High Surge Protection Devices

SC Series (Super High Current, 1206 ~ 2220 Size)

Features:

- Bidirectional and symmetrical V/I characteristics
- Meet IEC61000-4-5/K21 standard
- Large withstanding surge current capability 0.5~8kA (@8/20μs)
- Excellent low leakage current <15μA
- Multilayer construction provides higher power dissipation

Applications:

- Telecom equipment RJ45
- LAN connector, Ethernet
- Outdoor/Indoor AP/IAD
- Security system IP CAM
- Low voltage power line
- Base station

Product Identification:

HSP 1206 SC 012V 0500

(1) (2) (3) (4) (5)

(1) Series Code: High Surge Protection Series

(2) Size Code: L x W (inch), the first two digits - L (length), the last two digits - W (width)

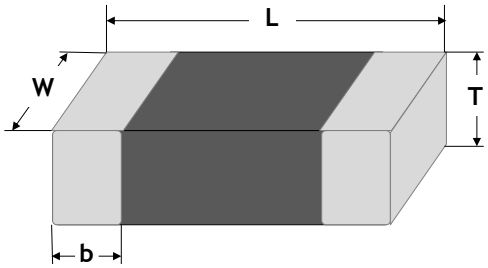
(3) Characteristic Code: SC - Super High Current

(4) Breakdown Voltage Code: 012V - 12V

(5) Surge Current Code: 0500 - 500A

Shape and Dimensions:

Unit (mm)	1206	1210	1812	2220
L	3.2 +0.6/-0.2	3.2 +0.6/-0.2	4.5 +0.6/-0.2	6.0 +0.7/-0.3
W	1.6 +0.4/-0.2	2.5 +0.4/-0.2	3.2 +0.5/-0.2	5.3 +0.5/-0.3
T	1.90 Max.	2.60 Max.	3.50 Max.	3.60 Max.
b	0.5 ± 0.20	0.5 ± 0.25	0.5 +0.35/-0.1	0.5 +0.35/-0.1



Packaging:

Chip Size	Parts on 7 inch (178 mm) Reel
1206	2,000
1210	1,500
1812	500
2220	500

Surge Waveform:

Severity Level	t1 (=1.67t'1)	t2
1	8 μs	20 μs

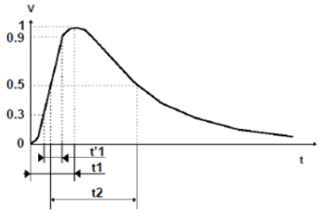


Fig. 1 8/20 μs surge definition

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Ordering Information:

Part Number	Size	Working Voltage		Breakdown Voltage @1mA (V) [1]	Clamping Voltage (V) [2]	Surge Current @ 8/20μs (A) [3]
		V AC	V DC			
HSP1206SC012V0500	1206	6	9	12 (12~20)	<25	500
HSP1206SC024V0500	1206	14	18	24 (±10%)	<45	500
HSP1206SC047V0500	1206	30	38	47 (±10%)	<85	500
HSP1206SC075V0500	1206	48	60	75 (±10%)	<100	500
HSP1210SC024V1000	1210	14	18	24 (±10%)	<45	1000
HSP1210SC047V1000	1210	30	38	47 (±10%)	<85	1000
HSP1210SC075V1000	1210	48	60	75 (±10%)	<100	1000
HSP1812SC047V2000	1812	30	38	47 (±10%)	<85	2000
HSP1812SC075V2000	1812	48	60	75 (±10%)	<100	2000
HSP2220SC047V5000	2220	30	38	47 (±10%)	<85	5000
HSP2220SC047V8000	2220	30	38	47 (±10%)	<85	8000
HSP2220SC075V3000	2220	48	60	75 (±10%)	<100	3000

[1] The breakdown voltage was measured at 1 mA current

[2] The clamping voltage was measured at standard current 1206 (1A), 1210 (2.5A), 1812 (5A) and 2220 (10A)

[3] The surge current was tested at 8/20 μs waveform

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				
HSP1206SC012V0500	20	<10	<80	3500	< 1ns	-55 to +125	-55~+150
HSP1206SC024V0500	20	<10	<80	2300			
HSP1206SC047V0500	30	<10	<80	690			
HSP1206SC075V0500	30	<10	<80	300			
HSP1210SC024V1000	20	<15	<80	2300			
HSP1210SC047V1000	30	<10	<80	1550			
HSP1210SC075V1000	30	<10	<80	930			
HSP1812SC047V2000	30	<15	<80	2100			
HSP1812SC075V2000	30	<15	<80	1650			
HSP2220SC047V5000	35	<15	<80	9900			
HSP2220SC047V8000	35	<15	<80	7500			
HSP2220SC075V3000	40	<15	<80	2000			

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

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