

2.2 High Voltage Power Film Capacitors : STHVI series

Applications :

- Higher RMS Current when compare with **STHVE** series
- Medium Frequency range and RMS Current
- DC filter circuit (Filter Capacitor)
- High Voltage Decoupling
- Voltage Multiplier
- Induction heating
- act as discharge capacitor to trigger laser and X-Ray
- for high voltage capacitor bank or array
- Higher Frequency, High Voltage and RMS Current application.
- High Voltage Power Supplies
- High Voltage Energy Storage and Discharge



Features :

- Polypropylene film dielectric
- low inductance
- excellent Frequency Response
- RMS Current Rating
- high peak Pulse Current Ratings (dv/dt)
- higher Temperature range
- M6, M8 and M10 screw threads/nut as capacitor electrical terminal
- higher RMS Current when compare with **STHVF** and **STHVE**

When compare with traditional Paper Dielectric, Oil Impregnated and Metal Enclosure Capacitor :

- Plastic enclosure : safer when compare with oil impregnated capacitor.
- Dry construction : Epoxy Resin end seal and doesn't have impregnant liquid leakage problem
- Plastic enclosure and Epoxy Resin are flame retardant UL94-V0 grade
- compact size and light weight
- higher Insulation Resistance and Insulation Voltage
- low capacitor loss

Electrical Characteristics :

Voltage range :

| | | | |
|---------|---------|---------|-----------|
| 4500Vdc | 6000Vdc | 8000Vdc | 10,000Vdc |
| 1500Vac | 2000Vac | 2250Vac | 2500Vac |

Capacitance : 0.05uF ~ 1uF

RMS Current - I_{rms} : up to 15Arms

peak discharge current - I_{peak} : up to 2000A

Tolerance : +/-10%, +/-5% at 23C 1kHz

Testing Voltage : 1.3 x U_n 10sec (can be customized design)

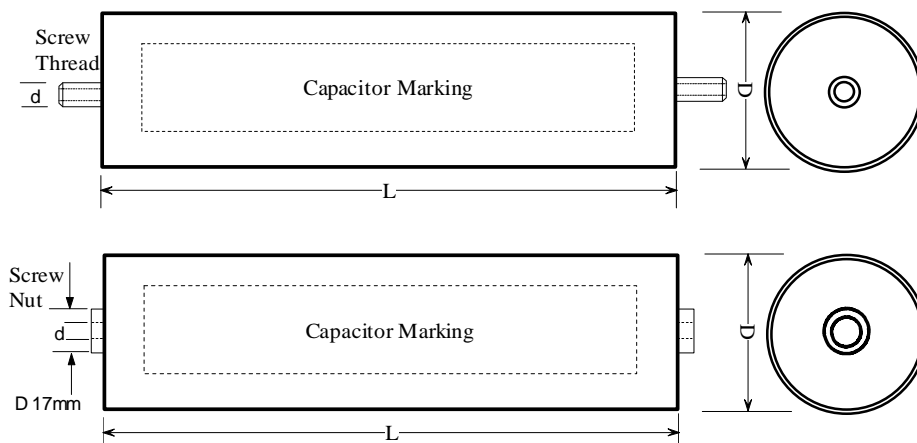
Insulation Resistance : 250Vdc +25C >= 300,000Mohm
 250Vdc +85C >= 50,000Mohm
 250Vdc +105C >= 5,000Mohm

Low ESR and series Inductance : refer to the data listed below

Temperature range : -25C to +85C / -40C to +105C

Pulse Voltage rise & fall time dv/dt : detail information available on require

Drawing :



STHVI Specifications and Size : 4500Vdc / 1500Vac

| Capacitance uF | Diameter D mm | Length L mm | dv/dt v/us | I _{peak} A 105C | Irms 100kHz 100C | ESR mohm 100khz | ESL nH | Electrical connection Thread / Nut d |
|-------------------|------------------|----------------|------------|-----------------------------|---------------------|--------------------|-----------|--------------------------------------------|
| 0.2 | 65 | 135 | 4500 | 900 | 8.3 | 8 | 17 | M6 |
| 0.25 | 65 | 135 | 4500 | 1125 | 10.4 | 7 | 17 | M6 |
| 0.33 | 65 | 135 | 4500 | 1485 | 11.4 | 6 | 17 | M6 |
| 0.47 | 65 | 170 | 2500 | 1175 | 9.3 | 5.5 | 18 | M6 |
| 0.5 | 65 | 170 | 2500 | 1250 | 11 | 5.5 | 18 | M6 |
| 0.68 | 65 | 170 | 2500 | 1700 | 13.6 | 5 | 18 | M6 |
| 0.75 | 65 | 170 | 2500 | 1875 | 14.5 | 5 | 18 | M6 |
| 1.0 | 65 | 220 | 1560 | 1560 | 9.5 | 4 | 22 | M6 |

STHVI Specifications and Size : 6000Vdc / 2000Vac

| Capacitance uF | Diameter D mm | Length L mm | dv/dt v/us | I _{peak} A 105C | Irms 100kHz 100C | ESR mohm 100khz | ESL nH | Electrical connection Thread / Nut d |
|-------------------|------------------|----------------|------------|-----------------------------|---------------------|--------------------|-----------|--------------------------------------------|
| 0.15 | 65 | 135 | 5400 | 810 | 7.6 | 10 | 17 | M6 |
| 0.2 | 65 | 135 | 5400 | 1080 | 10 | 8 | 17 | M6 |
| 0.25 | 65 | 135 | 5400 | 1350 | 11.4 | 8 | 17 | M6 |
| 0.3 | 65 | 135 | 5400 | 1620 | 12.4 | 8 | 17 | M6 |
| 0.33 | 65 | 170 | 3000 | 990 | 8.5 | 7 | 18 | M6 |
| 0.47 | 65 | 170 | 3000 | 1410 | 11.9 | 7 | 18 | M6 |
| 0.5 | 65 | 170 | 3000 | 1500 | 12.7 | 7 | 18 | M6 |
| 0.68 | 65 | 190 | 2400 | 1632 | 12.5 | 6 | 20 | M6 |
| 0.75 | 65 | 220 | 1800 | 1350 | 8.5 | 6 | 22 | M6 |

STHVI Specifications and Size : 8000Vdc / 2250Vac

| Capacitance uF | Diameter D mm | Length L mm | dv/dt v/us | I _{peak} A 105C | Irms 100kHz 100C | ESR mohm 100khz | ESL nH | Electrical connection Thread / Nut d |
|-------------------|------------------|----------------|------------|-----------------------------|---------------------|--------------------|-----------|--------------------------------------------|
| 0.1 | 65 | 135 | 10000 | 1000 | 6 | 13 | 17 | M6 |
| 0.12 | 65 | 135 | 10000 | 1200 | 6.6 | 13 | 17 | M6 |
| 0.15 | 65 | 170 | 5650 | 847.5 | 6.3 | 12 | 18 | M6 |
| 0.2 | 65 | 170 | 5650 | 1130 | 7.6 | 12 | 18 | M6 |
| 0.25 | 65 | 170 | 5650 | 1412 | 8.6 | 12 | 18 | M6 |
| 0.3 | 65 | 190 | 4500 | 1350 | 8.4 | 10 | 20 | M6 |
| 0.33 | 65 | 190 | 4500 | 1485 | 9.1 | 10 | 20 | M6 |

STHVI Specifications and Size : 10000Vdc / 2500Vac

| Capacitance uF | Diameter D mm | Length L mm | dv/dt v/us | I _{peak} A 105C | Irms 100kHz 100C | ESR mohm 100khz | ESL nH | Electrical connection Thread / Nut d |
|-------------------|------------------|----------------|------------|-----------------------------|---------------------|--------------------|-----------|--------------------------------------------|
| 0.05 | 65 | 165 | 12500 | 625 | 3.75 | 24 | 19 | M6 |
| 0.075 | 65 | 165 | 12500 | 937.5 | 4.3 | 20 | 19 | M6 |
| 0.082 | 65 | 165 | 12500 | 1025 | 4.7 | 20 | 19 | M6 |
| 0.1 | 65 | 165 | 12500 | 1250 | 6.25 | 20 | 19 | M6 |
| 0.12 | 65 | 215 | 7000 | 840 | 4.5 | 18 | 20 | M6 |
| 0.15 | 65 | 215 | 7000 | 1050 | 5.8 | 18 | 20 | M6 |
| 0.2 | 65 | 245 | 5600 | 1120 | 5.5 | 17 | 22 | M6 |
| 0.25 | 65 | 285 | 4400 | 1100 | 4.3 | 17 | 24 | M6 |