

AZ- / AZU- SERIES

ALUMINIUM ELECTROLYTIC CAPACITORS HIGH TEMPERATURE

Series	Capacitance range	Voltage range	Temperature range	Case $\Phi \times H$	Applications
<u>AZ</u> <u>AZU</u>	150-6800	100-450	-25°C, +105°C	51 x 105 76 x 220	Wide temperature range Long life High reliability Telecom, Railways applications

MECHANICAL OUTLINES:

CASE: aluminium made

TERMINALS: screw inserts with insulating shoulder

SEALING: hermetic by beading on an EPR gasket, housed on a resin cover

PRESSURE RELEASE VENT: made in silicone-rubber

SLEEVE: self-extinguishing thermo shrinkable sleeve

SIZE: see enclosed drawings

MOUNTING HARDWARE: see hardware section

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 25/105/86	Tolerance shall be within the following limits: -10% +30% (standard tolerance) or -20% + 20% (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	$I_f \leq 1.5 \cdot \sqrt{C \cdot V}$
Operating limit	at 25 °C:	$I_f \leq 1.3 \cdot \sqrt{C \cdot V}$

Where I_f = leakage current (μA)

C = capacitance (μF)

V = rated voltage (V)

IMPORTANT

1) 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	100	160	200	250	315	400	420	450
Surge Voltage	115	185	230	290	347	385	460	490

RIPPLE CURRENT:

the allowable values of ripple current in amperes, are related to temperature and frequency by the formula:

$$I_r = K_t * K_f * I_{r105^\circ}$$

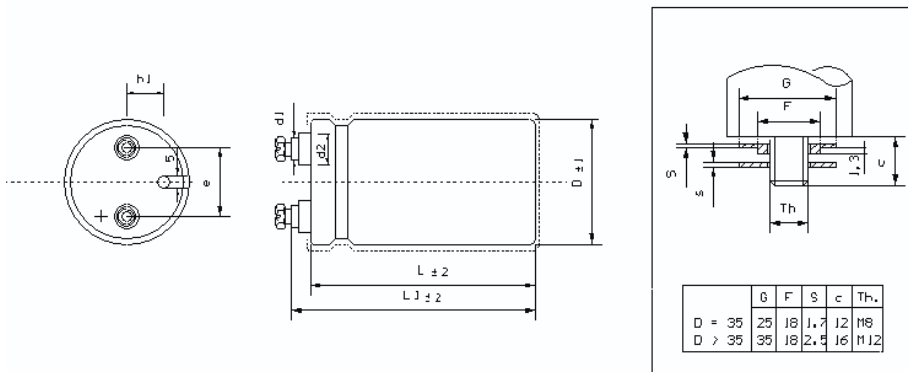
where I_{r105° is the limit given by tables, referred to a temperature of 105°C and to a frequency of 100 Hz and K_t or K_f are values here below tabulated:

Note. Ripple current is function of the capacitance tolerance

°C	40	55	65	75	85	95	105
K_t	2.5	2.4	2.2	2.0	1.8	1.3	1.0

Vn	Hz	50	100	300	400	500	>1kHz
V>250	K_f	0.88	1.00	1.20	1.25	1.35	1.40

DIMENSIONS

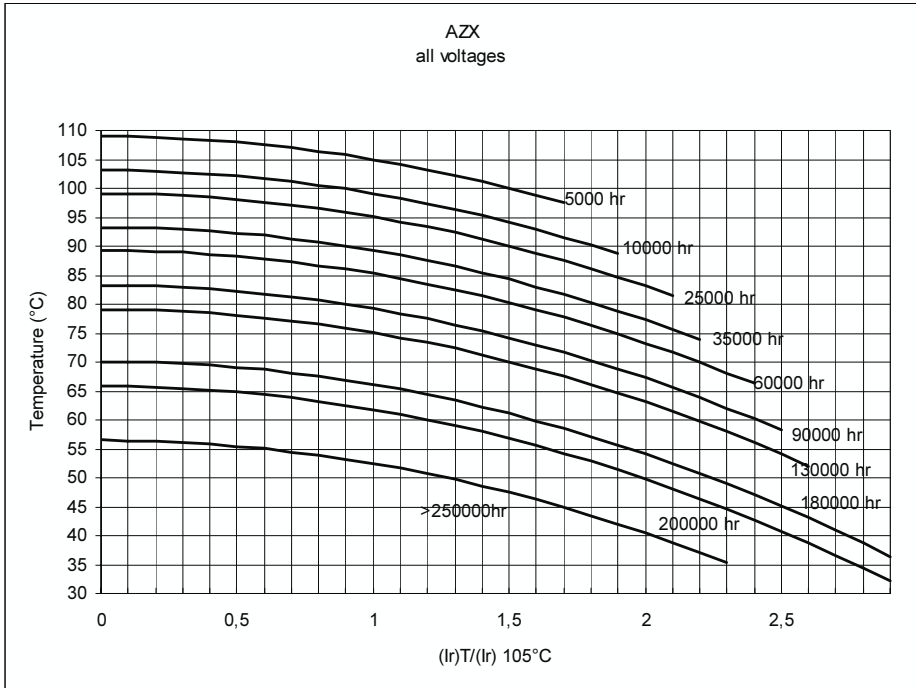


Insert Screw Thread (D= 51, 63, 76) = M5	Insert Screw Length = 10 mm.
Insert Screw Torque Max.(M5) = 2 Nm.	Screw Torque For Hex Nuts M12 = 10 Nm.

CASE CODE	Φ X L (mm)	l1	d1 +,-0.5	d2 +,-0.5	h1	e	CASE CODE	Φ X L (mm)	l1	d1 +,-0.5	d2 +,-0.5	h1	e
BC	51 x 105	109	13	18	13	22.2							
CC	63 x 107	111	13	18	16	28.6							
DC	76 x 107	111	13	18	19	31.8							
DF	76 x 147	151	13	18	19	31.8							
DJ	76 x 217	222	13	18	19	31.8							

- STANDARD MOUNTING STUD HARDWARE - INSULATING PLASTIC WASHERS AND METALLIC NUT

EXPECTED LIFE AS A FUNCTION OF TEMPERATURE AND RIPPLE CURRENT



Expected life criteria : see introduction

CAP (μ F)	Rated Voltage (Vn)	Case Code	$\Phi \times h$ (mm)	TG δ 100 Hz	ESR max 100 Hz (mOhm)	ESR typ. 100 Hz (mOhm)	Z max 10 KHz (mOhm)	Ripple 85°C 100 Hz (A)	Ripple 105°C 100 Hz (A)	CATALOGUE NUMBER	
										Flat bottom	Mounting stud
10000	100	BC	51 x 105	0,10	16	12	40	19,0	10,3	AZX103M100BC1	AZUX103M100BC1
15000		CC	63 x 107	0,10	11	8	10	26,0	14,2	AZX153M100CC1	AZUX153M100CC1
22000		DC	76 x 107	0,12	9	7	8	32,0	17,7	AZX223M100DC1	AZUX223M100DC1
33000		DF	76 x 147	0,12	6	4	6	45,0	24,8	AZX333M100DF1	AZUX333M100DF1

CAP (μ F)	Rated Voltage (Vn)	Case Code	$\Phi \times h$ (mm)	TG δ 100 Hz	ESR max 100 Hz (mOhm)	ESR typ. 100 Hz (mOhm)	Z max 10 KHz (mOhm)	Ripple 85°C 100 Hz (A)	Ripple 105°C 100 Hz (A)	CATALOGUE NUMBER	
										Flat bottom	Mounting stud
2200	160	BC	51 x 105	0,11	80	60	68	9,0	4,8	AZX222M160BC1	AZUX222M160BC1
3300		BC	51 x 105	0,11	53	40	49	10,0	5,7	AZX332M160BC1	AZUX332M160BC1
4700		CC	63 x 107	0,11	37	28	34	14,0	7,6	AZX472M160CC1	AZUX472M160CC1
6800		DC	76 x 107	0,11	26	19	23	18,0	10,2	AZX682M160DC1	AZUX682M160DC1
10000		DF	76 x 147	0,11	18	13	16	25,0	14,1	AZX103M160DF1	AZUX103M160DF1
15000		DF	76 x 147	0,12	13	10	11	30,0	16,7	AZX153M160DF1	AZUX153M160DF1

CAP (μ F)	Rated Voltage (Vn)	Case Code	$\Phi \times h$ (mm)	TG δ 100 Hz	ESR max 100 Hz (mOhm)	ESR typ. 100 Hz (mOhm)	Z max 10 KHz (mOhm)	Ripple 85°C 100 Hz (A)	Ripple 105°C 100 Hz (A)	CATALOGUE NUMBER	
										Flat bottom	Mounting stud
2200	200	BC	51 x 105	0,09	65	49	61	10,0	5,4	AZX222M200BC1	AZUX222M200BC1
3300		CC	63 x 107	0,09	43	33	40	13,0	7,5	AZX332M200CC1	AZUX332M200CC1
4700		DC	76 x 107	0,09	30	23	28	18,0	10,0	AZX472M200DC1	AZUX472M200DC1
6800		DF	76 x 147	0,09	21	16	18	25,0	13,7	AZX682M200DF1	AZUX682M200DF1
10000		DF	76 x 147	0,09	14	11	13	30,0	16,6	AZX103M200DF1	AZUX103M200DF1

CAP (μ F)	Rated Voltage (Vn)	Case Code	$\Phi \times h$ (mm)	TG δ 100 Hz	ESR max 100 Hz (mOhm)	ESR Typ. 100 Hz (mOhm)	Z max 10 KHz (mOhm)	Ripple 85°C 100 Hz (A)	Ripple 105°C 100 Hz (A)	CATALOGUE NUMBER	
										Flat bottom	Mounting stud
1500	250	BC	51 x 105	0,09	96	72	77	8	4,7	AZX152M250BC1	AZUX152M250BC1
2200		CC	63 x 107	0,09	65	49	53	12	6,4	AZX222M250CC1	AZUX222M250CC1
3300		DC	76 x 107	0,09	43	33	35	16	8,8	AZX332M250DC1	AZUX332M250DC1
4700		DF	76 x 147	0,09	30	23	25	21	11,9	AZX472M250DF1	AZUX472M250DF1
6800		DJ	76 x 217	0,09	21	16	17	31	17,3	AZX682M250DJ1	AZUX682M250DJ1
10000		DJ	76 x 217	0,09	14	11	11	38	21,0	AZX103M250DJ1	AZUX103M250DJ1

CAP (μ F)	Rated Voltage (Vn)	Case Code	Φ x h (mm)	TG δ 100 Hz	ESR max	ESR Typ.	Z max	ripple 85°C	ripple 105°C	CATALOGUE NUMBER	
					100 Hz (mOhm)	100 Hz (mOhm)	10 KHz (mOhm)	100 Hz (A)	100 Hz (A)	Flat bottom	Mounting stud
1500	350	BC	51 x 105	0,07	74	56	62	0,0	5,3	AZX152M350BC1	AZUX152M350BC1
2200		CC	63 x 107	0,07	51	38	42	13,0	7,2	AZX222M350CC1	AZUX222M350CC1
3300		DC	76 x 107	0,07	34	25	28	18,0	9,8	AZX332M350DC1	AZUX332M350DC1
4700		DF	76 x 147	0,07	24	18	20	24,0	13,3	AZX472M350DF1	AZUX472M350DF1
6800		DF	76 x 147	0,07	16	12	20	27,0	14,8	AZX682M350DF1	AZUX682M350DF1
6800		DJ	76 x 217	0,07	16	12	28	35,0	19,4	AZX682M350DJ1	AZUX682M350DJ1
10000		DJ	76 x 217	0,07	11	8	14	42,0	23,5	AZX103M350DJ1	AZUX103M350DJ1

CAP (μ F)	Rated Voltage (Vn)	Case Code	Φ x h (mm)	TG δ 100 Hz	ESR max	ESR Typ.	Z Max	ripple 85°C	ripple 105°C	CATALOGUE NUMBER	
					100 Hz (mOhm)	100 Hz (mOhm)	10 KHz (mOhm)	100 Hz (A)	100 Hz (A)	Flat bottom	Mounting stud
1000	400	BC	51 x 105	0,07	111	84	92	8,0	4,3	AZX102M400BC1	AZUX102M400BC1
1500		CC	63 x 107	0,07	74	56	62	11,0	5,9	AZX152M400CC1	AZUX152M400CC1
2200		DC	76 x 147	0,07	51	38	42	14,0	8,0	AZX222M400DC1	AZUX222M400DC1
3300		DF	76 x 147	0,07	34	25	28	20,0	11,2	AZX332M400DF1	AZUX332M400DF1
4700		DF	76 x 147	0,07	24	18	20	24,0	13,3	AZX472M400DF1	AZUX472M400DF1
6800		DJ	76 x 217	0,07	16	12	14	35,0	19,4	AZX682M400DJ1	AZUX682M400DJ1

CAP (μ F)	Rated Voltage (Vn)	Case Code	Φ x h (mm)	TG δ 100 Hz	ESR max	ESR Typ.	Z max	ripple 85°C	ripple 105°C	CATALOGUE NUMBER	
					100 Hz (mOhm)	100 Hz (mOhm)	10 KHz (mOhm)	100 Hz (A)	100 Hz (A)	Flat bottom	Mounting stud
1000	450	BC	51 x 105	0,08	127	96	80	8,0	4,3	AZX102M450BC1	AZUX102M450BC1
1500		CC	63 x 107	0,08	85	64	54	11,0	5,9	AZX152M450CC1	AZUX152M450CC1
2200		DC	76 x 107	0,08	58	43	54	14,0	8,0	AZX222M450DC1	AZUX222M450DC1
2200		DF	76 x 147	0,08	58	43	37	16,0	9,1	AZX222M450DF1	AZUX222M450DF1
3300		DF	76 x 147	0,08	39	29	30	20,0	11,2	AZX332M450DF1	AZUX332M450DF1
4700		DJ	76 x 217	0,08	27	20	10	29,0	16,1	AZX472M450DJ1	AZUX472M450DJ1