

### 3.5 Snubber Capacitors – IGBT SMKP2 series

#### Applications :

For protection against voltage and current transients in IGBT modules and applications where high dv/dt is encountered

#### Construction :

- Low inductance construction
- Flame retardant plastic case and Epoxy Resin UL94-V0
- High Current carrying capacity Tinned Terminals for direct mounting the capacitor to IGBT module
- other Terminals also available



#### Electrical Characteristics :

Capacitance : 0.1uF - 3uF at 1kHz +25C

Capacitance Tolerance : +/-5%(J), +/-10% (K)

Rated Voltage Ur	1000Vdc	1200Vdc	1600Vdc	2000Vdc
	500Vac	550Vac	630Vac	650Vac

**Test Voltage :** between Terminals : 1.6xUr Vdc 60s +85C / +105C  
Terminals to Case: 3kVac 60s at +25C / +105C

**Ripple RMS Current :** up to 39A

**Dissipation Factor :** <math> < 5 \times 10^{-4}</math> at 1kHz +25C

**Rated Temperature :** +85C / +105C

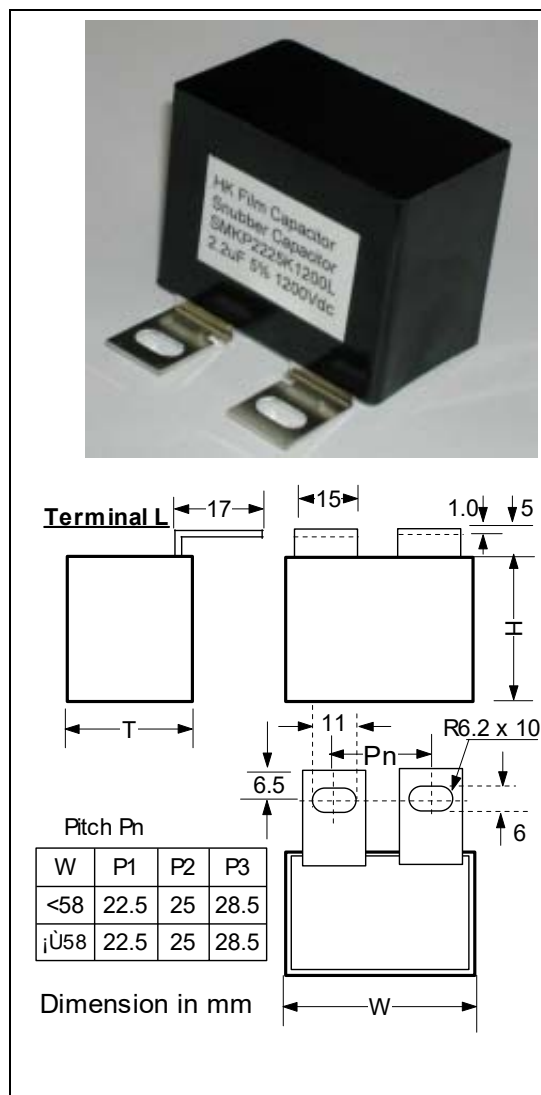
**Service Life :** 30,000 hours at rated Vac 70C  
60,000 hours at rated Vdc 70C

**Accelerated Life :** 1.25 x rated Vac at 85C for 3,000 hours  
1.25 x rated Vac at 105C for 2,000 hours

**Equivalent Series Resistance ESR :** see item table

**Equivalent Series Inductance ESL :** < 22nH

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



#### Specifications and Size :

Part Number	Cap	Voltage		dV/dt V/us	Ipeak A	ESR 100kHz 25C m ohm	I <sub>rms</sub> 55C A	Dimension mm +/-1mm
	uF	Vdc	Vac					W x H x T
SMKP2-154X1000DL	0.15	1000	500	800	120	9.1	8.0	45 x 32 x 22
SMKP2-224X1000DL	0.22			800	170	8.5	9.0	45 x 32 x 22
SMKP2-334X1000DL	0.33			800	260	7.6	11	45 x 32 x 22
SMKP2-474X1000DL	0.47			480	220	7.1	12	45 x 32 x 22
SMKP2-564X1000DL	0.56			480	270	6.9	14	45 x 32 x 22
SMKP2-684X1000DL	0.68			480	320	6.3	14	45 x 32 x 22
SMKP2-754X1000DL	0.75			480	360	5.6	15	45 x 32 x 22
SMKP2-105X1000DL	1.0			480	480	4.4	17	51 x 36 x 25
SMKP2-125X1000DL	1.2			480	570	3.6	19	51 x 36 x 25
SMKP2-155X1000DL	1.5			480	720	2.7	21	51 x 40 x 30
SMKP2-205X1000DL	2.0			320	640	2.5	25	59 x 45 x 35
SMKP2-225X1000DL	2.2			320	700	2.4	27	59 x 45 x 35
SMKP2-305X1000DL	3.0			320	960	2.2	29	59 x 45 x 35

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

## Specifications and Size

Part Number	Cap	Voltage		dV/dt	Ipeak	ESR 100kHz 25C	Irms 55C	Dimension mm +/-1mm
	uF	Vdc	Vac	V/us	A	m ohm	A	W x H x T
SMKP2-154X1200DL	0.15	1200	550	900	130	9.1	8	45 x 32 x 22
SMKP2-224X1200DL	0.22			900	200	8.5	11	45 x 32 x 22
SMKP2-334X1200DL	0.33			900	300	7.6	11	45 x 32 x 22
SMKP2-474X1200DL	0.47			550	250	7.1	13	45 x 32 x 22
SMKP2-564X1200DL	0.56			550	300	6.9	14	45 x 32 x 22
SMKP2-684X1200DL	0.68			550	370	6.3	15	45 x 32 x 22
SMKP2-754X1200DL	0.75			550	410	5.6	17	51 x 36 x 25
SMKP2-105X1200DL	1.0			550	550	4.4	18	51 x 36 x 25
SMKP2-125X1200DL	1.2			550	660	3.6	21	51 x 40 x 30
SMKP2-155X1200DL	1.5			550	820	2.7	23	51 x 40 x 30
SMKP2-205X1200DL	2.0			350	700	2.5	28	59 x 45 x 35
SMKP2-225X1200DL	2.2			350	770	2.4	29	59 x 45 x 35
SMKP2-305X1200DL	3.0			350	1000	2.1	32	59 x 45 x 35
SMKP2-104X1600DL	0.1	1600	630	1000	100	10	9	45 x 32 x 22
SMKP2-154X1600DL	0.15			1000	150	8	11	45 x 32 x 22
SMKP2-224X1600DL	0.22			1000	220	7.5	13	45 x 32 x 22
SMKP2-334X1600DL	0.33			800	260	7.0	14	51 x 36 x 25
SMKP2-474X1600DL	0.47			800	370	6.6	16	51 x 36 x 25
SMKP2-564X1600DL	0.56			800	450	6.2	18	58 x 37 x 32
SMKP2-684X1600DL	0.68			800	540	6.0	19	58 x 37 x 32
SMKP2-754X1600DL	0.75			500	370	5.8	20	58 x 37 x 32
SMKP2-105X1600DL	1.0			500	500	3.2	24	58 x 37 x 32
SMKP2-125X1600DL	1.2			500	600	2.8	25	59 x 45 x 35
SMKP2-104X2000DL	0.1	2000	650	1100	110	8	10	45 x 32 x 22
SMKP2-154X2000DL	0.15			1100	160	7.5	11	45 x 32 x 22
SMKP2-224X2000DL	0.22			850	180	7	14	45 x 32 x 22
SMKP2-334X2000DL	0.33			850	280	6.4	17	51 x 36 x 25
SMKP2-474X2000DL	0.47			850	400	6	19	51 x 40 x 30
SMKP2-564X2000DL	0.56			600	330	5.5	21	58 x 37 x 32
SMKP2-684X2000DL	0.68			600	400	5.0	24	59 x 45 x 35
SMKP2-754X2000DL	0.75			600	450	4.2	25	59 x 45 x 35

Where X is for Capacitance tolerance : J for +/-5%, K for +/-10% and M for +/-20%

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