

DC CAPACITORS



DC 89 HC SERIES: High current, low inductance in cylindrical plastic case, optimised for heatsink mounting

DC Voltage range	500÷1450 V(*)
Maximum ripple current	100 A
Maximum working frequency	10 kHz
Capacitance range	Up to 220 µF (*)
Capacitance tolerance	±10% (*)
Terminals	M8 screw-type bolts ur female M5
Test voltage	U _{tc} = 3,0 kVac @50 Hz 60s U _{tt} = 1,5 x U _{nDC} 10s
Climatic Ambient Temperature	-25 / +45 °C
Working temperature (θ _{MIN} – θ _{MAX})	-25 / +85 °C
Storage temperature	-25 / +85 °C
Filling	Polyurethane resin
Dielectric	Self healing PPM film
Container	Self-extinguishing (UL94 V0) plastic box
Failure quota	50/10E9
Life expectancy	100.000 h(**)
Maximum altitude	2000 m a.s.l.
Reference standard	IEC 1071-1/2 IEC 1881 UL 810
Driving torque for M8 screw-type	5 Nm
Driving torque for fixing holes (MAX)	2,5 Nm
Standard Box dimension	386 x 190 x 200 mm
Number pieces for box	16
M8 screw terminals	Max 5 Nm
Fixing slots	Max 2,5 Nm
UL - CSA approved (UL®)	File n. E192559

(**) For details please refer to page 10

Power Electronics Capacitors

DC CAPACITORS

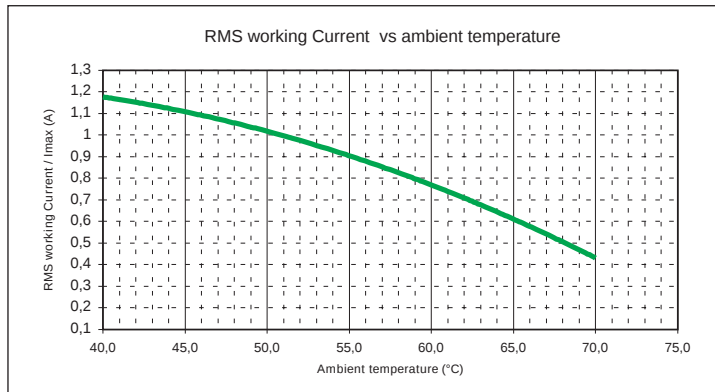
DC 89 HC Series

Capacitance Cn [μF]	Height H [mm]	Repet. Peak Voltage Up [kV]	Max. RMS Current I _{MAX} [A]	Repet. Peak Current Ip [A]	Surge Current Is [kA]	Series Resistance R _{ESR} [mΩ]	Thermal Resistance R _{THC} [°C/W]	Series Inductance L _{ESR} [nH]	Weight [kg]	Part number 416.89.
Un _{DC} = 500 V					Us = 1,0 kV					
70	40	0,75	100	9000	13,0	0,55	4,8	< 25	< 0,45	051X
100	40	0,75	100	8500	12,7	0,60	4,8	< 25	< 0,45	052X
130	51	0,75	85	8000	11,5	0,70	5,7	< 30	< 0,55	053X
160	51	0,75	85	7000	10,5	0,75	5,7	< 30	< 0,55	055X
190	64	0,75	70	6500	10,0	0,78	7,8	< 40	< 0,70	057X
220	64	0,75	70	6200	9,3	0,80	7,8	< 40	< 0,65	059X
Un _{DC} = 700 V					Us = 1,4 kV					
60	40	1,05	90	8000	12,0	0,70	4,8	< 25	< 0,45	071X
80	40	1,05	90	7500	11,3	0,75	4,8	< 25	< 0,45	072X
100	51	1,05	80	7400	11,0	0,80	5,7	< 30	< 0,55	072X
130	51	1,05	80	7200	10,8	0,85	5,7	< 30	< 0,55	075X
150	64	1,05	65	6400	10,5	0,87	7,8	< 40	< 0,70	075X
180	64	1,05	65	6600	9,9	0,90	7,8	< 40	< 0,65	079X
Un _{DC} = 900 V					Us = 1,8 kV					
45	40	1,35	85	5300	8,0	0,80	4,8	< 25	< 0,45	091X
70	40	1,35	85	5250	7,8	0,85	4,8	< 25	< 0,45	092X
100	51	1,35	75	4700	7,5	0,95	5,7	< 30	< 0,55	095X
110	51	1,35	75	4650	7,3	0,98	5,7	< 30	< 0,55	096X
125	64	1,35	60	4600	7,0	1,00	7,8	< 40	< 0,70	097X
150	64	1,35	60	4500	6,8	1,10	7,8	< 40	< 0,65	099X
Un _{DC} = 1100 V					Us = 2,2 kV					
30	40	1,65	80	4800	7,8	0,90	4,8	< 25	< 0,45	111X
45	40	1,65	80	4750	7,2	0,95	4,8	< 25	< 0,45	112X
70	51	1,65	65	4600	7,0	1,00	5,7	< 30	< 0,55	114X
75	51	1,65	65	4550	6,8	1,10	5,7	< 30	< 0,55	115X
100	64	1,65	55	4500	6,7	1,20	7,8	< 40	< 0,70	118X
110	64	1,65	55	4400	6,6	1,25	7,8	< 40	< 0,65	119X
Un _{DC} = 1250 V					Us = 2,5 kV					
20	40	1,90	75	4500	6,8	1,15	4,8	< 25	< 0,45	121X
35	40	1,90	75	4200	6,6	1,20	4,8	< 25	< 0,45	122X
45	51	1,90	65	4200	6,4	1,25	5,7	< 30	< 0,55	123X
55	51	1,90	65	4200	6,2	1,30	5,7	< 30	< 0,55	125X
70	64	1,90	55	4000	6,0	1,35	7,8	< 40	< 0,70	127X
80	64	1,90	55	4000	6,0	1,40	7,8	< 40	< 0,65	129X
Un _{DC} = 1450 V					Us = 2,9 kV					
15	40	2,20	70	3500	5,2	1,25	4,8	< 25	< 0,45	141X
25	40	2,20	70	3380	5,1	1,30	4,8	< 25	< 0,45	142X
30	51	2,20	60	3200	4,8	1,45	5,7	< 30	< 0,55	143X
40	51	2,20	60	3200	4,8	1,45	5,7	< 30	< 0,55	145X
50	64	2,20	50	3100	4,6	1,50	7,8	< 40	< 0,70	147X
55	64	2,20	50	3050	4,5	1,55	7,8	< 40	< 0,65	149X

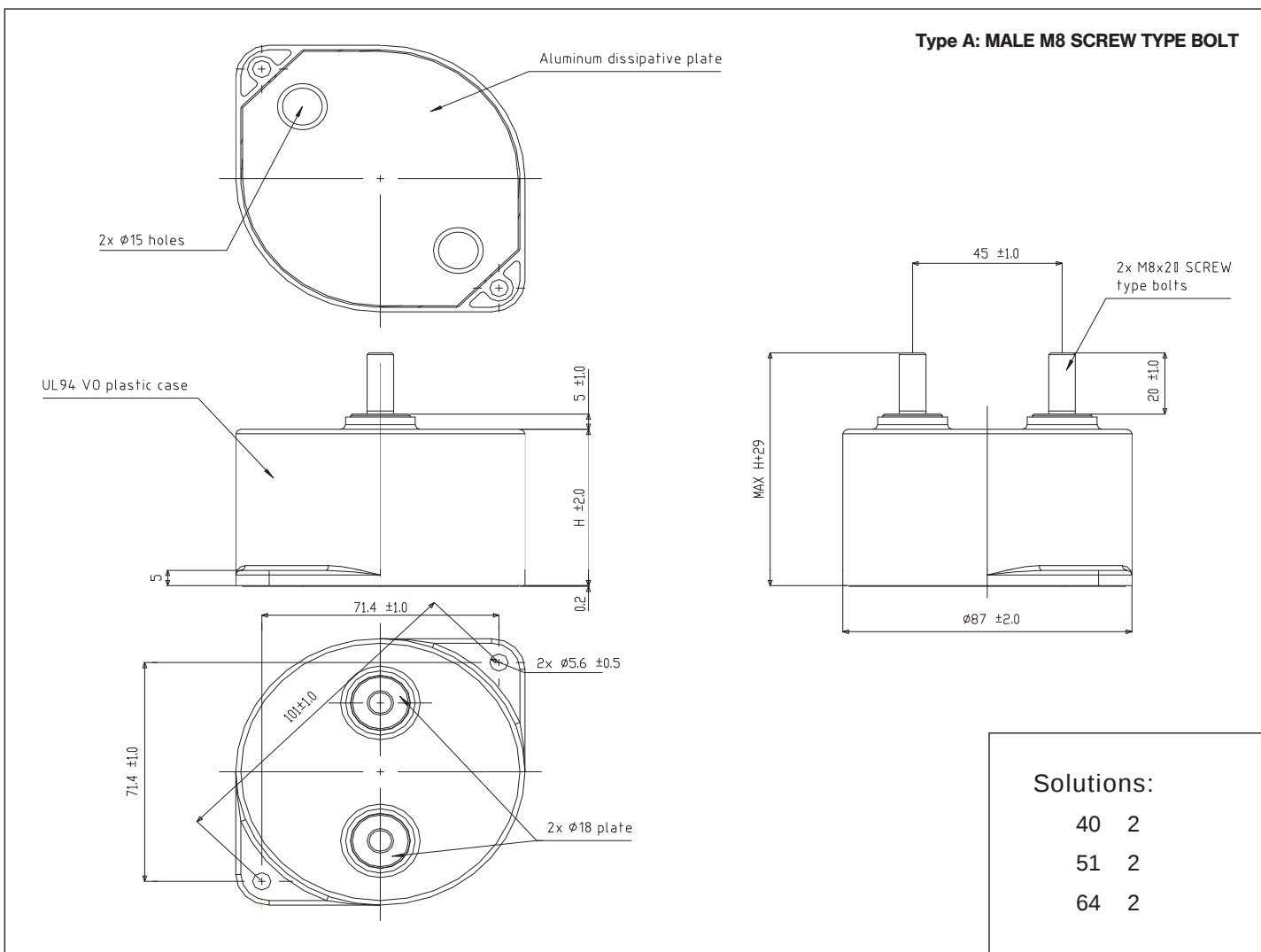
- (Cn) Tolerance standard value: ±10%. Other tolerance values on request.
- (Cn) - (Un) Capacitance and rated voltage standard values, other values on request.
- (Rs) Related to 1KHz.
- (R_{THC}) Thermal resistance CASE TO AMBIENT in natural cooling environment. In order to decrease the thermal resistance, install the capacitors on a heatsink (with conductive paste) through the optimised bottom aluminum plate.
- (I_{MAX}) Maximum RMS current, referred to an ambient temperature of 50 °C, natural cooling.
In case of different temperature, see diagram at page
- (X) Code According to mechanical solution: from Ø to 4 for M8 screw type bolt, from 5 to 8, for female M5 internal threads.

DC 89 HC Series

Box T PE	
Standard box dimensions	386 190 200
No. pieces x box:	16



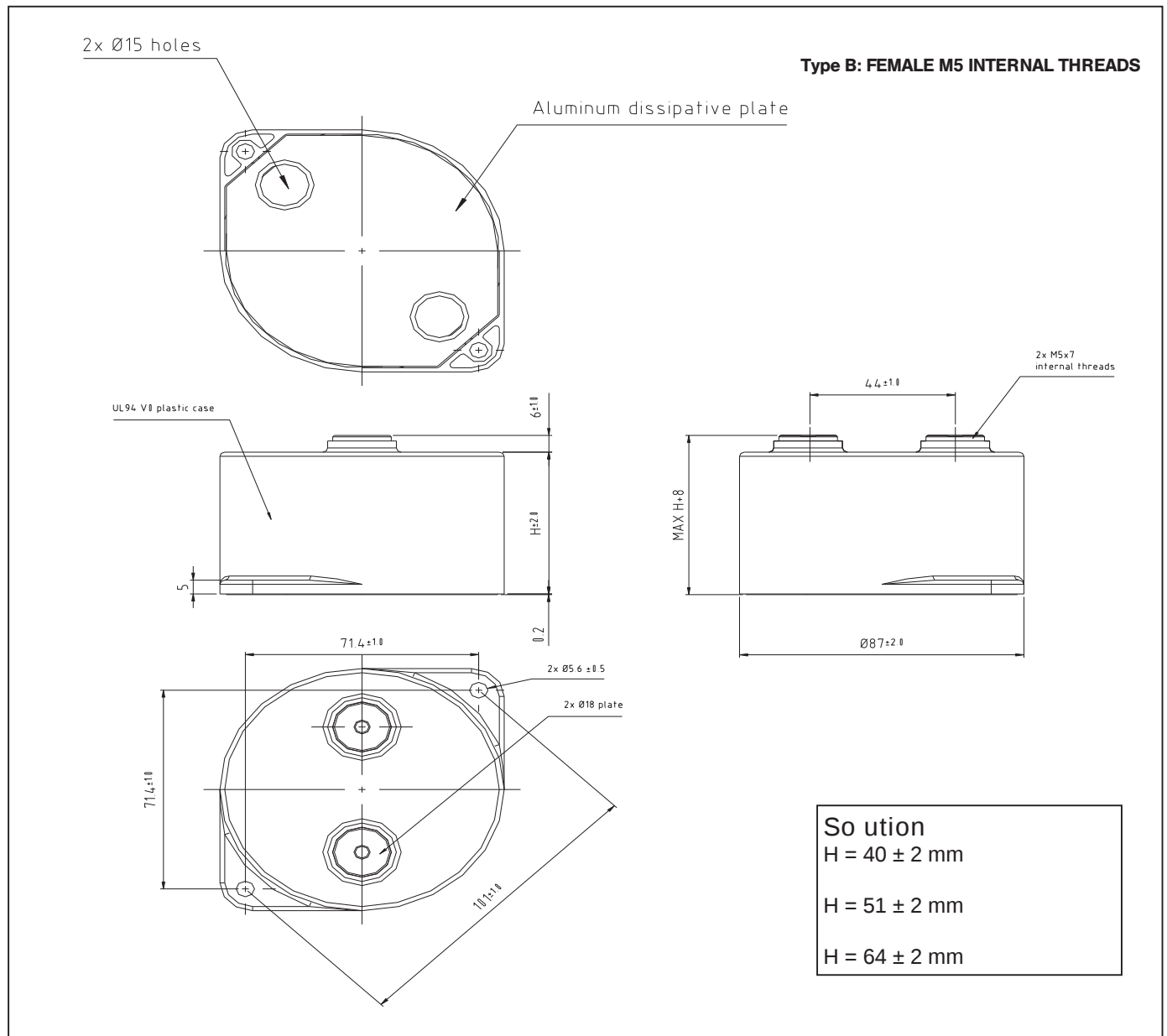
MECHANICAL SOLUTIONS:



Creepage distance (mm)	37
Clearance distance (mm)	27

Power Electronics Capacitors

DC CAPACITORS



(x) igit rom to or M interna t rea on igitration

Creepage distance (mm)	37
Clearance distance (mm)	27

DC CAPACITORS

TYPICAL Series Resistance for DC89HC

