice for minimal lead inductance. They serve as parallel protection elements, connected between the signal line to ground. As the transient rises above the operating voltage of the device, the TVS array becomes a low impedance path diverting the transient current to ground. The SOTxxC array is the ideal board evel protection of ESD sensitive semiconductor components.

The tiny SOT23 package allows design flexibility in the design of high density boards where the space saving is at a premium. This enables to shorten the routing and contributes to hardening againt ESD.



Package Dimensions

SOT23 (Plastic)



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.89	1.4	0.035	0.055
A1	0	0.1	0	0.004
B	0.3	0.51	0.012	0.02
c	0.085	0.18	0.003	0.007
D	2.75	3.04	0.108	0.12
e	0.85	1.05	0.033	0.041
e1	1.7	2.1	0.067	0.083
E	1.2	1.6	0.047	0.063
H	2.1	2.75	0.083	0.108
L	0.6 typ.		0.024 typ.	
S	0.35	0.65	0.014	0.026

FOOT PRINT (in millimeters)