Revision of Dec.2022

High Surge Protection Devices

Super High Network (SN) Series

Features:

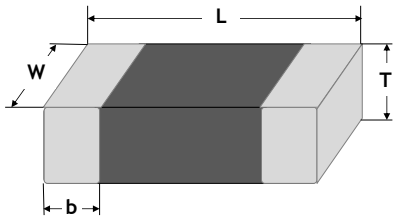
- Bidirectional and symmetrical V/I characteristics
- Meet IEC61000-4-5/K21 standard
- Large withstanding surge voltage capability: 4~6KV (@10/700μs)
- Excellent low leakage current <10μA
- Multilayer construction provides higher power dissipation

Application Fields:

- Telecom equipment RJ45, LAN connector, Ethernet
- Outdoor/Indoor AP/IAD
- Security system IP CAM
- Low voltage power line DC12V, AC24V, PoE
- ADSL/XDSL telecom equipment
- VOIP phones
- PoE modules
- HUB switch
- Other Networks

Shape and Dimensions:

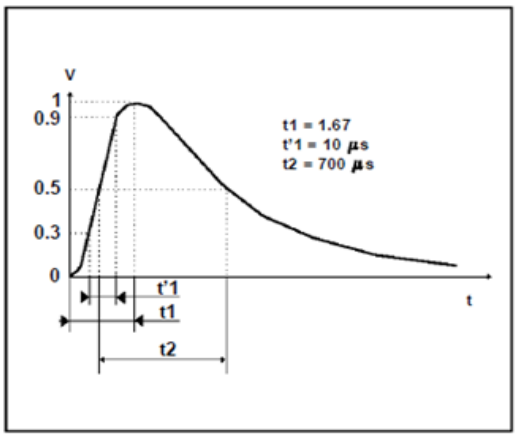
Unit (mm)	1206	1210
Length (L)	3.2 +0.6/-0.2	3.2 +0.6/-0.2
Width (W)	1.6 +0.4/-0.2	2.5 +0.4/-0.2
Thickness (T)	1.90 Max.	2.60 Max.
Termination band-width (b)	0.5±0.20	0.5±0.25



Product Identification:

HSP	1206	SN	012V	4000
Category Code	**Size Code**	**Application Code**	**Breakdown Voltage Code**	**Surge Voltage Code**
HSP = High Surge Protection Device	**Inch** (mm) **1206** (3216) **1210** (3225)	**SN** = Super High Network	**012V** = 12V **047V** = 47V **075V** = 75V	**4000** = 4kV **6000** = 6kV

Surge Waveform:



Severity Level	t1	t2
1	10 μs	700 μs

Fig. 1 CCITT 7 10/700 μs surge definition

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Electrical Characteristics:

Part Number	Size	Working Voltage		Breakdown Voltage @1mA (V) [1]	Clamping Voltage (V) [2]	Surge Current @ 10/700μs (A) [3]	Surge Voltage (kV)
		VAC	VDC				
HSP1206SN012V4000	1206	6	9	12 (12~20)	< 30	100	4
HSP1206SN012V6000	1206	6	9	12 (12~20)	< 30	150	6
HSP1210SN047V4000	1210	30	38	47 (±10%)	< 75	100	4
HSP1210SN047V6000	1210	30	38	47 (±10%)	<75	150	6
HSP1210SN075V4000	1210	48	60	75 (±10%)	< 100	100	4
HSP1210SN075V6000	1210	48	60	75 (±10%)	< 100	150	6

[1] The breakdown voltage was measured at 1 mA current.
[2] The clamping voltage was measured at standard current 1206(1A) and 1210 (2.5A).
[3] The surge current was tested at 10/700 μs waveform, Ri=40Ω. Common-mode testing is to test all data lines while the GND.

Part Number	Non-linear Coefficient (α)	Leakage Current (μA)		Capacitance [4] @ 1kHz (pF)	Response Time (T_{rise})	Operating Temperature (°C)	Storage Temperature (°C)
		Before Surge Test	After Surge Test				
HSP1206SN012V4000	20	10	80	3200	< 1ns	-55 to +125	-55~+150
HSP1206SN012V6000	20	10	80	3850			
HSP1210SN047V4000	30	10	80	1400			
HSP1210SN047V6000	30	10	80	1670			
HSP1210SN075V4000	30	10	80	1000			
HSP1210SN075V6000	30	10	80	1300			

[4] The capacitance value only for customer reference, it's not formal specification.

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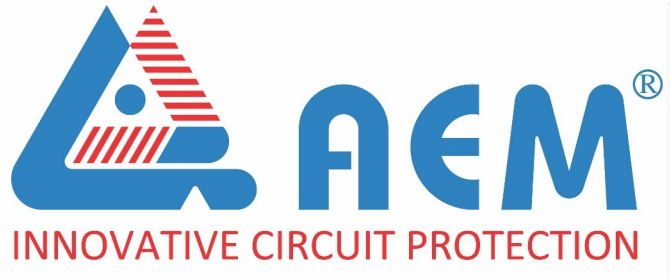

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