



Features

- Surface Mount Technology (0201)
- Bi-directional protection
- Fast response time
- Extremely low capacitance
- The best ESD protection for high frequency, low voltage applications

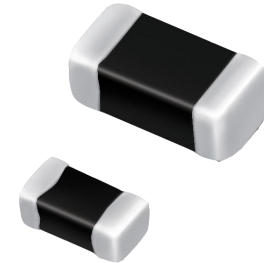
Applications

- MIPI, MHL serial interface in mobile device
- LVDS lines in notebook computers
- USB2.0, IEEE1394, DVI, LCD TV, DVD Player, Audio player, DSC

VES0123T3 ----- ESD Protection Devices

General Information

The VES0123T3 protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. They feature large cross-sectional area junctions for conducting high transient currents, offer desirable electrical characteristics for board level protection, such as fast response time, low operating voltage. It gives designer the flexibility to protect one bi-directional line in applications where arrays are not practical.



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Maximum Contact discharge voltage Per IEC61000-4-2	---	8KV	V
Maximum Air discharge voltage Per IEC61000-4-2	---	15KV	V
Maximum Operating temperature	T _{OPER}	-40 to +90	°C
Maximum Storage temperature	T _{STG}	-55 to +125	°C
Maximum lead temperature for soldering during 10s	T _L	260	°C

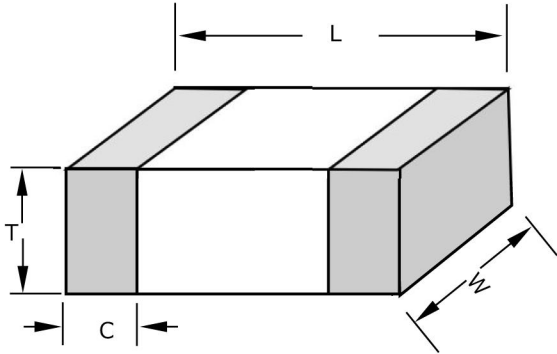
Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Working voltage	V _{DC}	< 1 μA	---	---	12	V
Varistor voltage	V _V	measured at 1 mA current	26	---	---	V
Clamping voltage	V _C	8/20us waveform and 1A pulse current	---	---	48	V
Leakage current	I _L	8/20us waveform without device failure	---	---	1.00	uA
Junction Capacitance	C _P	V _R =0V, f=1MHz ; Any I/O pin to GND	---	3	---	pF



VES0123T3 ----- ESD Protection Devices

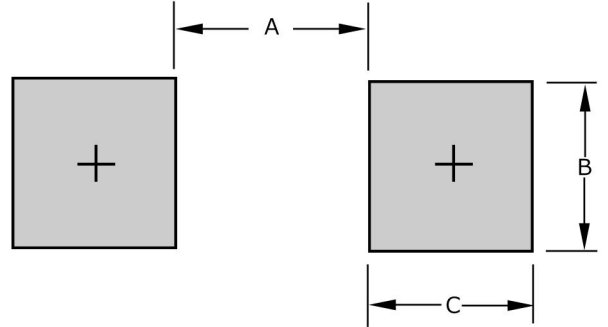
Product Dimensions



Dimension	0201(0603)
L	$\frac{0.6 \pm 0.03}{(0.02 \pm 0.001)}$
W	$\frac{0.3 \pm 0.03}{(0.01 \pm 0.001)}$
T	$\frac{0.3 \pm 0.03}{(0.01 \pm 0.001)}$
C	$\frac{0.15 \pm 0.03}{(0.006 \pm 0.001)}$

DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

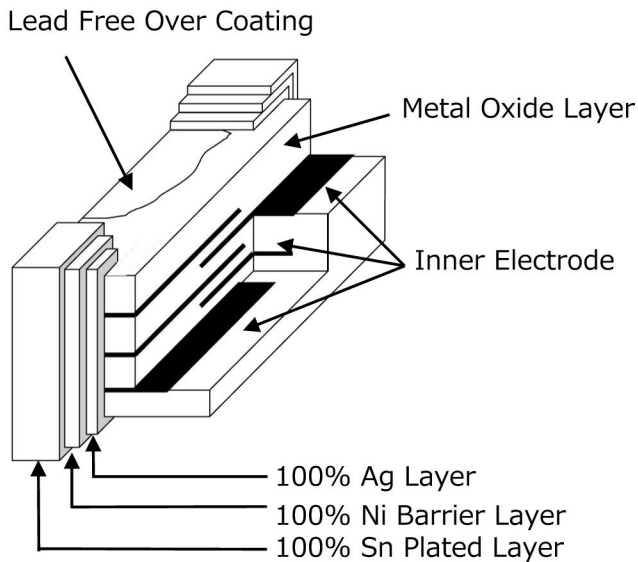
Recommended PCB Footprint



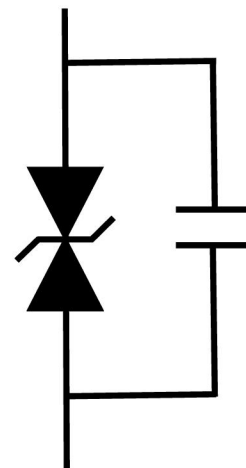
Dimension	0201(0603)
A	$\frac{0.25-0.35}{(0.020)}$
B	$\frac{0.25-0.35}{(0.020)}$
C	$\frac{0.25-0.35}{(0.024)}$

DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

Construction



Dimension

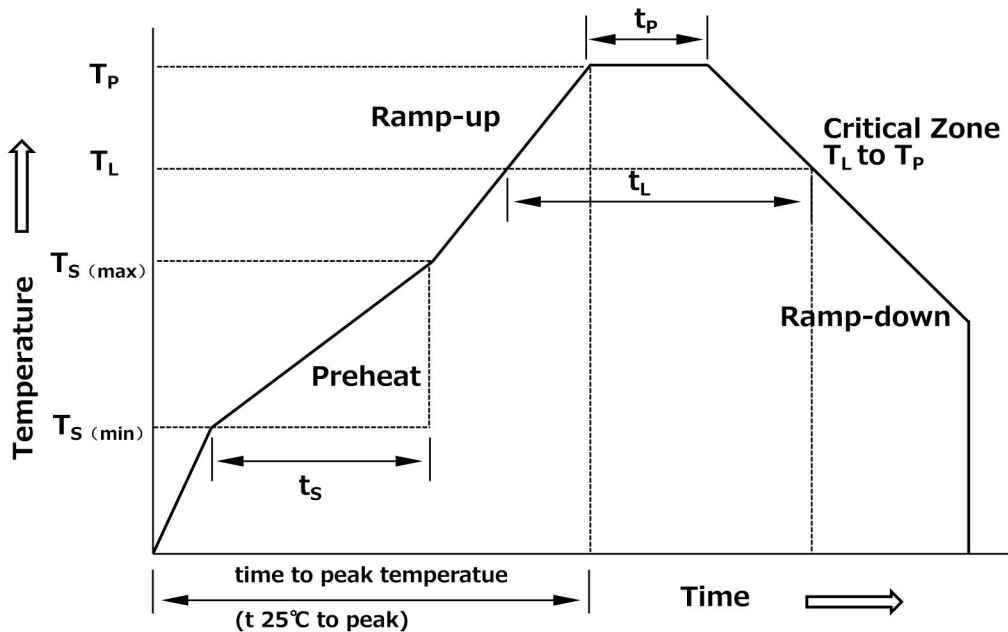




VES0123T3 ----- ESD Protection Devices

Recommendable reflow soldering

Profile Feature	Pb-Free Assembly
Average Ramp-UP Rate (T _{smax} to T _p)	3 °C/secondmax.
Preheat	
-Temperature Min(T _{smin})	150 °C
-Temperature Max(T _{smax})	200 °C
-Time(T _{smin} to T _{smax})	60-180seconds
Time maintained above:	
-Temperature(T _L)	217 °C
-Time(t _L)	60-150 seconds
Peak/Classification Temperature(T _p)	260°C
Time within 5°C of actual Peak Temperature(t _p)	20-40 seconds
Ramp-Down Rate	6°C/secondmax.
Time 25°C to Peak Temperature	8 minutes max.

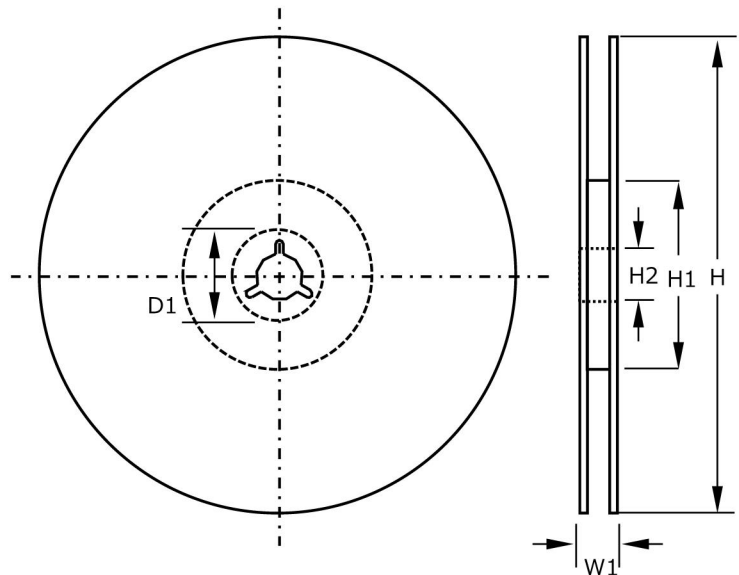
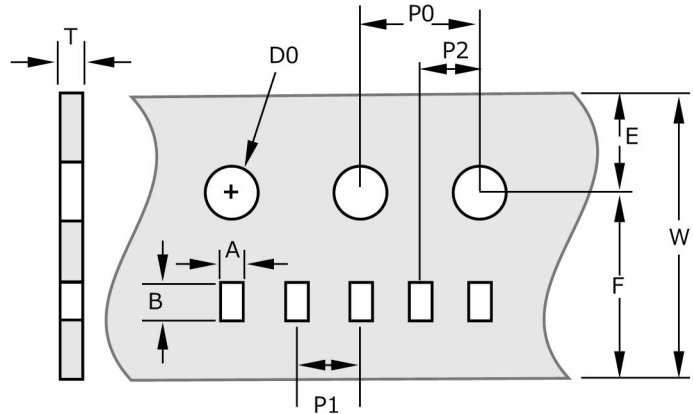




VES0123T3 ----- ESD Protection Devices

Packaging Information

Symbol	0201(0603)
A	0.36 ± 0.03 (0.0142 ± 0.001)
B	0.07 ± 0.03 (0.003 ± 0.001)
E	1.75 ± 0.10 (0.069 ± 0.004)
F	3.5 ± 0.05 (0.138 ± 0.002)
P0	4.00 ± 0.10 (0.157 ± 0.004)
P1	2.00 ± 0.05 (0.079 ± 0.002)
P2	2.00 ± 0.05 (0.079 ± 0.002)
D0	1.50 ± 0.10 (0.059 ± 0.004)
W	8.00 ± 0.30 (0.315 ± 0.012)
T	0.42 ± 0.03 (0.0165 ± 0.001)
D1	21.00 ± 0.80 (0.827 ± 0.032)
H	180.00 ± 2.00 (7.087 ± 0.079)
H1	62.0 ± 1.5 (2.44 ± 0.059)
H2	13.00 ± 1.00 (0.512 ± 0.039)
W1	13.0 ± 1.00 (0.512 ± 0.039)



DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

Quantity of products in the taping package

- (1) Standard quantity : 15,000 pcs/Reel for the Series.
- (2) Shipping quantity is a multiple of standard quantity.
- (3) For additional information, please contact your local Sales Representative.