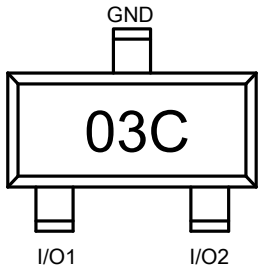
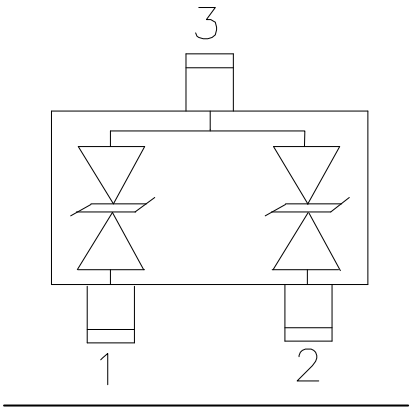
2-Lines , Bi-directional, Transient Voltage Suppressors

Descriptions

The ESD3V3R180TA is an ultra-low capacitance TVS (Transient Voltage Suppressor) array designed to protect high speed data interfaces. It has been specifically designed to protect sensitive electronic components which are connected to data and transmission lines from over-stress caused by ESD (Electrostatic Discharge). The is available in SOT-23 package. Standard products are Pb-free and Halogen-free.

SOT-23 (Top View)





Features

- Stand-off voltage: 3.3VMax
- Transient protection for each line according to
  IEC61000-4-2 (ESD): ±30kV (contact and air discharge)
  IEC61000-4-4 (EFT): 40A (5/50ns)
  IEC61000-4-5 (surge): 8.0A(8/20μs)
- Ultra-low capacitance: C_J =18.0pF typ.
- Ultra-low leakage current: I_R <0.5uA typ

Order information

Device	Package	Shipping
ESD3V3R180TA	SOT-23	3000/Tape&Reel

Applications

- RS-232, RS-422 & RS-423 Data Lines
- Audio/Video Inputs
- Wireless Network Systems
- Microprocessor Based Equipment
- Medical Sensors
- Notebook Computers

Absolute maximum ratings

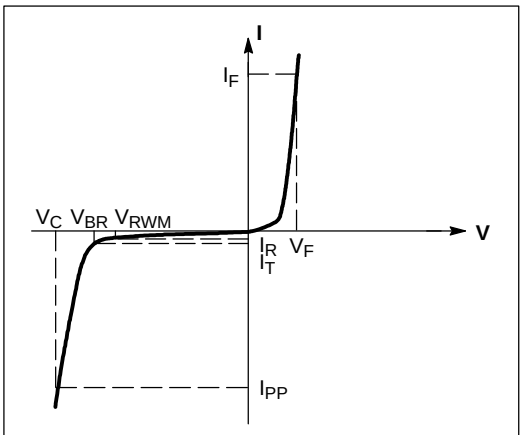
Parameter	Symbol	Rating	Unit
Peak pulse current (t_p = 8/20μs)	I_{PP}	8.0	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±30	kV
ESD according to IEC61000-4-2 contact discharge		±30	
Operation junction temperature	T_J	-55~150	°C
Lead temperature	T_L	260	°C
Storage temperature	T_{STG}	-55~150	°C

Electrical characteristics (TA=25 oC, unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse stand-off voltage	V_{RWM}				±3.3	V
Reverse leakage current	I_R	V_{RWM} = 3.3V			0.5	uA
Reveres breakdown voltage	V_{BR}	I_T=1mA	4.0		6.0	V
Clamping voltage	V_C	Ipp=1.0A tp=8/20us			6.5	V
		Ipp=8.0A tp=8/20us			10.0	V
Junction capacitance	C_J	V_R = 0V, f = 1MHz		18.0		pF

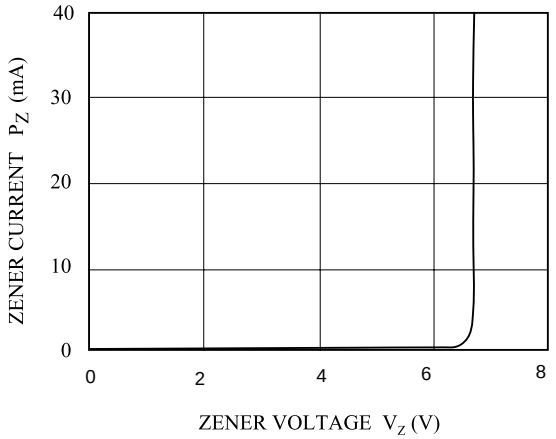
Electrical performance curve

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
I_F	Forward Current
V_F	Forward Voltage @ I_F

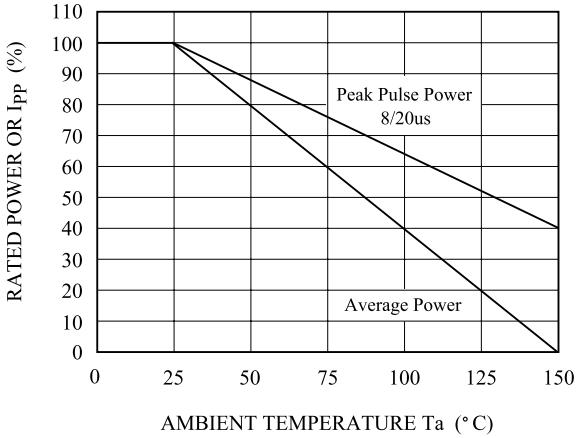


Uni–Directional TVS

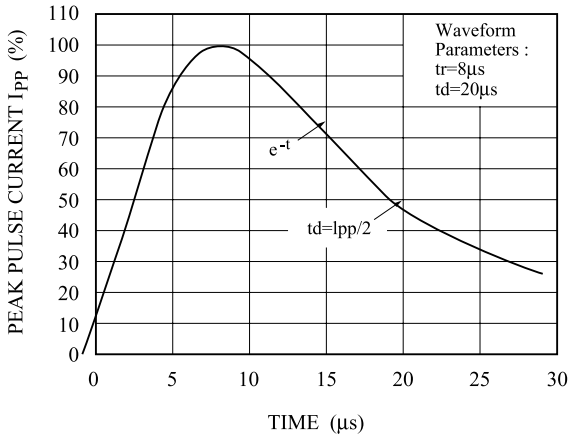
V_Z - I_Z



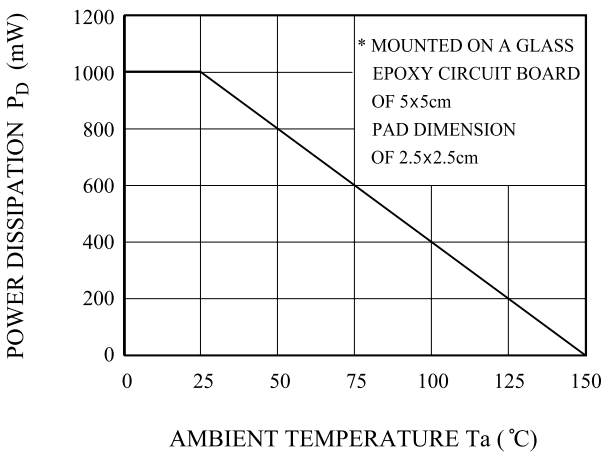
POWER DERATION CURCVE



PULSE WAVEFORM



P_D - Ta



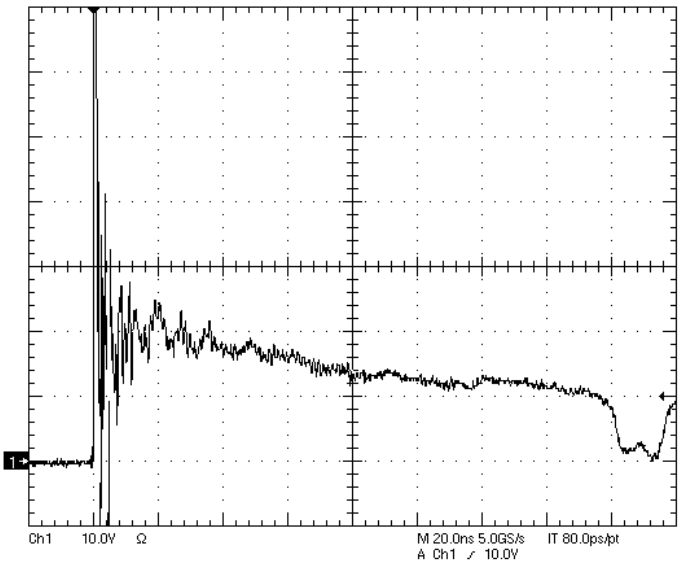


Figure 1. ESD Clamping Voltage Screenshot
Positive 8 kV Contact per IEC61000−4−2

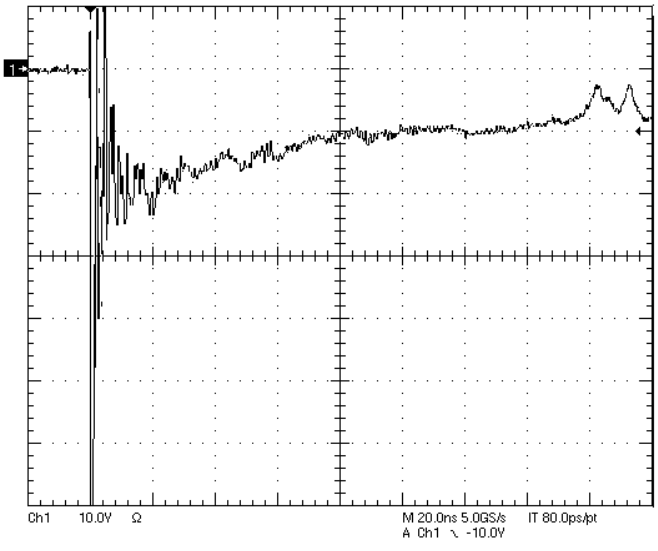
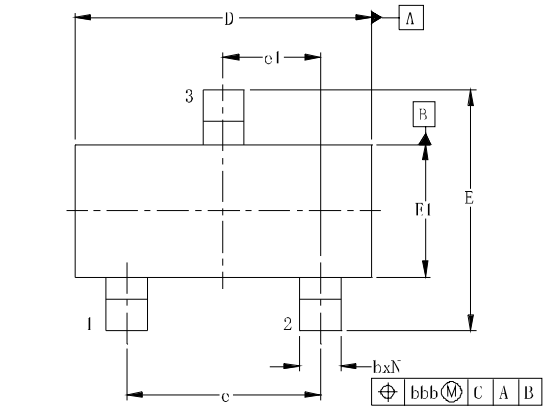
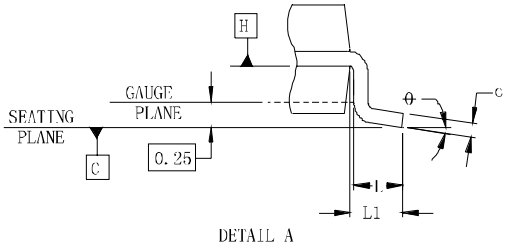
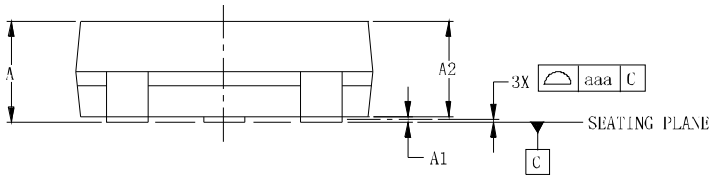


Figure 2. ESD Clamping Voltage Screenshot
Negative 8 kV Contact per IEC61000−4−2

SOT-23 Package Outline Drawing

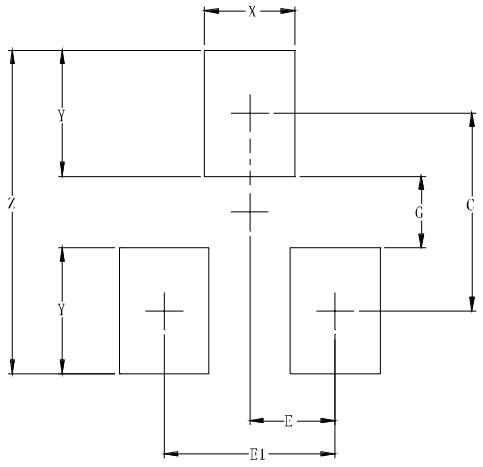






DIMENSIONS						
SYM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.035	-	0.044	0.89	-	1.12
A1	0.000	-	0.004	0.01	-	0.10
A2	0.035	0.037	0.040	0.88	0.95	1.02
b	0.012	-	0.020	0.30	-	0.51
c	0.003	-	0.007	0.08	-	0.18
D	0.110	0.114	0.120	2.80	2.90	3.04
E	0.082	0.093	0.104	2.10	2.37	2.64
E1	0.047	0.051	0.055	1.20	1.30	1.40
e	0.075			1.90BSC		
e1	0.037			0.95BSC		
L	0.015	0.020	0.024	0.40	0.50	0.60
L1	0.022			0.55		
N	3			3		
θ	0°	-	8°	0°	-	8°
aaa	0.004			0.10		
bbb	0.008			0.20		

Suggested Land Pattern



DIMENSIONS		
SYM	INCHES	MILLIMETERS
C	0.087	2.20
E	0.037	0.95
E1	0.075	1.90
G	0.031	0.80
X	0.039	1.00
Y	0.055	1.40
Z	0.141	3.60

Contact Information