

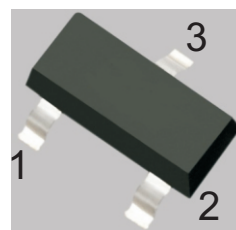
Standard Capacitance TVS Array

The SOT05C series devices is characterized by their high surge capability, low operating and clamping voltages, and fast response time. This makes them ideal for use as board level protection of sensitive semiconductor components. The dual-junction common-anode design allows the user to protect one bidirectional data line or two unidirectional lines.

This series has been specifically designed to protect sensitive components which are connected to data and transmission lines from overvoltage caused by ESD(electrostatic discharge), CDE (Cable Discharge Events),and EFT (electrical fast transients).

Features

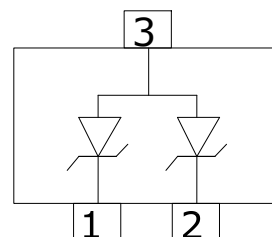
- Small package for use in portable electronics
- Low leakage current
- Low clamping voltage
- Response Time is < 1 ns
- Protects one bidirectional line or two unidirectional lines
- Working voltages : 5V
- Solid-state silicon avalanche technology
- Device Meets MSL 1 Requirements
- ROHS compliant
- WeiPan technology



SOT-23

Main applications

- Data lines
- Industrial Controls
- Cellular handsets AND accessories
- Portable instrumentation
- Peripherals
- Notebook Computers
- Set-Top Box
- Projection TV



Ordering Information

Device	Marking	Qty per Reel	Reel Size
SOT05C	05C	3000	7 Inch

“xx” =Working Peak Reverse Voltage

Maximum ratings (Tamb=25°C Unless Otherwise Specified)			
Parameter	Symbol		Unit
Peak Pulse Power (tp=8/20μs waveform)	P _{PPP}	300	Watts
ESD Rating per IEC61000-4-2:		8	KV
Contact Air		15	
Lead Soldering Temperature	T _L	260 (10 sec.)	°C
Operating Temperature Range	T _I	-55 ~ 150	°C
Storage Temperature Range	T _{STG}	-55 ~ 150	°C

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

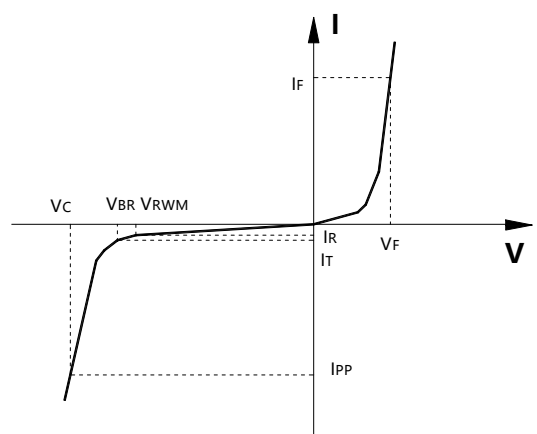
**Other voltages may be available upon request.*

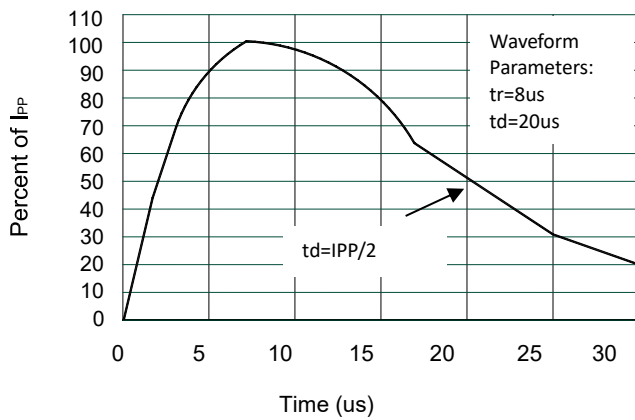
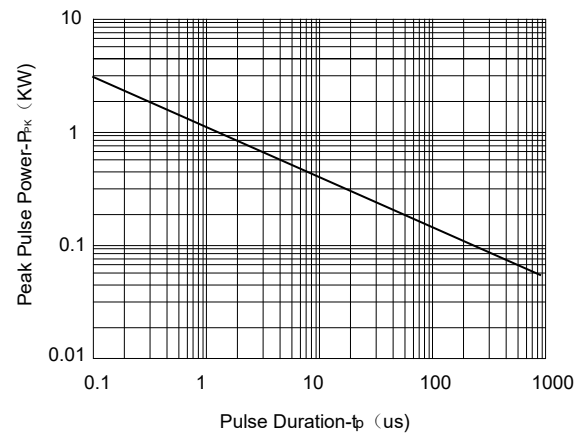
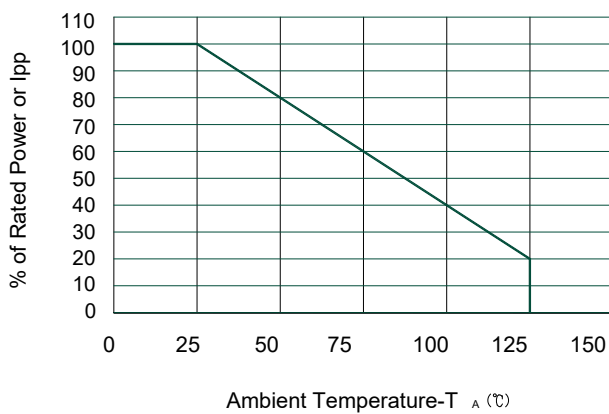
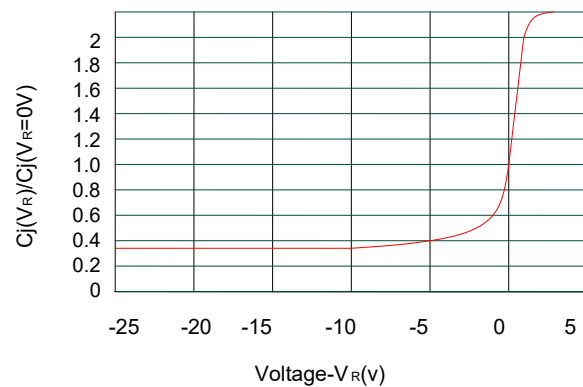
1. Non-repetitive current pulse, per Figure 1.

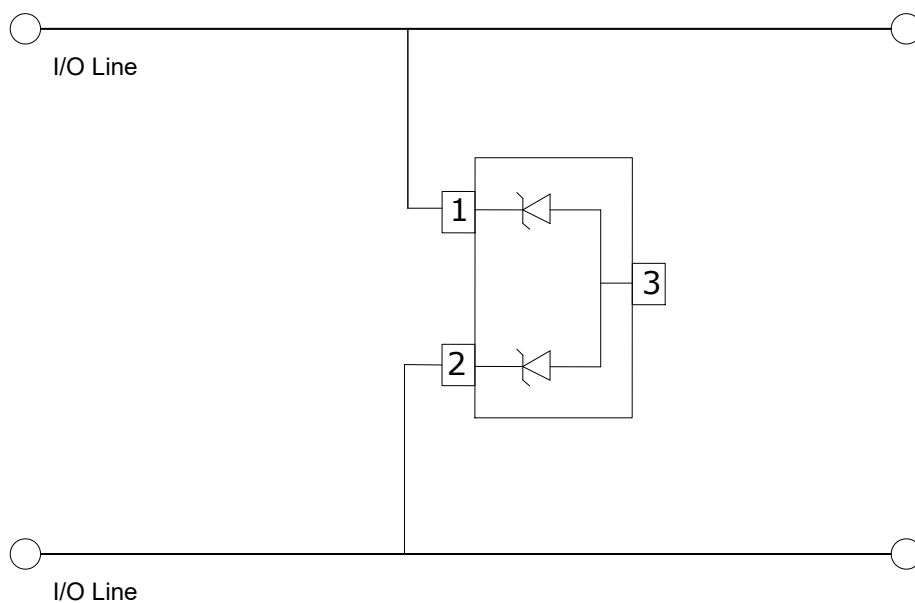
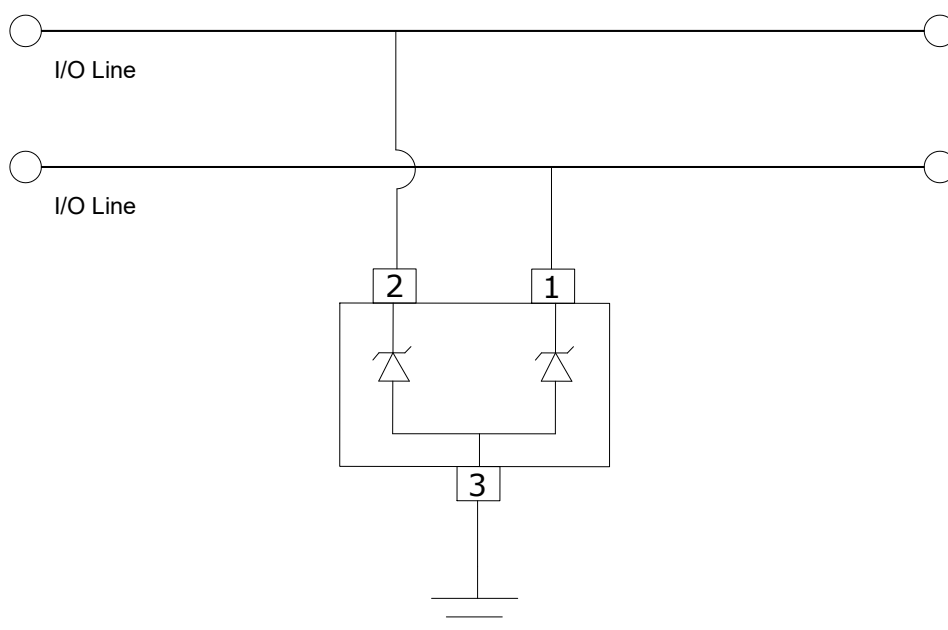
Electrical characteristics (Tamb=25°C Unless Otherwise Specified)							
Device	V _{RWM}	I _R @ V _{RWM}	V _{BR} @ 1 mA	V _C	Max I _{PP}	Capacitance	
			(Volts)	@ 1 A		@ V _R = 0 V, 1 MHz (pF)	
	(V)	(uA)	Min	(V)	(A)	Typ	Max
SOT05C	5	1	6.00	9.8	6	45	60

Junction capacitance is measured in VR=0V, F=1MHz

Symbol	Parameter
V_{RWM}	Working Peak Reverse Voltage
V_{BR}	Breakdown Voltage @ I_T
V_C	Clamping Voltage @ I_{PP}
I_T	Test Current
I_{RM}	Leakage current at V_{RWM}
I_{PP}	Peak pulse current
C_O	Off-state Capacitance
C_J	Junction Capacitance

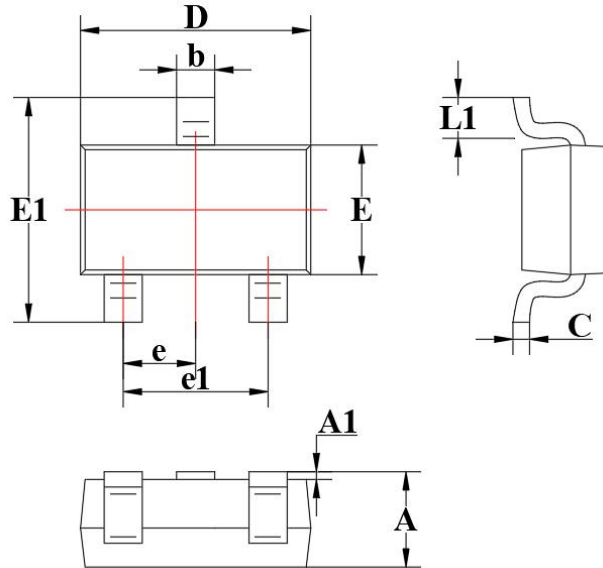


Typical electrical characterist applications

Pulse Waveform

Non-Repetitive Peak Pulse Power vs. Pulse Time

Power Derating Curve

Junction Capacitance vs. Reverse Voltage

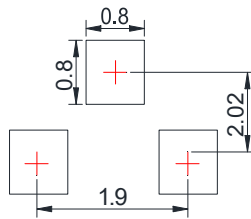
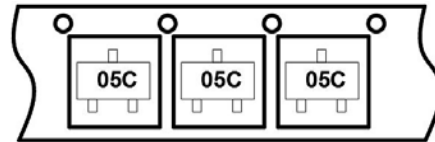
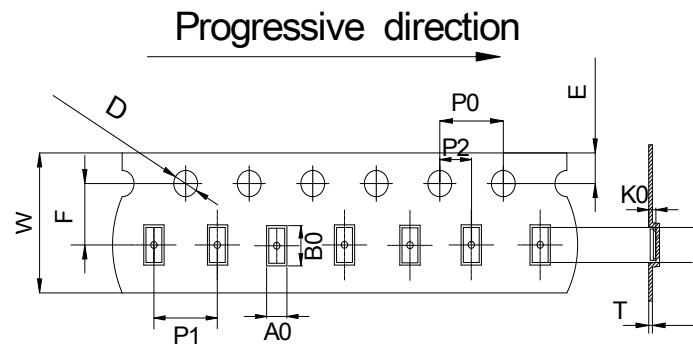
Typical applications

I/O Line Bi-direction Protection

I/O Line uni-direction Protection

Package Information
SOT23
Mechanical Data

- Case: SOT23
- Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	0.89	1.20
A1	0.00	0.10
b	0.30	0.50
C	0.08	0.19
D	2.80	3.04
E	1.20	1.40
E1	2.20	2.60
e	0.89	1.02
e1	1.78	2.04
L1	0.2min	

Recommended Pad outline

Device Orientation in Tape

SOT-23 Reel Dim


PACKAGE	W	E	F	P0	D	P2	P1	T	A0	B0	K0
SOT-23	8mm ±0.1	1.75mm ±0.1	3.5mm ±0.1	4mm ±0.1	1.5mm ±0.1	2mm ±0.1	4mm ±0.1	0.2mm ±0.02	3.15mm ±0.1	2.77mm ±0.1	1.22mm ±0.1