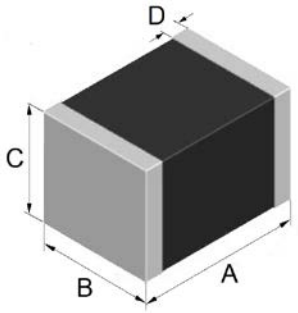
SMD Transient Voltage Suppressors TVSM1210SHPF-Series-V

1. Dimension



Series	A(mm)	B(mm)	C(mm)	D(mm)
1210	3.20+0.60/-0.20	2.50+0.40/-0.20	2.60 max.	0.50±0.25

2. Part Numbering

TVSM 1210 SHP F 750 - 402 V □

A B C D E F G H

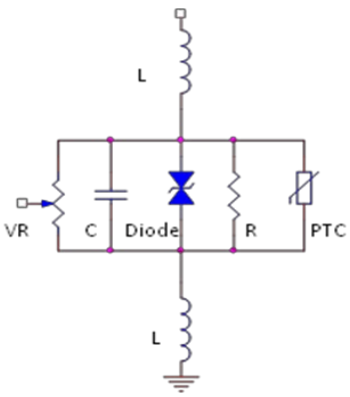
A: Series Multilayer Varistor
B: Dimension
C: Category Code High Performance Surge Protection with PoE
D: Product Grade General Grade
E: Voltage Code 750=Breakdown Voltage 75V
F: Characteristic Code 402=Surge Voltage 4KV
G: Characteristic Unit Code V＝voltage
H: Inner Code

3. Features

1. RoHS compliant
2. SMD type body size 1210
3. Meet IEC61000-4-5 / K21 and UL1449 standards
4. Bidirectional and symmetrical V/I characteristics
5. Large withstanding surge current capability
6. Operating temperature range : -55~+125℃
7. Multi-Layers construction provides higher power dissipation

Equivalent Circuit

L	**Body Inductance**
C	**Device Capacitance**
VR	**Voltage Variable Resistor**
R	**Insulation Resistor**
Diode	**Voltage Clamped**
PTC	**for Low Leakage Current**



4. Technology Data

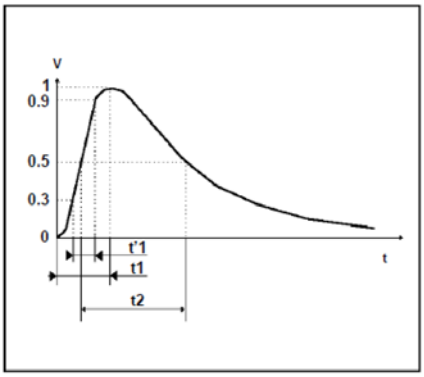
TAI-TECH Part Number	Maximum allowable continuous AC voltage @ 50-60Hz V_{RMS} (V)	Maximum allowable continuous DC voltage V_{DC} (V)	Breakdown voltage V_B (V)	Maximum allowable clamping voltage V_C (V)	Maximum peak current (10/700μs) I_{Peak} (A)	Maximum surge voltage (10/700μs) V_{Surge} (KV)	Maximum peak current (8/20μs) (15 time) I_{Peak} (A)	Typical capacitance value measured at 1kHz C (pF)
TVSM1210SHPF750-402V	48	60	75(±10%)	100	100	4	500	1000
TVSM1210SHPF750-602V	48	60	75(±10%)	100	150	6	500	1300

Notes:

1. The breakdown voltage was measured at 1mA current.
2. The clamping voltage was measured at 8/20μs standard current, 1210(2.5A).
3. The surge current was tested at 10/700μs waveform, Ri=40ohm. Common-mode testing is to test all data lines while the GND.
4. The capacitance value only for customer reference, it's not formal specification.

4-1. Reference Data			
ITEM	Symbol	Unit	Value
Response time	T_{RISE}	ns	< 1
Non-linear coefficient	α		>30
Leakage current at V_B x 80% (at initial state)	I_{VB}	μA	< 10
Leakage current at V_B x 80% (after surge test)	I_{VBA}	μA	< 80
Operation ambient temperature	T_{OPT}	℃	-55~+125
Storage temperature range	T_{STG}	℃	-55~+150
4-2. Other Data			
Body			Nano special ceramic
End termination			Ag/Ni/Sn
Packaging			Reel
Complies with standards			IEC61000-4-5, ITU-T K20, K21 UL 1449, File No. E334409-VZCA2
Complies with RoHs standard			Yes
Lead content			< 1000 ppm
Marking			None

5. Surge Wave Form



10/700μs waveform current

K21 Standards

SEVERITY LEVEL	t1 (=1.67t'1)	t2
1	10μs	700μs