AEM
Innovation to power your vision

Revision of Mar. 2023

High Surge Protection Devices
Super High Network (SN) Series

Features:

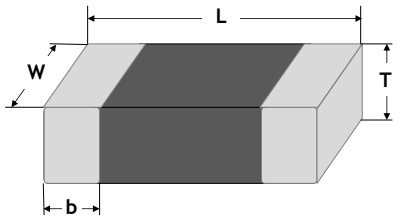
- Bidirectional and symmetrical V/I characteristics
- Meet IEC61000-4-5/K21 standard
- Large withstanding surge voltage capability: 4~6KV (@10/700μs)
- Excellent low leakage current <10μA
- Multilayer construction provides higher power dissipation

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:

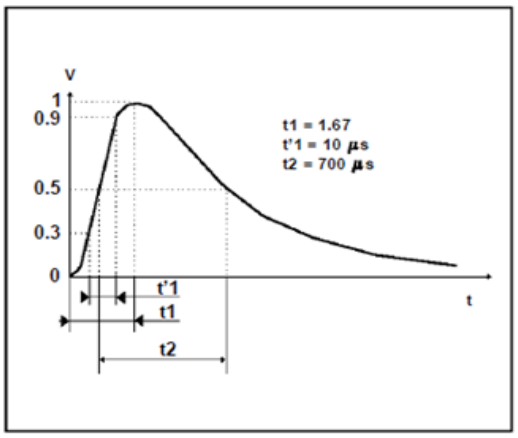


Fig. 1 CCITT 7 10/700 μs surge definition

Severity Level	t1 (=1.67t'1)	t2
1	10 μs	700 μs

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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
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			
HSP1210SN075V6000	30	10	80	1300			

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

Packaging:

Size	1206	1210
Pcs	2000 (7 inch reel)	1500 (7 inch reel)

Disclaimer

Specifications are subject to change without notice. AEM products are designed for specific applications and should not be used for any purpose (including, without limitation, automotive, aerospace, medical, life-saving applications, or any other application which requires especially high reliability for the prevention of such defect as may directly cause damage to the third party's life, body or property) not expressly set forth in applicable AEM product documentation. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Warranties granted by AEM shall be deemed void for products used for any purpose not expressly set forth in applicable AEM product documentation. AEM shall not be liable for any claims or damages arising out of products used in applications not expressly intended by AEM as set forth in applicable AEM product documentation. The sale and use of AEM products is subject to AEM terms and conditions of sale. Please refer to AEM's website for updated catalog and terms and conditions of sale.

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