

# K19 TYPE -55°C +105°C 4000H

- Design optimized for low equivalent series resistance and high ripple current.
- Surge-proof capacitor in aluminium can with insulation sleeve.
- To be mounted with ring clips or with threaded stud.

## APPLICATIONS

Designed for professional application. Switch mode power suppliers, high ripple current converters, motor drives.

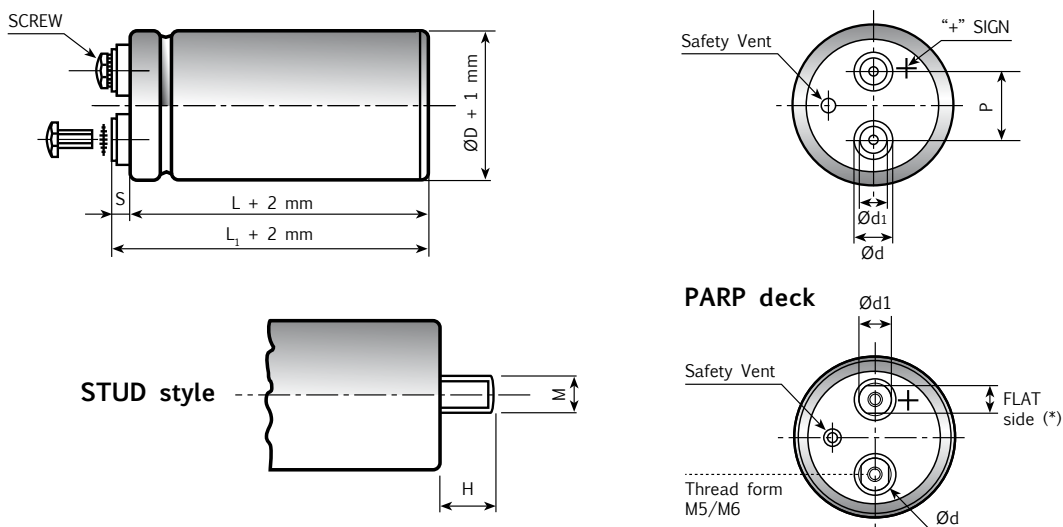


Diagram of dimensions (unit=mm)  
Insert and screw threads: Metric (mm), UNF (inches)

ØD	d	d1	P	STUD		INSERT	SCREW	L1	-L[-1+3]	S[-1+1]	INSERT STYLE CODE
				M	H						
35	11	7.9	12.7	M8	12	M5	5MA x 9.5	2.5		5	0
51	18.5	13	22.7	M12	16	M5	5MA x 9.5	2.5		5	H
63	18.5	13	28.6	M12	16	M5	5MA x 9.5	2.5		5	H
63	17.3	17.3	28.6	M12	16	UNF 1/4-28 Low Post	1/4-28 x 3/8"	3		4	W
63	17.3	17.3	28.6	M12	16	UNF 1/4-28 High Post	1/4-28 x 1/2"	6		7	R
63	7.9	7.9	28.6	M12	16	UNF 10-32 Low Post	10-32 x 1/4"	2		2.5	Z
63	12	7.9	28.6	M12	16	UNF 10-32 High Post	10-32 x 3/8"	6		7	U
76	18.5	13	31.8	M12	16	M5	5MA x 9.5	2.5		5	H
76	18.5	13	31.8	M12	16	M5	5MA x 9.5	2.5		7	L
76	23.2	17.7	31.8	M12	16	M6	6MA x 10	4.5		7	6
76	17.3	17.3	31.8	M12	16	UNF 1/4-28 Low Post	1/4-28 x 3/8"	3		4	W
76	17.3	17.3	31.8	M12	16	UNF 1/4-28 High Post	1/4-28 x 1/2"	6		7	R
76	7.9	7.9	31.8	M12	16	UNF 10-32 Low Post	10-32 x 1/4"	2		2.5	Z
76	12	7.9	31.8	M12	16	UNF 10-32 High Post	10-32 x 3/8"	6		7	U
90	23.2	17.7	31.8	M12	16	M6	6MA x 10	4.5		7	H
51	13	13 (10)*	22.7	M12	16	PARP M5	5MA x 9.5	6		7	K
63	15	15 (13)*	28.6	M12	16	PARP M5	5MA x 9.5	6		7	K
76	19	15 (13)*	31.8	M12	16	PARP M5	5MA x 9.5	6		7	K
76	19	15 (13)*	31.8	M12	16	PARP M6	6MA x 10	6		7	Q
90	19	15 (13)*	31.8	M12	16	PARP M6	6MA x 10	6		7	Q

Note: (\*) quote on the PARP deck of the flat side (PARP = Protection Against Reverse Polarity).

## K19 TYPE SPECIFICATIONS

<b>Temperature Range</b>	Operating: -55°C +105°C [Environmental classification 55/105/56 IEC-68] Storage : Preferably below +25°C, not exceeding +40°C																															
<b>Rated Voltage Range (V<sub>r</sub>)</b>	from 400V to 450V DC																															
<b>Surge Voltage (V<sub>p</sub>)</b>	V <sub>p</sub> = 1.10 V <sub>r</sub>																															
<b>Rated Capacitance Range</b>	from 330 µF to 15000 µF																															
<b>Capacitance Tolerance</b>	±20% at 100 Hz, 20°C [M class IEC-62] on request: -10% +30% at 100 Hz, 20°C [Q class IEC-62]																															
<b>Leakage Current (I<sub>L</sub>)</b> (mA, 5 min, 20°C)	max I <sub>L</sub> = 0.006 C <sub>r</sub> V <sub>r</sub> + 4 µA																															
<b>Ripple current (I<sub>r</sub>)</b>	Refer to table at 105°C and 100Hz :  <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: left;">FREQUENCY</td> <td style="text-align: center;">50Hz</td> <td style="text-align: center;">100Hz</td> <td style="text-align: center;">500 Hz</td> <td style="text-align: center;">1000Hz</td> <td style="text-align: center;">&gt;10kHz</td> </tr> <tr> <td style="text-align: left;">MULTIPLIER</td> <td style="text-align: center;">0.8</td> <td style="text-align: center;">1.0</td> <td style="text-align: center;">1.2</td> <td style="text-align: center;">1.3</td> <td style="text-align: center;">1.5</td> </tr> <tr> <td colspan="6"> </td> </tr> <tr> <td style="text-align: left;">AMBIENT TEMP</td> <td style="text-align: center;">35°C</td> <td style="text-align: center;">45°C</td> <td style="text-align: center;">55°C</td> <td style="text-align: center;">65°C</td> <td style="text-align: center;">75°C 85°C 95°C 105°C 110°C</td> </tr> <tr> <td style="text-align: left;">MULTIPLIER</td> <td style="text-align: center;">3.0</td> <td style="text-align: center;">2.8</td> <td style="text-align: center;">2.6</td> <td style="text-align: center;">2.4</td> <td style="text-align: center;">2.2 1.8 1.5 1.0 0.5</td> </tr> </table> Due to the current load capability of the contact elements, the following limits must not be exceeded: CAPACITOR DIAMETER      51mm 63mm 76mm 90mm Maximum current            30A 40A 50A 70A		FREQUENCY	50Hz	100Hz	500 Hz	1000Hz	>10kHz	MULTIPLIER	0.8	1.0	1.2	1.3	1.5							AMBIENT TEMP	35°C	45°C	55°C	65°C	75°C 85°C 95°C 105°C 110°C	MULTIPLIER	3.0	2.8	2.6	2.4	2.2 1.8 1.5 1.0 0.5
FREQUENCY	50Hz	100Hz	500 Hz	1000Hz	>10kHz																											
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<b>Insulation Resistance</b>	At 100V DC for 1 min is >100 MΩ across insulating sleeve and terminals.																															
<b>Vibration Resistance</b>	Frequency range: 10 Hz to 55 Hz, amplitude 0.75 mm Capacitor length ≤ 143 : max acceleration 10g for 3x2 h Capacitor length > 143 : max acceleration 5g for 3x0.5 h																															
<b>Life test</b> (105°C, V <sub>n</sub> , I <sub>r</sub> applied)	After 2,000 hours application of rated voltage at 105°C capacitors meet characteristics aside	Cap change ≤ 10% tan δ ≤ 130% Leakage current (I <sub>L</sub> ) < initial limit Impedance (Z) ≤ 130%																														
<b>Shelf life</b>	After leaving capacitors under no load for 500 hours at 105°C, when restored at 20°C meet specifications aside	Cap change ≤ ±15% tan δ ≤ 150% Leakage current (I <sub>L</sub> ) < initial limit																														
<b>Useful life</b> (105°C, V <sub>n</sub> , I <sub>r</sub> applied)	> 4000 h at 105°C																															
<b>Failure percentage</b> <b>Failure rate</b>	≤ 1% (during useful life) ≤ 40 fit (40 10 <sup>-9</sup> /h)																															
<b>Self inductance</b>	Approx. 20 nH																															
<b>Reference standards</b>	CECC 30.300 IEC 60384-4 LONG LIFE GRADE																															

## K19 TYPE STANDARD RATINGS

Cap $\mu$ F	$\varnothing$ x L Mm	Tan $\delta$ MAX 100 Hz 20°C	ESR TYP $m\Omega$ 100 Hz 20°C	Z TYP $m\Omega$ 10KHz 20°C	Ir a.c. A max 100 Hz 105°C	PART NUMBER Stud and insert style excluded
330	35x60	0.11	250	210	2.1	K19400331__M0E060
470	35x79	0.11	170	150	2.2	K19400471__M0E079
680	51x79	0.11	110	100	3.2	K19400681__M0G079
1000	51x79	0.11	95	82	3.4	K19400102__M0G105
1500	51x79	0.11	64	53	3.8	K19400152__M0G105
2200	51x105	0.11	45	39	4.5	K19400222__M0G105
3300	63x105	0.11	28	25	6.6	K19400332__M0H105
4700	76x105	0.11	24	23	9.5	K19400472__M0J105
4700	76x143	0.11	24	23	10.9	K19400472__M0J143
5600	76x143	0.12	21	17	11.2	K19400562__M0J143
6800	76x143	0.15	19	15	15.5	K19400682__M0J143
10000	76x214	0.15	16	14	19.2	K19400103__M0J214
15000	90x220	0.20	15	12	23.0	K19400153__M0L220

**RATED  
VOLTAGE  
VDC**

**400V**

Cap $\mu$ F	$\varnothing$ x L Mm	Tan $\delta$ MAX 100 Hz 20°C	ESR TYP $m\Omega$ 100 Hz 20°C	Z TYP $m\Omega$ 10KHz 20°C	Ir a.c. A max 100 Hz 105°C	PART NUMBER Stud and insert style excluded
330	35x60	0.11	240	210	1.5	K19450331__M0E060
470	35x79	0.11	200	179	2.1	K19450471__M0E079
680	51x79	0.11	140	128	3.1	K19450681__M0G079
1000	51x105	0.11	100	88	4.4	K19450102__M0G105
1500	51x105	0.11	63	57	4.8	K19450152__M0G105
2200	63x105	0.11	48	38	6.3	K19450222__M0H105
3300	76x105	0.11	35	30	10.4	K19450332__M0J105
4700	76x143	0.11	28	25	10.9	K19450472__M0J143
5600	76x143	0.12	21	17	11.2	K19450562__M0J143
6800	76x214	0.15	21	16	15.5	K19450682__M0J214
8200	76x214	0.15	18	16	19.2	K19450822__M0J214
10000	90x220	0.15	16	14	22.5	K19450103__M0L220

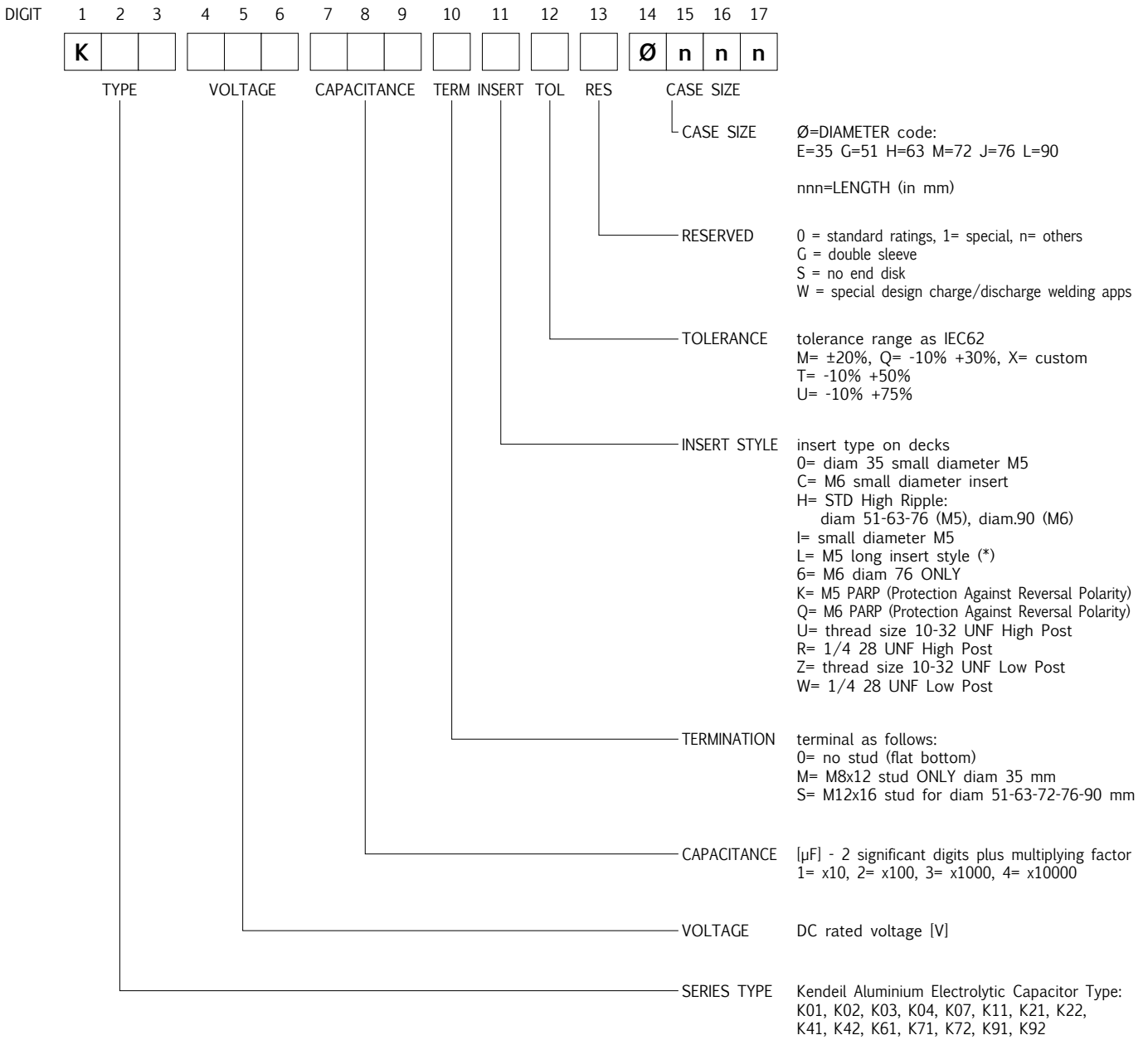
**RATED  
VOLTAGE  
VDC**

**450V**

PLEASE TO CONTACT OUR TECHNICAL SERVICE FOR MORE INFORMATION OR SPEC-IN ANALYSIS.

# PART NUMBER SYSTEM FOR SCREW TYPE CAPACITORS

New PART-NUMBER CODE in use since Sep 2010. Total length is 17 digits.  
Please see examples below and have a reference code from the standard ratings capacitors pages.



### EXAMPLES

K	0	1	1	0	0	2	2	3	0	H	M	0	H	1	0	5	K01 100V 22000µF, Hi ripple, -20%+20%, 63x105
K	0	1	0	6	3	2	2	3	S	H	Q	0	G	1	0	5	K01 63V 22000µF, stud M12x16, Hi rip. -10%+30%, 51x105
K	0	2	0	4	0	1	0	4	0	H	M	0	J	1	4	3	K02 40V 100000µF, Hi ripple, -20%+20%, 76x143

Specifications subject to change without notice

(\*) Note for INSERT STYLE digit\_11

M5 long insert style dedicated to not insulated bus bar (+2 mm height versus STD High Ripple code)