

## 2.2 High Voltage Pulse Capacitors : STHVP series

### Applications :

- High Voltage Energy and Current Discharge
- Medium Frequency range and RMS Current rating
- AC / DC voltage application
- Capacitor can be discharged at rated voltage directly without any protective component even at 105C
- High Voltage Decoupling and Snubbing
- Voltage Multiplier
- Induction heating
- act as discharge capacitor to trigger laser, X-Ray and Tesla Coil
- for high voltage capacitor bank or array
- High Voltage Power Supplies

### Features :

- 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 :

5000Vdc	6000Vdc	8000Vdc	10000Vdc	12000Vdc	15000Vdc	20000Vdc	20000Vdc
2000Vac	2300Vac	2500Vac	3000Vac	3500Vac	4000Vac	2100Vac	5500Vac

**Capacitance** : 0.033uF - 2.2uF

**Ripple RMS Current** – Irms up to 65A

**peak discharge current** - I peak : up to 14500A

**Tolerance** : +/-10%, +/-5% at 22C 1kHz

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

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

#### Low ESR and series Inductance

**Temperature range** : -25C to +70C

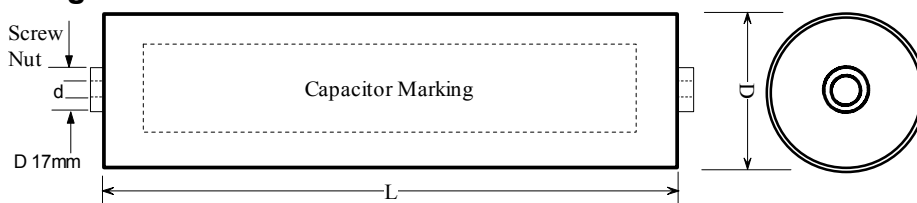
-25C to +85C

-40C to +105C ( depends on capacitor raw materials )

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



### Drawing :



**STHVP Specifications and Size : 5000Vdc / 2000Vac**

Capacitance uF	Diameter D mm	Length L Mm	ESR mohm 100khz	dv/dt v/us	Peak Current I <sub>peak</sub> A	Irms 45C	Irms 55C	Irms 85C	Irms max. 105C	d (mm)
0.68	65	147	4.5	1380	938	18	16.5	14	14	M6
1	65	147	4.0	1380	1380	27	25	20	20	M6
1.2	65	147	4.0	1380	1656	33	30	25	25	M6
1.5	90	147	3.5	1380	2070	40	37	30	30	M6
2.2	90	147	3.0	1380	3036	60	55	45	45	M8

**STHVP Specifications and Size : 6000Vdc / 2300Vac**

Capacitance uF	Diameter D mm	Length L Mm	ESR mohm 100khz	dv/dt v/us	Peak Current I <sub>peak</sub> A	Irms 45C	Irms 55C	Irms 85C	Irms max. 105C	d (mm)
0.22	65	92	4.5	4400	968	22	20	16.5	7	M6
0.33	65	92	4.0	4400	1452	33	30	25	8	M6
0.47	90	92	4.0	4400	2068	45	40	35	13	M6
0.68	90	92	3.5	4400	2992	65	60	50	20	M8
0.68	65	147	4.5	2160	1468	35	30	25	12	M6
1	90	147	4.0	2160	2160	50	45	35	15	M6
1.2	90	147	4.0	2160	2592	60	55	45	18	M6
1.5	90	147	3.5	2160	3240	65	60	55	22	M6

**STHVP Specifications and Size : 8000Vdc / 2500Vac**

Capacitance uF	Diameter D mm	Length L Mm	ESR mohm 100khz	dv/dt v/us	Peak Current I <sub>peak</sub> A	Irms 45C	Irms 55C	Irms 85C	Irms max. 105C	d (mm)
0.2	65	92	4.0	7000	1400	25	20	16	8	M6
0.22	65	92	4.0	7000	1540	25	20	20	10	M6
0.25	65	92	4.0	7000	1750	30	25	20	12	M6
0.33	65	147	4.5	3600	1188	20	18	15	10	M6
0.4	65	147	4.0	3600	1440	25	20	18	12	M6
0.5	65	147	4.0	3600	1800	30	25	25	20	M6
0.68	90	147	4.0	3600	2448	40	35	30	20	M6
1	90	147	3.5	3600	3600	60	55	45	25	M6

**STHVP Specifications and Size : 10000Vdc / 3000Vac**

Capacitance uF	Diameter D mm	Length L Mm	ESR mohm 100khz	dv/dt v/us	Peak Current I <sub>peak</sub> A	Irms 45C	Irms 55C	Irms 85C	Irms max. 105C	d (mm)
0.1	65	183	5.0	8000	800	18	16	12	8	M6
0.12	65	183	5.0	8000	960	22	16	15	10	M6
0.15	65	183	5.0	8000	1200	23	20	15	10	M6
0.2	65	183	5.0	8000	1600	25	22	18	12	M6
0.22	65	183	5.0	8000	1760	25	22	18	12	M6
0.25	65	183	4.5	8000	2000	30	25	18	12	M6
0.3	90	183	4.5	8000	2400	35	30	23	16	M6
0.33	65	183	4.5	8000	2640	40	35	25	18	M6
0.4	90	183	4.0	8000	3200	40	35	25	18	M6
0.47	90	183	4.0	8000	3760	55	50	40	27	M6
0.5	90	183	3.5	8000	4000	55	50	40	27	M6
0.68	90	183	3.5	8000	5440	65	60	45	30	M6
1	90	273	3.5	4000	4000	55	50	40	27	M6

**STHVP Specifications and Size : 12000Vdc / 3500Vac**

Capacitance uF	Diameter D mm	Length L Mm	ESR mohm 100khz	dv/dt v/us	Peak Current I <sub>peak</sub> A	Irms 45C	Irms 55C	Irms 85C	Irms max. 105C	d (mm)
0.05	65	183	4.0	8800	440	13	10	4.5	3.5	M6
0.1	65	183	4.0	8800	880	24	20	10	7	M6
0.12	65	183	4.0	8800	1056	28	25	10	8	M6
0.15	65	183	4.0	8800	1320	28	25	13	8	M6
0.22	90	183	4.0	8800	1936	45	40	20	13	M6
0.25	90	183	4.0	8800	2200	50	45	22	15	M6
0.33	90	183	3.5	8800	2904	50	45	30	20	M6
0.5	65	273	3.5	4400	2200	50	45	22	15	M6
0.75	90	273	3.5	4400	3300	65	60	35	22	M6

**STHVP Specifications and Size : 15000Vdc / 4000Vac**

Capacitance uF	Diameter D mm	Length L Mm	ESR mohm 100khz	dv/dt v/us	Peak Current I <sub>peak</sub> A	Irms 45C	Irms 55C	Irms 85C	Irms max. 105C	d (mm)
0.05	65	264	5.0	9000	450	13	10	6.5	5	M6
0.068	65	264	5.0	9000	612	18	13	6.5	5	M6
0.075	65	264	4.5	9000	675	20	15	13	8	M6
0.1	65	264	4.5	9000	900	20	17	13	8	M6
0.12	65	264	4.5	9000	1080	30	25	15	10	M6
0.15	65	264	4.5	9000	1350	30	25	15	10	M6
0.2	65	264	4.0	9000	1800	40	35	15	14	M6
0.25	90	264	4.0	9000	2250	50	45	30	18	M6
0.3	90	264	3.5	9000	2700	50	45	30	20	M6
0.33	90	264	3.5	9000	2970	55	50	30	22	M6

**STHVP Specifications and Size : 20000Vdc / 2100Vac**

Capacitance uF	Diameter D mm	Length L Mm	ESR mohm 100khz	dv/dt v/us	Peak Current I <sub>peak</sub> A	Irms 55C	Irms 70C	Irms 85C	Irms max. 105C	d (mm)
0.033	65	220	18	11000	363	5.5	3.5	3	2	M6
0.050	65	220	18	11000	550	8	5.5	4	3	M6
0.075	65	295	18	6000	450	6.5	4.5	3.5	2.5	M6
0.1	65	295	15	6000	600	9	6	5	3	M6

**STHVP Specifications and Size : 20000Vdc / 5500Vac**

Capacitance uF	Diameter D mm	Length L Mm	ESR mohm 100khz	dv/dt v/us	Peak Current I <sub>peak</sub> A	Irms 45C	Irms 55C	Irms 85C	Irms max. 105C	d (mm)
0.05	65	264	5.0	14500	725	13	10	5.5	4.5	M6
0.068	65	264	5.0	14500	986	17	13	7	5.5	M6
0.075	65	264	4.5	14500	1088	18	15	8	6.5	M6
0.1	90	264	4.5	14500	1450	25	20	10	8	M6
0.12	90	264	4.0	14500	1740	30	25	13	10	M6
0.15	90	264	3.5	14500	2175	35	30	15	12	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.