TESD Series

ESD SUPPRESSOR

TOP-EMC

Features

- SMD type zinc oxide based ceramic chip
- Lead free plating termination provided good solderability characteristic
- Insulator over coat keeps excellent low and stable leakage current
- Quick response time (<1ns)
- Low clamping voltage
- High transient current capability
- Meet IEC 61000-4-2 standard
- Compact size for EIA 0805

Applications

- Application for Mother Board, Notebook, Cellular Phone, PDA, handheld device
 DSC,DV,Scanner and Set-Top Box etc.
- Data port:Audio,Video,Keyboard,Charge etc.

Construction & Dimension





Unit: mm	0805
L	2.0±0.20
W	1.25±0.15
t	0.9±0.10
С	0.5±0.25

Part ratings and characteristics

	Working voltage		Varistor	Clamping	Canacitance	Peak	Transient
			voltage	Voltage	Capacitance	current	energy
Symbol	VRMS	VDC	Vv	Vc	Ср	İmax	W _{max}
Unito	Volts	Volts	Volto	Volts	pF	Amps	Joules
Units	(Max.)	(Max.)	VOIIS	(Max.)	(Typical)	(Max.)	(Max.)
Test Condition		< 10 µA	1mA DC	1Α 8/20μs	1KHz	8/20µs	10/1000µs
TESD500R0V05B1X	4	5.5	7.8~12	22	500	80	0.1
TESD420R0V09B1X	6	9	10.8~18	30	420	80	0.2
TESD360R0V11B1X	8	11	14~20	32	360	100	0.3
TESD400R0V14B1X	11	14	17.2~21	38	_ 400	100	0.1
TESD400R0V16B1X	14	16	22~28	46	400	120	0.3
TESD350R0V18B1X	14	18	19.8~25.2	44	350	120	0.3
TESD100R0V22B1X	17	22	25~34	54	100	30	0.1
TESD400R0V22B1X	17	22	24.3~30.7	50	400	120	0.3
TESD220R0V26B1X	20	26	29.7~37.3	56	220	100	0.4
TESD250R0V31B1X	25	31	35.1~43.9	71	250	100	0.3
TESD270R0V31B1X	25	31	35.1~43.9	71	270	150	0.3
TESD270R0V38B1X	30	38	42.3~52.7	81	200	100	0.3
TESD170R0V45B1X	35	45	55~61	93	170	80	0.1

- V_{RMS} Maximum AC operating voltage the varistor can maintain and not exceed10µA leakage current
- V_{DC} Maximum DC operating voltage the varistor can maintain and not exceed 10µA leakage current
- V_V Voltage across the device measured at 1mA DC current. Equivalent to Vb, "Breakdown Voltage".
- Vc Maximum peak voltage across the varistor measured at 8/20us waveform and 1A pulse current
- Cp Device capacitance measured with zero volt bias 1Vrms.
- i_{max} Maximum peak current which may be applied with 8/20us waveform without device failure
- W_{max} Maximum energy that may be dissipated with the 10/1000us waveform without device failure

General electrical specifications

General technical data

Operating temperature	-40 …+125⁰C
Storage temperature (on board)	-40… +125ºC
Response time	<1 ns
Solderability	245±5°C, 3 ±1sec
Solder leach resistance	260±5°C,10 ±1sec

Storage Condition with package

Storage Temperature: 5 to 40°C

Relative Humidity: to 65%

Storage Time: 12 months max

Taping Package and Label Marking Carrier tape dimensions



Taping reel dimensions





TESD Series

Taping specifications

There shall be the portion having no product in both the head and the end of taping, and there shall be the cover tape in the head of taping.

Quantity of products in the taping package

- (1) Standard quantity: 4,000pcs/Reel for MLVS0805 series
- (2) Shipping quantity is a multiple of standard quantity.

Precautions for Handling

Solder cream in reflow soldering

Refer to the recommendable land pattern as printing mask pattern for solder cream.

- (1) Print solder in a thickness of 150 to 200 μ m.
- (2) Dimensions: millimeters (inches)



Precaution for handling of substrate

Do not exceed to bend the board after soldering this product extremely. (Reference examples)

- Mounting place must be as far as possible from the position, which is close to the break line of board, or on the line of large holes of board.
- Do not bend extremely the board, in mounting another component. If necessary, use back-up pin (support pin) to prevent from bending extremely.
- Do not break the board by hand. We recommend using the machine or the jig to break it.

Precaution for soldering

Note that rapid heating, rapid cooling or local heating will easily damage this product.

Do not give heat shock over 100°C in the process of soldering. We recommend taking preheating and gradual cooling.



Soldering gun procedure

Note the follows, in case of using solder gun for replacement.

- (1) The tip temperature must be less than 350°C for the period within 3 seconds by using soldering gun less than 30W.
- (2) The soldering gun tip shall not touch this product directly.

Soldering volume

Note that excess of soldering volume will easily get crack the body of this product.

Contact Information

SHENZHEN TOP-FLIGHT TECHNOLOGY CO.,LTD

4th Floor, C Building, Quansen Industrial Park , Bulong Road, Longhua New District, Shenzhen Tel: 86-755-82908191 Fax: 86-755-82908701 Email:kang@topleve.com Website: http://www.topleve.com