

High Surge Protection Devices Super High Voltage (SV) Series

Features:

- SMD type body size 0806, 1206, 1208, 1210, 1812, 2220 and 3220
- Bidirectional and symmetrical V/I characteristics
- Meet IEC61000-4-5 Standard
- Large withstanding surge voltage capability - 0.5~2KV (@1.2/50 μ s, 2 Ω)
- Large withstanding surge current capability - 100~1000A (@8/20 μ s)
- Multilayer construction provides higher power dissipation
- RoHS compliant

Application Fields:

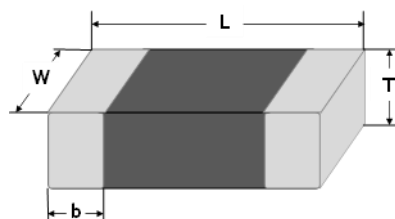
- LED lighting
- Power board
- Base station
- AC power supply
- Industrial equipment and controllers

Agency Approval:

Recognized under the components program of UL and CSA
File number: E475014

Shape and Dimensions:

| Unit (mm) | 0806 | 1206 | 1210 | 1812 | 2220 | 3220 |
|---------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Length (L) | 2.20 \pm 0.20 | 3.20+0.60/-0.20 | 3.20+0.60/-0.20 | 4.50+0.60/-0.20 | 6.00+0.70/-0.30 | 8.10+0.70/-0.30 |
| Width (W) | 1.70 \pm 0.20 | 1.60+0.40/-0.20 | 2.50+0.40/-0.20 | 3.20+0.50/-0.20 | 5.30+0.50/-0.30 | 5.30+0.60/-0.30 |
| Thickness (T) | 1.80 Max. | 1.90 Max. | 2.60 Max. | 3.50 Max. | 3.60 Max. | 3.70 Max. |
| Termination bandwidth (b) | 0.25 \pm 0.10 | 0.50 \pm 0.20 | 0.50 \pm 0.25 | 0.50+0.35/-0.10 | 0.50+0.35/-0.10 | 0.80+0.50/-0.10 |



Product Identification:

| HSP | 2220 | SV | 390V | 0800 |
|------------------------------------|------------------------------|-------------------------|--|---|
| Category Code | Size Code | Application Code | Breakdown Voltage Code | Surge Current Code |
| HSP = High Surge Protection Device | Inch 1210 2220 3220 | SV = Super High Voltage | 240V = 240V 390V = 390V 430V = 430V 470V = 470V | 0100 = 100A 0150 = 150A 0200 = 200A 0250 = 250A 0500 = 500A 1000 = 1000A |

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Electrical Characteristics:

Operating temperature: -55 to +85°C

| Part Number | Size | Working Voltage | | Breakdown Voltage ¹ @1mA (V) | Clamping Voltage ² (V) | Surge Voltage ³ @1.2/50µs, 2Ω (kV) | Surge Current ³ @8/20µs (A) | | Safety Certification | |
|-------------------|------|-----------------|-----|--|--------------------------------------|---|---|--------|----------------------|-----------------|
| | | Vac | Vdc | | | | 1 time | 1 time | 15 times | UL ⁵ |
| HSP1210SV390V0200 | 1210 | 250 | 320 | 390(±10%) | 647 | 0.5 | 200 | 100 | ✓ | |
| HSP1210SV470V0250 | 1210 | 300 | 385 | 470 (±10%) | 775 | 0.5 | 250 | 150 | ✓ | |
| HSP1210SV470V0500 | 1210 | 300 | 385 | 470 (±10%) | 775 | 1.0 | 500 | 250 | ✓ | ✓ |
| HSP2220SV390V0500 | 2220 | 250 | 320 | 390 (±10%) | 647 | 1.0 | 500 | 250 | ✓ | |
| HSP2220SV430V0500 | 2220 | 275 | 350 | 430 (±10%) | 705 | 1.0 | 500 | 250 | ✓ | |
| HSP2220SV470V0500 | 2220 | 300 | 385 | 470 (±10%) | 775 | 1.0 | 500 | 250 | ✓ | |
| HSP2220SV390V0800 | 2220 | 250 | 320 | 390 (±10%) | 647 | 2.0 | 800 | 500 | ✓ | |
| HSP2220SV470V0800 | 2220 | 300 | 385 | 470 (±10%) | 775 | 2.0 | 800 | 500 | ✓ | ✓ |
| HSP3220SV430V1000 | 3220 | 275 | 350 | 430 (±10%) | 705 | 2.0 | 1000 | 500 | ✓ | ✓ |
| HSP3220SV470V1000 | 3220 | 300 | 385 | 470 (±10%) | 775 | 2.0 | 1000 | 500 | ✓ | ✓ |

¹ The breakdown voltage was measured at 1 mA current.

² The clamping voltage was measured at standard current 1210 (2.5A), 1812 (5A), 2220 (10A) and 3220 (10A).

³ The surge voltage was tested at 1.2/50 µs waveform and 2Ω. The surge current was tested at 8/20 µs waveform.

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

⁵ The UL safety approval complies with standard UL1449 3rd.

⁶ The CSA safety approval complies with standard CSA C22.2 No. 8.

Packaging:

| Size | 1210 | 2220 | 3220 |
|------|-----------------------|----------------------|----------------------|
| Pcs | 1500 (7 inch reel) | 500 (7 inch reel) | 500 (7 inch reel) |

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