

## 2.1 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 with temperature up to 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, especially high voltage application.
- Dry construction : Epoxy Resin end seal and doesn't have impregnant 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 :

**Rated Voltage** : 2,500Vdc – 23KVdc / 1,000Vac – 7,000Vac

**Capacitance** : 0.033uF – 1.0uF

**Ripple RMS Current** – Irms up to 95A

**peak discharge current** - I peak : up to 5400A

**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

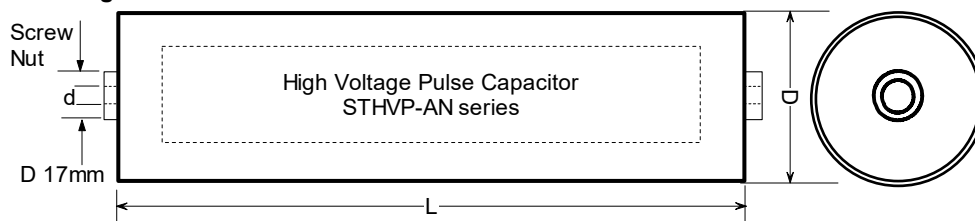
**Temperature range** : +45C / +55 / +70C / +85C / +105C ( depends on capacitor raw materials )

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



### Drawing :

Drawing : STHVP-AN series



### STHVP-AN : 2500Vdc / 1000Vac

P/N	Cn uF	Diameter D mm	Length L mm	dv/dt v/us	Peak Current I <sub>p-p</sub> A	ESL nH	ESR (mohm) 100KHz	Amp 70C	Amp 85C	Amp 105C
STHVP-AN504K2500D	0.5	65	57	1104	552	7.5	3.00	16	14	8
STHVP-AN684K2500D	0.68	65	57	1104	751	7.5	2.70	22	19	11
STHVP-AN105K2500D	1	65	57	1104	1104	7.5	2.40	32	28	17
STHVP-AN125K2500D	1.2	90	57	1104	1325	7.5	2.10	39	34	21
STHVP-AN155K2500D	1.5	90	57	1104	1656	7.5	1.90	48	42	25

For any Capacitance, Voltage, RMS Current, dv/dt and Peak Pulse Discharge Current not listed, please contact us for a suggestion.

**STHVP-AN : 3400Vdc / 1350Vac**

P/N	Cn uF	Diameter D mm	Length L mm	dv/dt v/us	Peak Current I <sub>p-p</sub> A	ESL nH	ESR (mohm) 100KHz	Amp 70C	Amp 85C	Amp 105C
STHVP-AN504K3400D	0.5	65	100	1690	845	20	2.50	31	27	16
STHVP-AN684K3400D	0.68	65	100	1011	687	20	2.20	32	29	17
STHVP-AN105K3400D	1	65	100	1011	1011	20	2.00	44	39	23
STHVP-AN125K3400D	1.2	90	100	1011	1213	20	1.80	60	52	31
STHVP-AN155K3400D	1.5	90	100	1011	1516	20	1.60	75	66	39

**STHVP-AN : 4500Vdc / 1800Vac**

P/N	Cn uF	Diameter D mm	Length L mm	dv/dt v/us	Peak Current I <sub>p-p</sub> A	ESL nH	ESR (mohm) 100KHz	Amp 70C	Amp 85C	Amp 105C
STHVP-AN334K4500D	0.33	65	100	2886	952	20	3.30	21	18	11
STHVP-AN504K4500D	0.5	65	100	1690	845	20	3.00	31	27	16
STHVP-AN684K4500D	0.68	65	100	1690	1149	20	2.60	42	37	22
STHVP-AN105K4500D	1	90	100	1690	1690	20	2.30	56	49	29
STHVP-AN125K4500D	1.2	90	100	1690	2028	20	1.80	75	66	39

**STHVP-AN : 5300Vdc / 2100Vac**

P/N	Cn uF	Diameter D mm	Length L mm	dv/dt v/us	Peak Current I <sub>p-p</sub> A	ESL nH	ESR (mohm) 100KHz	Amp 70C	Amp 85C	Amp 105C
STHVP-AN224K5300D	0.22	65	100	2886	635	20	4.00	18	16	10
STHVP-AN254K5300D	0.25	65	100	2327	582	20	3.60	19	17	10
STHVP-AN334K5300D	0.33	65	100	2327	768	20	3.30	25	22	13
STHVP-AN504K5300D	0.5	65	100	2327	1163	20	3.00	37	33	20
STHVP-AN684K5300D	0.68	90	100	2327	1582	20	2.60	51	45	27

**STHVP-AN : 6000Vdc / 2300Vac**

Part Number	Cn uF	Diameter D mm	Length L mm	ESR mohm 100khz	dv/dt v/us	Peak Current I <sub>peak</sub> A	I <sub>rms</sub> 45C	I <sub>rms</sub> 55C	I <sub>rms</sub> 85C	I <sub>rms</sub> max. 105C	d (mm)
STHVP-AN224K6000D	0.22	65	96	4.5	4400	968	22	20	16.5	7	M6
STHVP-AN334K6000D	0.33	65	96	4.0	4400	1452	33	30	25	8	M6
STHVP-AN474K6000D	0.47	90	96	4.0	4400	2068	45	40	35	13	M6
STHVP-AN684K6000D	0.68	90	96	3.5	4400	2992	65	60	50	20	M8

**STHVP-AN : 6000Vdc / 2300Vac**

P/N	Cn uF	Diameter D mm	Length L mm	dv/dt v/us	Peak Current I <sub>p-p</sub> A	ESL nH	ESR (mohm) 100KHz	Amp 70C	Amp 85C	Amp 105C
STHVP-AN224K6000D-V1	0.22	65	175	4337	954	30	6.0	28.4	24.5	17.6
STHVP-AN254K6000D	0.25	65	175	3577	894	30	5.4	30.0	25.0	18.0
STHVP-AN304K6000D	0.3	65	175	3577	1073	30	5.0	36.0	30.0	21.6
STHVP-AN334K6000D-V1	0.33	65	175	2406	794	30	4.7	35.1	29.3	21.1
STHVP-AN504K6000D	0.5	65	175	1519	760	30	4.0	37.9	33.3	23.9
STHVP-AN754K6000D	0.75	65	175	1519	1139	30	3.6	57.0	50.0	36.0
STHVP-AN105K6000D	1	90	175	1519	1519	30	3.2	76.1	66.8	48.1
STHVP-AN125K6000D	1.2	90	175	1519	1823	30	2.5	91.2	80.0	57.6
STHVP-AN1255K6000D	1.25	90	175	1519	1899	30	2.0	95.2	83.5	60.1

**STHVP-AN : 6000Vdc / 2600Vac**

P/N	Cn uF	Diameter D mm	Length L mm	dv/dt v/us	Peak Current I <sub>p-p</sub> A	ESL nH	ESR (mohm) 100KHz	Amp 70C	Amp 85C	Amp 105C
STHVP-AN224K6000D-V2	0.22	65	100	2886	635	20	4.00	18	16	10
STHVP-AN254K6000D-V1	0.25	65	100	2886	721	20	3.40	21	18	11
STHVP-AN334K6000D-V2	0.33	65	100	2886	952	20	3.00	27	24	14
STHVP-AN504K6000D-V1	0.5	90	100	2886	1443	20	2.70	41	36	22
STHVP-AN684K6000D-V1	0.68	90	100	2886	1962	20	2.10	56	50	30

For any Capacitance, Voltage, RMS Current, dv/dt and Peak Pulse Discharge Current not listed, please contact us for a suggestion.

**STHVP-AN : 7000Vdc / 2800Vac**

P/N	Cn uF	Diameter D mm	Length L mm	dv/dt v/us	Peak Current I <sub>p-p</sub> A	ESL nH	ESR (mohm) 100KHz	Amp 70C	Amp 85C	Amp 105C
STHVP-AN224K7000D	0.22	65	175	4417	972	30	6.0	28	25	18
STHVP-AN254K7000D	0.25	65	175	3562	890	30	5.4	30	25	18
STHVP-AN304K7000D	0.3	65	175	3562	1069	30	5.0	36	30	22
STHVP-AN334K7000D	0.33	65	175	3562	1175	30	4.0	40	33	24
STHVP-AN504K7000D	0.5	65	175	2127	1063	30	3.6	44	39	28
STHVP-AN684K7000D	0.68	90	175	2127	1446	30	3.2	60	53	38
STHVP-AN754K7000D	0.75	90	175	2127	1595	30	2.9	67	59	42
STHVP-AN105K7000D	1	90	175	2127	2127	30	2.6	86	76	55

**STHVP-AN : 9000Vdc / 3600Vac**

P/N	Cn uF	Diameter D mm	Length L mm	dv/dt v/us	Peak Current I <sub>p-p</sub> A	ESL nH	ESR (mohm) 100KHz	Amp 70C	Amp 85C	Amp 105C
STHVP-AN224K9000D	0.22	65	175	4016	883	30	6.0	28	25	18
STHVP-AN254K9000D	0.25	65	175	3238	809	30	4.8	33	28	20
STHVP-AN304K9000D	0.3	65	175	3238	971	30	3.4	36	30	22
STHVP-AN334K9000D	0.33	65	175	3238	1069	30	3.2	40	33	24
STHVP-AN504K9000D	0.5	90	175	3238	1619	30	3.0	60	50	36

**STHVP-AN : 10000Vdc / 3000Vac**

Part Number	Cn 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)
STHVP-AN154K10KD	0.15	65	183	5.0	8000	1200	23	20	15	10	M6
STHVP-AN204K10KD	0.2	65	183	5.0	8000	1600	25	22	18	12	M6
STHVP-AN224K10KD	0.22	65	183	5.0	8000	1760	25	22	18	12	M6
STHVP-AN254K10KD	0.25	65	183	4.5	8000	2000	30	25	18	12	M6
STHVP-AN304K10KD	0.3	90	183	4.5	8000	2400	35	30	23	16	M6
STHVP-AN334K10KD	0.33	65	183	4.5	8000	2640	40	35	25	18	M6
STHVP-AN404K10KD	0.4	90	183	4.0	8000	3200	40	35	25	18	M6
STHVP-AN474K10KD	0.47	90	183	4.0	8000	3760	55	50	40	27	M6
STHVP-AN504K10KD	0.5	90	183	3.5	8000	4000	55	50	40	27	M6
STHVP-AN684K10KD	0.68	90	183	3.5	8000	5440	65	60	45	30	M6

**STHVP-AN : 10000Vdc / 4000Vac**

P/N	Cn uF	Diameter D mm	Length L mm	dv/dt v/us	Peak Current I <sub>p-p</sub> A	ESL nH	ESR (mohm) 100KHz	Amp 70C	Amp 85C	Amp 105C
STHVP-AN224K10KD-V1	0.22	65	175	4417	972	30	6.0	28	25	18
STHVP-AN254K10KD-V1	0.25	65	175	4417	1104	30	4.8	32	28	20
STHVP-AN304K10KD-V1	0.3	90	175	4417	1325	30	3.3	39	33	24
STHVP-AN334K10KD-V1	0.33	90	175	4417	1458	30	3.0	43	37	26

**STHVP-AN : 12000Vdc / 3500Vac**

Part Number	Cn 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)
STHVP-AN154K12KD	0.15	65	183	4.0	8800	1320	28	25	13	8	M6
STHVP-AN224K12KD	0.22	90	183	4.0	8800	1936	45	40	20	13	M6
STHVP-AN254K12KD	0.25	90	183	4.0	8800	2200	50	45	22	15	M6
STHVP-AN334K12KD	0.33	90	183	3.5	8800	2904	50	45	30	20	M6

**STHVP-AN : 12000Vdc / 5000Vac**

P/N	Cn uF	Diameter D mm	Length L mm	dv/dt v/us	Peak Current I <sub>p-p</sub> A	ESL nH	ESR (mohm) 100KHz	Amp 70C	Amp 85C	Amp 105C
STHVP-AN154K12KD-V1	0.15	65	215	5521	828	40	6.1	24	21	15
STHVP-AN204K12KD	0.2	65	215	5521	1104	40	5.8	32	28	20
STHVP-AN224K12KD-V1	0.22	90	215	5521	1215	40	5.5	35	31	22
STHVP-AN254K12KD-V1	0.25	90	215	5521	1380	40	5.2	41	35	25
STHVP-AN304K12KD	0.3	90	215	5521	1656	40	4.9	48	42	30
STHVP-AN334K12KD-V1	0.33	90	215	5521	1822	40	4.7	53	46	33

For any Capacitance, Voltage, RMS Current, dv/dt and Peak Pulse Discharge Current not listed, please contact us for a suggestion.

**STHVP-AN : 13000Vdc / 3000Vac +85C**

P/N	Cn uF	Diameter D mm	Length L mm	dv/dt v/us	Peak Current I <sub>p-p</sub> A	ESL nH	ESR (mohm) 100KHz	Amp 85C
STHVP-AN504K13KD	0.5	90	535	2700	1350	230	30	62

**STHVP-AN : 15000Vdc / 4000Vac**

Part Number	Cn 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)
STHVP-AN104K15KD	0.1	65	264	4.5	9000	900	20	17	13	8	M6
STHVP-AN124K15KD	0.12	65	264	4.5	9000	1080	30	25	15	10	M6
STHVP-AN154K15KD	0.15	65	264	4.5	9000	1350	30	25	15	10	M6
STHVP-AN204K15KD	0.2	65	264	4.0	9000	1800	40	35	15	14	M6
STHVP-AN254K15KD	0.25	90	264	4.0	9000	2250	50	45	30	18	M6
STHVP-AN304K15KD	0.3	90	264	3.5	9000	2700	50	45	30	20	M6
STHVP-AN334K15KD	0.33	90	264	3.5	9000	2970	55	50	30	22	M6

**STHVP-AN : 15000Vdc / 6000Vac**

P/N	Cn uF	Diameter D mm	Length L mm	dv/dt v/us	Peak Current I <sub>p-p</sub> A	ESL nH	ESR (mohm) 100KHz	Amp 70C	Amp 85C	Amp 105C
STHVP-AN104K15KD-V1	0.1	65	250	6626	663	45	6.4	19	17	12
STHVP-AN124K15KD-V1	0.12	65	250	6626	795	45	6.1	23	20	14
STHVP-AN154K15KD-V1	0.15	90	250	6626	994	45	5.8	29	25	18
STHVP-AN204K15KD-V1	0.2	90	250	6626	1325	45	5.5	39	33	24
STHVP-AN224K15KD	0.22	90	250	6626	1458	45	5.5	43	37	26
STHVP-AN254K15KD-V1	0.25	90	250	6626	1656	45	5.4	48	42	30
STHVP-AN304K15KD-V1	0.3	90	250	6626	1988	45	5.1	58	50	36
STHVP-AN334K15KD-V1	0.33	90	250	6626	2186	45	5.1	64	55	40

**STHVP-AN : 17000Vdc / 7000Vac**

P/N	Cn uF	Diameter D mm	Length L mm	dv/dt v/us	Peak Current I <sub>p-p</sub> A	ESL nH	ESR (mohm) 100KHz	Amp 70C	Amp 85C	Amp 105C
STHVP-AN104K17KD	0.1	65	296	7730	773	50	6.7	23	20	14
STHVP-AN124K17KD	0.12	65	296	7730	928	50	6.4	27	24	17
STHVP-AN154K17KD	0.15	90	296	7730	1160	50	6.2	34	29	21
STHVP-AN204K17KD	0.2	90	296	7730	1546	50	6.0	45	39	28
STHVP-AN224K17KD	0.22	90	296	7730	1701	50	5.8	50	43	31
STHVP-AN254K17KD	0.25	90	296	7730	1933	50	5.6	57	49	35

**STHVP-AN : 18000Vdc / 4500Vac +85C**

P/N	Cn uF	Diameter D mm	Length L mm	dv/dt v/us	Peak Current I <sub>p-p</sub> A	ESL nH	ESR (mohm) 100KHz	Amp 85C
STHVP-AN154K18KD	0.15	75	450	6200	930	200	22	32

**STHVP-AN : 20000Vdc / 2100Vac**

Part Number	Cn 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)
STHVP-AN332K20KD	0.033	65	220	18	11000	363	5.5	3.5	3	2	M6
STHVP-AN502K20KD	0.050	65	220	18	11000	550	8	5.5	4	3	M6
STHVP-AN752K20KD	0.075	65	295	18	6000	450	6.5	4.5	3.5	2.5	M6
STHVP-AN104K20KD	0.1	65	295	15	6000	600	9	6	5	3	M6

**STHVP-AN : 23000Vdc / 7000Vac +85C**

P/N	Cn uF	Diameter D mm	Length L mm	dv/dt v/us	Peak Current I <sub>p-p</sub> A	ESL nH	ESR (mohm) 100KHz	Amp 85C
STHVP-AN104K23KD	0.1	75	450	9300	930	200	25	30

**STHVP-AN : 28000Vdc / 8500Vac +85C**

P/N	Cn uF	Diameter D mm	Length L mm	dv/dt v/us	Peak Current I <sub>p-p</sub> A	ESL nH	ESR (mohm) 100KHz	Amp 85C
STHVP-AN124K28KD	0.12	90	540	11000	1300	250	35	39