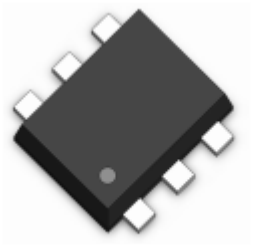
QIAOXIN SEMI CONDUCTOR

Transient Voltage Suppressors for ESD Protection

ESD3.3V56T-4L

Description

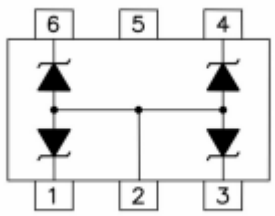
The ESD3.3V56T-4L is a small Surface-Mounted Device (SMD) special packages. It is designed to protect sensitive electronics from damage or latch up due to Electrostatic Discharge (ESD), lightning, and other voltage induced transient events.TVS diode designed to protect one power/control line or one signal line from over voltage hazard of Electrostatic Discharge (ESD).



Feature

- 100 Watts Peak Pulse Power per Line (tp=8/20μs)
- Protects Four I/O Lines
- Low clamping voltage
- Working Voltages : 3.3V
- Low leakage current
- IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ηs)
- IEC61000-4-5 (LIGHTING) 7A (8/20μs)

Functional Diagram



Applicantions

- USB OTG
- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Industrial Controls
- Peripherals

Mechanical Data

- JEDEC SOT-563 Package
- Molding Compound Flammability Rating : UL 94V-O
- Weight 3.0 Milligrams (Approximate)
- Lead Finish : Lead Free

Mechanical Characteristics

Symbol	Parameter	Value	Units
Ppp	Peak Pulse Power (tp=8/20μs waveform)	100	Watts
TL	Lead Soldering Temperature	260 (10 sec.)	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C
T_J	Operating Junction Temperature Range	-55 to +150	°C

Transient Voltage Suppressors for ESD Protection

ESDXXV88D-C Series

Electrical Characteristics(@25℃ Unless Otherwise Specifiled)

Characteristics	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Working Voltage	V_{RWM}	--	--	--	3.3	V
Reverse Breakdown Voltage	V_{BR}	IT=1mA;	4.5	--	--	V
Reverse Leakage Current	I_R	VRWM =3.3V, T=25℃;	--	--	2.5	μA
Positive Clamping Voltage	V_C	IPP =1A , TP =8/20μs ;	--	--	8.5	V
Junction capacitance	C_J	VR = 0V, f = 1MHz;	--	45	--	pF

Characteristics Curves

Fig1: 8/20μs Pulse Waveform

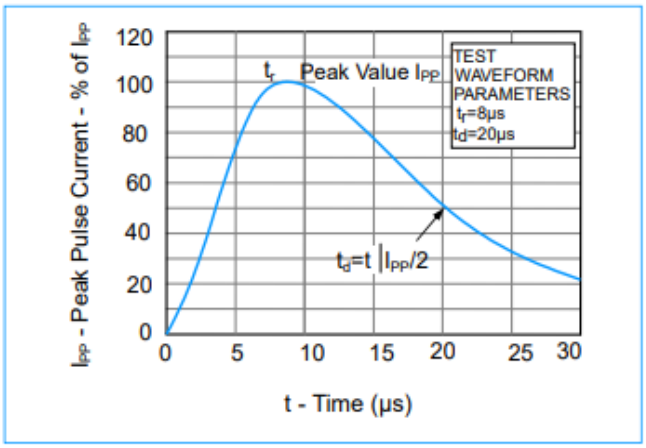


Fig2. Power Rating Derating Curve

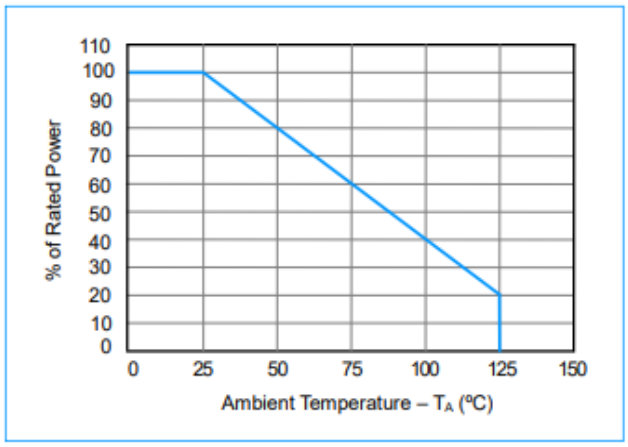
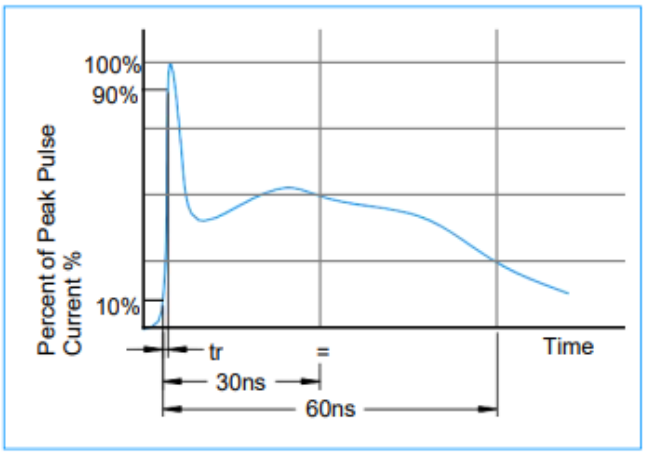


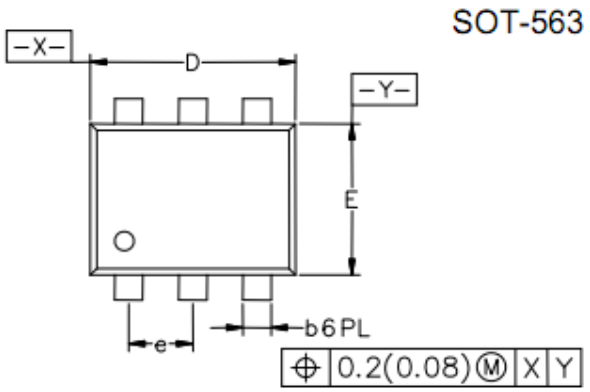
Fig3. ESD Pulse Waveform (according to IEC61000-4-2)



Transient Voltage Suppressors for ESD Protection

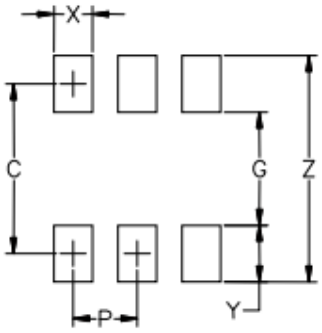
ESD3.3V56T-4L

SOT-563 Package Outline &Dimensions



Symbol	Inches			Millimeters		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	0.020	0.021	0.023	0.50	0.55	0.60
b	0.007	0.009	0.011	0.17	0.22	0.27
C	0.003	0.005	0.007	0.08	0.12	0.18
D	0.059	0.062	0.066	1.50	1.60	1.70
E	0.043	0.047	0.051	1.10	1.20	1.30
e	0.02 BSC			0.5 BSC		
L	0.004	0.008	0.012	0.10	0.20	0.30
H_E	0.059	0.062	0.067	1.50	1.60	1.70

Soldering Footprint



Symbol	Inches	Millimeters
C	0.0531	1.35
G	0.0354	0.90
P	0.0197	0.50
X	0.0118	0.30
Y	0.0177	0.45
Z	0.0709	1.80

Ordering Information

Device	Marking	Package	Quantity	Reel Size
ESD3.3V56T-4L	U3A	SOT-563	3,000pcs/Reel	7 inch