ATC - ATS SERIES

ALUMINIUM ELECTROLYTIC CAPACITORS FOR PRINTED WIRING BOARD MOUNTING

Series	Capacitance range	Voltage range	Temperature range	Case Φ x H	Applications
ATC ATS	100 - 1500	200 -450	-25°C , +105°C	30 x 40 35 x 75	Long life Snap-in type, 2-4 pins configuration Extended temperature range Solder pin mounting Industrial applications

MECHANICAL OUTLINES:

CASE: cylindrical aluminium made
TERMINALS: to be soldered to a PWB
SEALING: hermetic by beading on a Rubber-Bakelite
PRESSURE RELEASE VENT: directly on to the aluminium case
SLEEVE: self-extinguishing thermoshrinkable sleeve;
MOUNTING: vertical, by soldering to printed circuit board.
SIZE: see enclosed drawings

SPECIFICATIONS	TEMPERATURE RANGE	CAPACITANCE
CECC 30300 IEC 384-4 ("long life grade") MIL C62D DIN 41240 / DIN 45910	Operating: -25 °C/ +105 °C Climatic Category (IEC 68): 25/105/56	Tolerance shall be within the following limits: -20% + 20% (standard tolerance) or -10% +30% (available on request)

LEAKAGE CURRENT:

After the rated voltage has been applied to the capacitor for 5 minutes the leakage current must be:

Maximum limit	at 25 °C	$I_f \leq 0{,}003 * C * V$
Operating limit	at 25 °C:	$I_f \leq 0{,}001 * C * V$

where I_f = leakage current (μA)
C= capacitance (μF)
V= rated voltage (V)

IMPORTANT

When using high-capacitance and high-voltage electrolytic capacitors it is important to remember that the inner part (the rolled section) is not insulated from can: between the negative pole and the aluminium can there is a variable and not defined resistance essentially due to the electrolyte used in capacitor manufacture.

SURGE VOLTAGE

Working Voltage	200	250	315	400	420	450
Surge Voltage	230	290	347	440	460	495

RIPPLE CURRENT:

The maximum allowable ripple current in Amperes, are related to the temperature and frequency by the formula:

$$I_r = K_t * K_f * I_{r105}$$

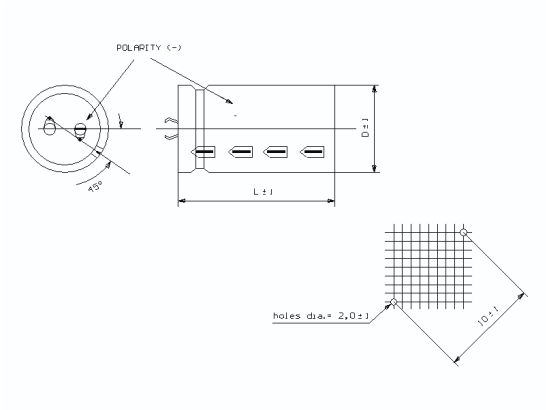
where I_{r105} is the limit of superimposed alternating current, given by the tables referred to temperature of 105°C and to a frequency of 100 Hz and K_t or K_f are values here below tabulated:

°C	50	65	75	85	95	105
K_t	2.4	2.2	2.1	1.8	1.3	1.0

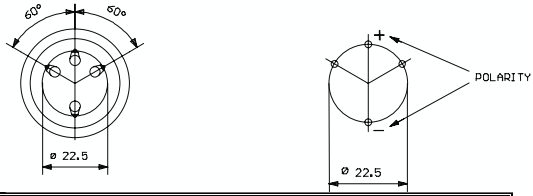
V_n	HZ	50	98	300	400	500	>1KHZ
V>160	K_f	0.88	1.00	1.20	1.25	1.35	1.40

CAPACITORS DIMENSIONS AND DRILLING PLAN OF PRINTED WIRING BOARD

- *ATC SERIES*



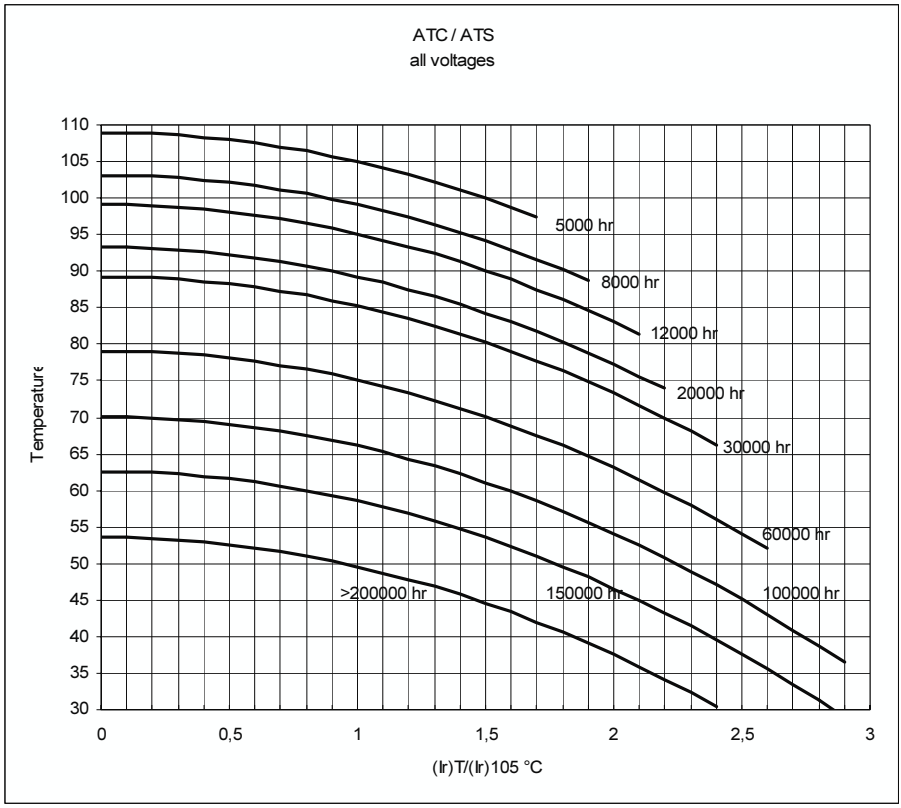
- *ATS SERIES (D = 35 / 40 / 45 mm)*



CASE CODE	Φ x l (mm)	CASE CODE	Φ x l (mm)	CASE CODE	Φ x l (mm)
MB	30 x 40	**NC**	35 x 50	**PB**	40 x 40
MC	30 x 50	**NN**	35 x 60	**PC**	40 x 50
NB	35 x 40	**NE**	35 x 75		

- *only on request*
- *The unconnected pins serve as mountings and must be soldered to insulated pads*

EXPECTED LIFE AS A FUNCTION OF TEMPERATURE AND RIPPLE CURRENT



Expected life criteria: see introduction

CAP (µF)	Rated Voltage (Vn)	Case Code	Φ x h (mm)	TG δ 100Hz	ESR max 100Hz (mOhm)	ESR typ 100Hz (mOhm)	Z max 10Khz (mOhm)	I ripple 85°C 100Hz (A)	I ripple 105°C 100Hz (A)	CATALOGUE NUMBER 2 mounting pins	4 mounting pins
470		MB	30 x 40	0,08	217	163	176	4,5	2,5	ATC471M250MB1	
680		MC	30 x 50	0,08	150	112	122	6,3	3,3	ATC681M250MC1	
680	**200**	NB	35 x 40	0,08	150	112	122	6,6	3,6	ATC681M250NB1	
1000		NC	35 x 50	0,08	102	76	82	7,9	4,4	ATC102M250NC1	ATS102M250NC1
1500		PC	40 x 50	0,08	68	51	55	10,5	5,8	ATC152M250PC1	ATS152M250PC1

CAP (µF)	Rated Voltage (Vn)	Case Code	Φ x h (mm)	TG δ 100Hz	ESR max 100Hz (mOhm)	ESR typ 100Hz (mOhm)	Z max 10Khz (mOhm)	I ripple 85°C 100Hz (A)	I ripple 105°C 100Hz (A)	CATALOGUE NUMBER 2 mounting pins	4 mounting pins
330		MB	30 x 40	0,08	309	232	270	3,8	2,1	ATC331M250MB1	
470		MC	30 x 50	0,08	217	163	190	5,0	2,8	ATC471M250MC1	
470	**250**	NB	35 x 40	0,08	217	163	190	5,4	3,0	ATC471M250NB1	
680		NC	35 x 50	0,08	150	112	131	6,6	3,6	ATC681M250NC1	ATS681M250NC1
1000		NC	35 x 50	0,08	102	76	89	7,9	4,4	ATC102M250NC1	ATS102M250NC1

CAP (µF)	Rated Voltage (Vn)	Case Code	Φ x h (mm)	TG δ 100Hz	ESR max 100Hz (mOhm)	ESR typ 100Hz (mOhm)	Z max 10Khz (mOhm)	I ripple 85°C 100Hz (A)	I ripple 105°C 100Hz (A)	CATALOGUE NUMBER 2 mounting pins	4 mounting pins
220		MB	30 x 40	0,08	463	347	405	3,1	1,7	ATC221M385MB1	
330		MC	30 x 50	0,08	309	232	270	4,2	2,3	ATC331M385MC1	
330	**385**	NB	35 x 40	0,08	309	232	270	4,6	2,5	ATC331M385NB1	
470		NC	35 x 50	0,08	217	163	190	5,4	3,0	ATC471M385NC1	ATS471M385NC1
680		PC	40 x 50	0,08	150	112	118	7,5	4,1	ATC681M385PC1	ATS681M385PC1

CAP (µF)	Rated Voltage (Vn)	Case Code	Φ x h (mm)	TG δ 100Hz	ESR max 100Hz (mOhm)	ESR typ 100Hz (mOhm)	Z max 10Khz (mOhm)	I ripple 85°C 100Hz (A)	I ripple 105°C 100Hz (A)	CATALOGUE NUMBER 2 mounting pins	4 mounting pins
220	**400**	MB	30 x 40	0,08	463	347	405	3,1	1,7	ATC221M385MB1	
330		MC	30 x 50	0,08	309	232	270	4,2	2,3	ATC331M385MC1	ATS331M385MC1
330		NB	35 x 40	0,08	309	232	270	4,6	2,5	ATC331M385NB1	ATS331M385NB1
470		NC	35 x 50	0,08	217	163	190	5,4	3,0	ATC471M385NC1	ATS471M385NC1
560		PC	40 x 50	0,08	182	136	159	6,4	3,6	ATC561M385PC1	ATS561M385PC1
680		NE	35 x 75	0,08	150	112	131	8,4	4,7	ATC681M385NE1	ATS681M385NE1

CAP (µF)	Rated Voltage (Vn)	Case Code	Φ x h (mm)	TG δ 100Hz	ESR max 100Hz (mOhm)	ESR typ 100Hz (mOhm)	Z max 10Khz (mOhm)	I ripple 55°C 100Hz (A)	I ripple 105°C 100Hz (A)	CATALOGUE NUMBER 2 mounting pins	4 mounting pins
150	**450**	MB	30 x 40	0,10	849	637	718	2,3	1,3	ATC151M385MB1	
220		MC	30 x 50	0,10	579	434	486	3,1	1,7	ATC221M385MC1	
220		NB	35 x 40	0,10	579	434	486	3,4	1,9	ATC221M385NB1	
330		NC	35 x 50	0,10	386	290	380	4,2	2,3	ATC331M385NC1	ATS331M385NC1
470		NE	35 x 75	0,10	271	203	228	6,4	3,6	ATC471M385NE1	ATS471M385NE1