

Series AZS - AZC - 105°C 5.000h

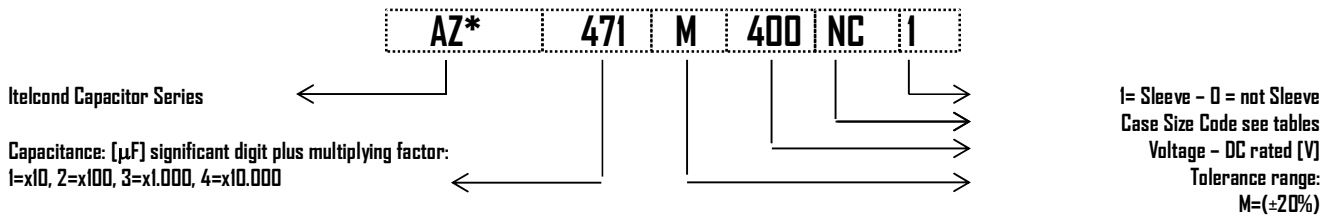
Capacitors PCB type -

- AZC 2 pins
- AZS 4 pins
- Capacitance Tolerance: -20 + 20% - standard (M)
- Climatic category: 40/105/56
- Case: 30x40 - 45x100
- Temperature - 40°C + 105°C

Mechanical Outlines

- Case: aluminium made
- Terminals: solder pin
- Sealing: hermetic on Rubber Bakelite cover
- Pressure Release Vent: onto aluminium case
- No insulated bottom
- Sleeve: self-extinguishing thermo shrinkable
- Size: see enclosed drawings
- External Material UL94-V0

Ordering Code: Example



Ripple Current

The allowable values of ripple current in Ampères, are related to the temperature and frequency by following equation:

$$I_{\text{Ripple}} = K_t \cdot K_f \cdot I_{\text{Ripple}@105^\circ\text{C}}$$

Where:

- $I_{\text{Ripple}@105^\circ\text{C}}$ is the limit given by tables, @ 105°C/100HZ
- K_t is the Temperature Correlation Factor
- K_f is the Frequency Correlation Factor

Note .Superimposed alternating voltage summed to DC volage must not exceed rated voltage, rated ripple current must not be exceeded and no reverse polarity is allowed

°C	50	65	75	85	95	105
K_t	2.40	2.20	2.10	1.80	1.30	1.00

Table 1-Kt Values

	K_f
V_n/Hz	$V > 160$
50	0.88
100	1.00
300	1.20
400	1.25
500	1.35
>1000	1.40

Table 2-Kf Values

Expected Lifetime End of Life Criteria

During useful life typical electrical parameters of electrolytic capacitor are subject to change.

End of Life criteria, when rated temperature, voltage and ripple are applied, are:

$$\frac{\Delta C}{C_{t0}} \leq 30\% \quad \text{Equation 1}$$

$$ESR \leq 3 \cdot ESR_{t0} \quad \text{Equation 2}$$

$$I_f \leq I_{ft0} \quad \text{Equation 3}$$

where t_0 is the initial value

Voltage Endurance Test Requirements

On Voltage Endurance Test are based Expected Lifetime Curves.

End of Life criteria, when rated temperature, and voltage are applied for 2'000hrs, are

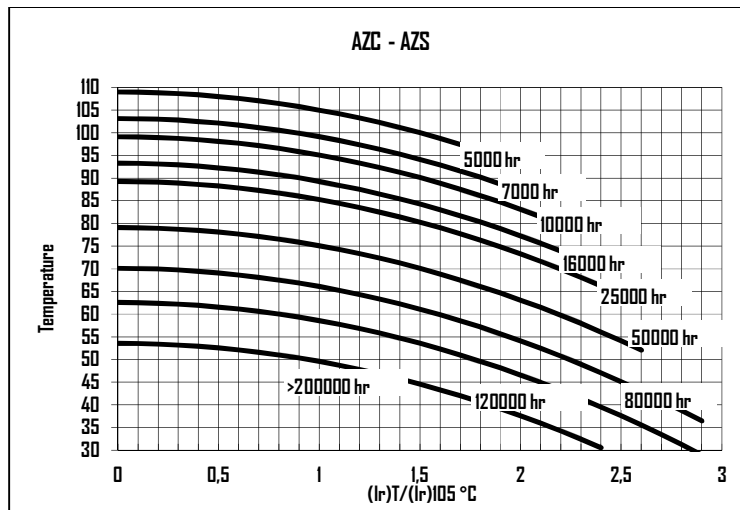
$$\frac{\Delta C}{C_{t0}} \leq 10\% \quad \text{Equation 4}$$

$$ESR \leq 1,3 \cdot ESR_{t0} \quad \text{Equation 5}$$

$$I_f \leq I_{ft0} \quad \text{Equation 6}$$

where t_0 is the initial value

Expected Lifetime Vs Temperature and Ripple Current



Leakage Current

After the rated voltage has been applied to the capacitor for 5 minutes the leakage current must be within those limits.

Maximum limit	@25°C	$I_f \leq 0,004 \times C \times V$
Operating limit	@25°C	$I_f \leq 0,001 \times C \times V$

Where: I_f =leakage current [μ A], C =capacitance [μ F],
 V =rated voltage [V]

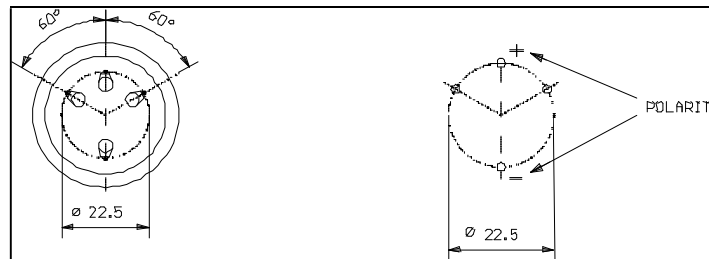
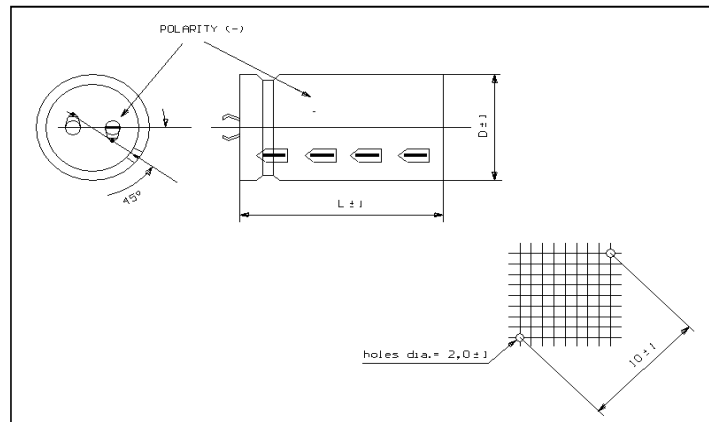
Surge Voltage

Working Voltage	200	250	400	450
Surge Voltage	230	290	440	495

	Capacitance	Case	Diam	Height	Tanδ	ESRmax typ		Zmax	Iripple @100Hz		Ordering Code
	[μF]@100Hz		[mm]	[mm]	[%]@100Hz	[mΩ]@100Hz	[mΩ]@10KHz	[mΩ]@10KHz	[A]@85°C	[A]@105°C	*= C, 2 Pins S, 4 Pins
200	470	MB	30	40	0,10	271	217	203	2,9	1,6	AZ*471M200MBI
	680	MB	30	40	0,10	187	150	141	3,5	1,9	AZ*681M200MBI
	1000	MC	30	50	0,10	127	102	96	4,7	2,6	AZ*102M200MCI
		NB	35	40	0,10	127	102	96	4,6	2,6	AZ*102M200NBI
	1500	NC	35	50	0,10	85	68	64	6,2	3,5	AZ*152M200NCI
	2200	NE	35	75	0,10	58	46	43	9,0	5,0	AZ*222M200NEI
		QC	45	50	0,10	58	46	43	8,7	4,8	AZ*222M200QCI
	3900	PG	40	100	0,10	39	31	29	13,5	7,5	AZ*392M200PGI
QE		45	75	0,10	39	31	29	12,7	7,0	AZ*392M200QEI	
250	470	MB	30	40	0,10	271	217	203	2,9	1,6	AZ*471M250MBI
	680	MC	30	50	0,10	187	150	141	3,8	2,1	AZ*681M250MCI
		NB	35	40	0,10	187	150	141	3,8	2,1	AZ*681M250NBI
	1000	NB	35	40	0,10	127	102	96	4,6	2,6	AZ*102M250NBI
		NC	35	50	0,10	127	102	96	5,1	2,8	AZ*102M250NCI
	1500	NE	35	75	0,10	85	68	64	7,4	4,1	AZ*152M250NEI
		PC	40	50	0,10	85	68	64	6,7	3,7	AZ*152M250PCI
		PE	40	75	0,10	85	68	64	8,0	4,4	AZ*152M250PEI
2200	PG	40	100	0,10	58	46	43	11,0	6,1	AZ*222M250PGI	
400	220	MB	30	40	0,10	579	463	434	2,0	1,1	AZ*221M400MBI
	330	MB	30	40	0,10	386	309	290	2,4	1,4	AZ*331M400MBI
	470	MC	30	50	0,10	271	217	203	3,2	1,8	AZ*471M400MCI
		NB	35	40	0,10	271	217	203	3,2	1,8	AZ*471M400NBI
		NC	35	50	0,10	271	217	203	3,5	1,9	AZ*471M400NCI
	560	NC	35	50	0,10	227	182	171	3,8	2,1	AZ*561M400NCI
	680	NC	35	50	0,10	187	150	141	4,2	2,3	AZ*681M400NCI
		NN	35	60	0,10	187	150	141	4,5	2,5	AZ*681M400NNI
		NE	35	75	0,10	187	150	141	5,0	2,8	AZ*681M400NEI
		PC	40	50	0,10	187	150	141	4,5	2,5	AZ*681M400PCI
	820	NN	35	60	0,10	155	124	117	5,0	2,8	AZ*821M400NNI
		PN	40	60	0,10	155	124	117	5,4	3,0	AZ*821M400PNI
	1000	NN	35	60	0,10	127	102	96	5,5	3,1	AZ*102M400NNI
		NE	35	75	0,10	127	102	96	6,1	3,4	AZ*102M400NEI
		PN	40	60	0,10	127	102	96	5,9	3,3	AZ*102M400PNI
		PE	40	75	0,10	127	102	96	6,5	3,6	AZ*102M400PEI
QC		45	50	0,10	127	102	96	5,9	3,3	AZ*102M400QCI	
QN		45	60	0,10	127	102	96	6,3	3,5	AZ*102M400QNI	
1200	PE	40	75	0,10	106	85	80	7,2	4,0	AZ*122M400PEI	
	PG	40	100	0,10	106	85	80	8,1	4,5	AZ*122M400PGI	

	Capacitance	Case	Diam	Height	Tanδ	ESRmax typ		Zmax	Iripple @100Hz		Ordering Code
	[μF]@100Hz		[mm]	[mm]	[%]@100Hz	[mΩ]@100Hz	[mΩ]@10KHz	[mΩ]@10KHz	[A]@85°C	[A]@105°C	*= C, 2 Pins S, 4 Pins
400	1500	PG	40	100	0,10	85	68	64	9,1	5,1	AZ*152M400PGI
		QN	45	60	0,10	85	68	64	7,8	4,3	AZ*152M400QNI
		QE	45	75	0,10	85	68	64	8,6	4,8	AZ*152M400QEI
	1800	QG	45	100	0,10	71	57	53	10,6	5,9	AZ*182M400QGI
2200	QG	45	100	0,10	58	46	43	11,8	6,5	AZ*222M400QGI	
450	220	MB	30	40	0,10	579	463	434	2,0	1,1	AZ*221M450MBI
	330	MC	30	50	0,10	386	309	290	2,7	1,5	AZ*331M450MCI
		NB	35	40	0,10	386	309	290	2,7	1,5	AZ*331M450NBI
	470	NC	35	50	0,10	271	217	203	3,5	1,9	AZ*471M450NCI
	560	NE	35	75	0,10	227	182	171	4,5	2,5	AZ*561M450NEI
		PC	40	50	0,10	227	182	171	4,1	2,3	AZ*561M450PCI
	680	NC	35	50	0,10	234	150	141	4,4	2,35	AZ*681M450NCI
		NN	35	60	0,10	187	155	141	4,5	2,5	AZ*681M450NNI
		NE	35	75	0,10	187	150	141	5,0	2,8	AZ*681M450NEI
		PE	40	75	0,10	187	150	141	5,4	3,0	AZ*681M450PEI
	820	QC	45	50	0,10	187	150	141	4,9	2,7	AZ*681M450QCI
		NN	35	60	0,10	194	165	125	4,3	2,7	AZ*821M450NNI
	1000	NE	35	75	0,10	155	124	117	5,5	3,1	AZ*821M450NEI
		PN	40	60	0,10	159	110	101	6,0	3,2	AZ*102M450PNI
		PE	40	75	0,10	127	102	96	6,5	3,6	AZ*102M450PEI
		PG	40	100	0,10	127	102	96	7,4	4,1	AZ*102M450PGI
	1200	QE	45	75	0,10	127	102	96	7,0	3,9	AZ*102M450QEI
PG		40	100	0,10	106	85	80	8,1	4,5	AZ*122M450PGI	
1500	QG	45	100	0,10	85	68	64	9,7	5,4	AZ*152M450QGI	

Dimension, Quantity and Weight for box



Case		Connections			Packaging	
Code	DxL	PIN			Pcs/Box	Weight/box
		AZC	AZS	Length		
MB	30x40	2		6.3	100	4-6
MC	30x50	2		6.3	100	4-6
NB	35x40	2	4	6.3	100	6-8
NC	35x50	2	4	6.3	100	6-8
NN	35x60	2	4	6.3	100	5-7
NE	35x75	2	4	6.3	50	6-8
PB	40x40	2	4	6.3	126	9-11
PC	40x50	2	4	6.3	126	9-11
PN	40x60	2	4	6.3	126	9-11
PE	40x75	2	4	6.3	63	10-12
PG	40x100	2	4	6.3	63	7-9
QC	45x50		4	6.3	30	6-8
QN	45x60		4	6.3	30	6-8
QE	45x75		4	6.3	30	7-9
QG	45x100		4	6.3	30	8-10

All dimensions in mm, torque in Nm, weight in kg