

2.1 High Voltage Filter Capacitors – STHVF series

Applications :

- By-pass DC / AC Filtering, Transient and Harmonic Damping
- Coupling and Decoupling
- Filter applications
- Voltage Multiplier
- Induction heating
- X-Ray power supplies
- Electrostatic air cleaners



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
- smaller size and higher voltage range when compare with **STHVI** and **STHVE** series

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 :

6000Vdc	8000Vdc	10,000Vdc	12,000Vdc	15,000Vdc	20,000Vdc	25,000Vdc	30,000Vdc
1350Vac	1500Vac	1700Vac	2000Vac	2500Vac	3000Vac	4000Vac	5000Vac

Capacitance range : 0.025uF – 1uF

Tolerance : +/-10% +/-5% at 25C

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

Insulation Resistance : > 260,000 Mohm at 1kV +105C

Testing Voltage Terminal to Terminal : Voltage Vdc < 20kVdc : 2.15 x rated Vdc 60 seconds at 105C

> 20kVdc : 1.75 x rated Vdc 60 seconds at 105C

Voltage Vac : 1.75 x rated Vac 60 seconds at 105C

Accelerated Life : 1.25 x Vdc or Vac at 105C for 2,000 hours

RMS Current - Irms : up to 4Arms

peak discharge current - I peak : up to 2200A

Low ESR and series Inductance

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

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

STHVF Specifications and Size : 1350Vac / 6000Vdc

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	120	2700	270	0.63	9	75	M6
0.12	65	120	2700	324	0.8	7.7	75	M6
0.15	65	120	2700	405	0.96	7	75	M6
0.2	65	120	2700	540	1.28	6.5	75	M6
0.22	65	120	2700	594	1.42	6	75	M6
0.25	65	120	2700	675	1.61	5.5	75	M6
0.3	65	120	2700	810	1.93	5	75	M6
0.33	65	120	2700	891	2.12	4.5	75	M6
0.5	90	120	2700	1350	3.2	4.5	75	M6
0.68	65	210	1350	918	3.3	4	120	M6
1.0	90	210	1350	1350	3.93	4	120	M6

STHVF Specifications and Size : 1500Vac / 8000Vdc

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	120	3400	240	0.72	8	75	M6
0.12	65	120	3400	408	0.87	7.2	75	M6
0.15	65	120	3400	510	1.09	6.5	75	M6
0.2	65	120	3400	680	1.44	6	75	M6
0.22	65	120	3400	748	1.58	5.5	75	M6
0.25	65	120	3400	850	1.8	5	75	M6
0.3	90	120	3400	1020	2.16	4.5	75	M6
0.33	90	120	3400	1122	2.3	4	75	M6
0.5	65	210	1700	850	2.6	3.5	120	M6

STHVF Specifications and Size : 1700Vac / 10000Vdc

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	120	4300	430	0.8	7.5	75	M6
0.12	65	120	4300	516	0.96	7	75	M6
0.15	65	120	4300	645	1.21	6	75	M6
0.2	65	120	4300	860	1.61	5.5	75	M6
0.22	65	120	4300	946	1.76	5	75	M6
0.25	90	120	4300	1075	2.01	5	75	M6
0.27	90	120	4300	1161	2.17	5	75	M6
0.3	90	120	4300	1290	2.41	4.5	75	M6
0.33	90	120	4300	1419	2.65	4	75	M6
0.5	90	210	2150	1075	3	3.5	120	M6

STHVF Specifications and Size : 2000Vac / 12000Vdc

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	210	5900	295	0.42	25	120	M6
0.1	65	210	5900	590	0.8	20	120	M6
0.12	65	210	5900	708	0.86	18	120	M6
0.15	65	210	5900	885	0.99	15	120	M6
0.2	90	210	5900	1180	1.28	13	120	M6
0.22	90	210	5900	1298	1.38	12	120	M6
0.25	90	210	5900	1475	1.6	12	120	M6

STHVF Specifications and Size : 2500Vac / 15000Vdc

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	210	8250	412	0.48	25	120	M6
0.1	65	210	8250	825	0.84	20	120	M6
0.12	65	210	8250	990	0.93	18	120	M6
0.15	90	210	8250	1237	1.08	15	120	M6
0.2	90	210	8250	1650	1.47	13	120	M6
0.22	90	210	8250	1815	1.6	12	120	M6

STHVF Specifications and Size : 3000Vac / 20000Vdc

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
0.025	65	210	12200	305	0.24	35	120	M6
0.33	65	210	12200	402	0.32	30	120	M6
0.05	65	210	12200	610	0.48	25	120	M6
0.1	65	210	12200	1220	0.8	20	120	M6
0.12	90	210	12200	1464	0.96	18	120	M6
0.15	90	210	12200	1830	1.2	15	120	M6

STHVF Specifications and Size : 4000Vac / 25000Vdc

Capacitance uF	Diameter D mm	Length L mm	dv/dt v/us	I _{peak} A 105C	I _{rms} 100kHz 100C	ESR mohm 100khz	ESL nH	Electrical connection Thread / Nut d
0.025	65	296	14000	350	0.24	60	130	M6
0.33	65	296	14000	462	0.31	55	130	M6
0.05	65	296	14000	700	0.39	50	130	M6
0.75	90	296	14000	1050	0.6	40	130	M6
0.1	90	296	14000	1400	0.8	36	130	M6
0.12	90	296	14000	1680	0.96	30	130	M6
0.15	90	296	14000	2100	1.08	30	130	M6

STHVF Specifications and Size : 5000Vac / 30000Vdc

Capacitance uF	Diameter D mm	Length L mm	dv/dt v/us	I _{peak} A 105C	I _{rms} 100kHz 100C	ESR mohm 100khz	ESL nH	Electrical connection Thread / Nut d
0.025	65	296	18500	463	0.28	60	130	M6
0.33	65	296	18500	610	0.35	55	130	M6
0.05	90	296	18500	925	0.49	50	130	M6
0.1	90	296	18500	1850	0.86	40	130	M6
0.12	90	296	18500	2220	1.02	30	130	M6

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)

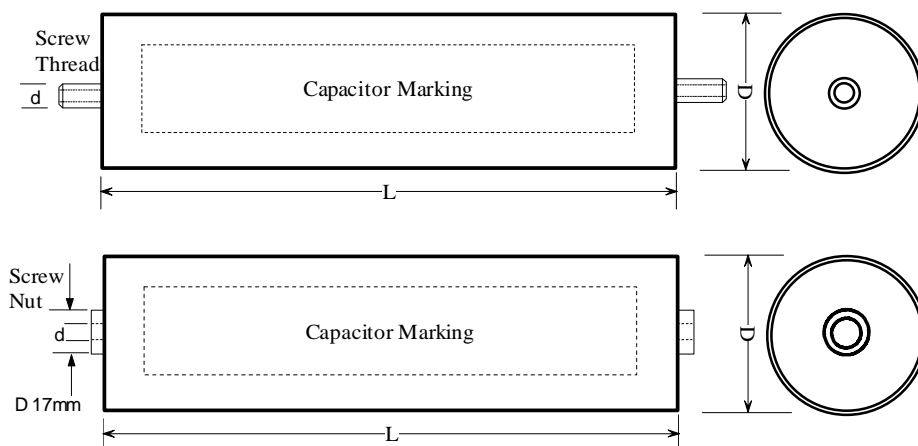
Insulation Resistance : > 260,000 Mohm at 1kV +105C

Low ESR and series Inductance

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

2.3 High Voltage Energy Storage Capacitors : STHVE series

Applications :

- Capacitor can be discharged at rated voltage directly without any protective component at 105C
- High Voltage Energy Storage and Discharge
- 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 or X-Ray
- High Voltage Power Supplies
- for high voltage capacitor bank or array
- Higher Voltage and dv/dt when compare with **STHVI** series



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

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 :

10,000Vdc	12,000Vdc	15,000Vdc	20,000Vdc
2000Vac	2400Vac	3000Vac	3300Vac

Capacitance : 0.033uF ~ 0.6uF

RMS Current – Irms up to 7.3A

peak discharge current - I peak : up to 1700A

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

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

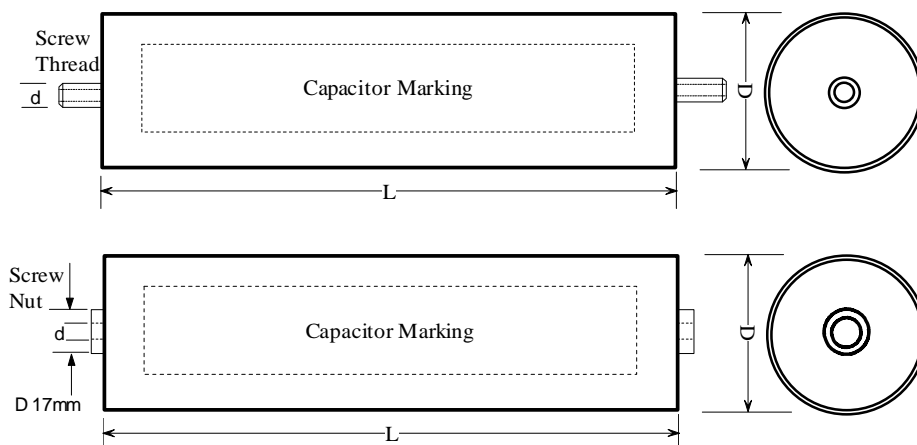
Insulation Resistance : > 260,000 Mohm at 1kV +105C

Low ESR and series Inductance

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

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

Drawing :



STHVE Specifications and Size : 10,000Vdc / 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
0.05	65	135	7700	385	1.8	23	17	M6
0.075	65	135	7700	577	2.1	23	17	M6
0.1	65	135	7700	770	2.7	15	17	M6
0.12	65	135	7700	924	3.3	15	17	M6
0.15	65	215	4300	645	3.5	13	20	M6
0.2	65	215	4300	860	4.15	13	20	M6
0.25	65	215	4300	1075	4.6	13	20	M6
0.3	65	215	4300	1290	5.5	13	20	M6
0.33	65	215	4300	1419	6.1	13	20	M6
0.47	65	245	3400	1598	6.0	13	22	M6
0.5	65	245	3400	1700	7.3	13	22	M6
0.6	65	285	2600	1560	6.8	13	24	M6

STHVE Specifications and Size : 12,000Vdc / 2400Vac

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	170	13120	656	2.5	26	19	M6
0.075	65	170	13120	984	2.85	24	19	M6
0.1	65	170	13120	1312	3.75	24	19	M6
0.12	65	215	7200	864	3.4	22	20	M6
0.15	65	215	7200	1080	4.2	22	20	M6
0.2	65	245	5788	1157	3.9	20	22	M6
0.25	65	285	4470	1117	4.3	20	24	M6
0.3	65	285	4470	1341	5.1	20	24	M6

STHVE Specifications and Size : 15,000Vdc / 3000Vac

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	205	16400	820	2.7	30	21	M6
0.075	65	205	16400	1230	3.3	30	21	M6
0.082	65	260	9000	738	2	25	22	M6
0.1	65	260	9000	900	2.4	25	22	M6
0.12	65	260	9000	1080	4.2	25	22	M6
0.15	65	295	7200	1080	3.3	23	24	M6

STHVE Specifications and Size : 20,000Vdc / 3300Vac

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
0.033	65	240	18000	594	2.1	34	25	M6
0.05	65	240	18000	900	3.1	34	25	M6
0.056	65	240	18000	1008	3.5	34	25	M6
0.075	65	295	10000	750	2.8	32	28	M6
0.082	65	295	10000	820	3.2	32	28	M6
0.1	65	295	10000	1000	3.85	32	28	M6

For the other Capacitance value, Voltage, Dimension, RMS Current, dv/dt, high peak current that not listed above, please contact us for a design suited to your particular needs.