

## CHEMI-CON ALUMINUM ELECTROLYTIC CAPACITORS

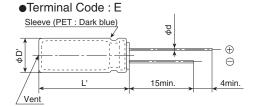
- Adoption of innovative electrolyte and new technologies
- Very low impedance at high frequency
- Endurance with ripple current: 5,000 to 8,000 hours at 105°C
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.

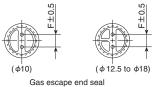


### **SPECIFICATIONS**

Items		Charact	eristics	
Category Temperature Range	-55 to +105℃			
Rated Voltage Range	6.3 to 63V <sub>dc</sub>			
Capacitance Tolerance	±20% (M)			(at 20℃, 120Hz)
Leakage Current	I=0.01CV or 3μA, whiche Where, I: Max. leakage of	ver is greater. current (μΑ), C : Nominal capacitance (μF	), V : Rated voltage (V)	(at 20°C after 2 minutes)
Dissipation Factor	Rated voltage (Vdc)	6.3V 10V 16V 25V 35V 50V	63V	
(tan δ)	tan δ (Max.)	0.22   0.19   0.16   0.14   0.12   0.10	0.08	
	When nominal capacitan	ce exceeds 1,000µF, add 0.02 to the valu	e above for each 1,000μF increas	e. (at 20℃, 120Hz)
Endurance		ns shall be satisfied when the capacitors the peak voltage shall not exceed the rate		
	Time	φ 10 : 5,000hours φ 12.5 : 7,000hours φ	16 & 18 : 8,000hours	
	Capacitance change	≦±20% of the initial value		
	D.F. (tan δ )			
	Leakage current	≦The initial specified value		
Shelf Life		s shall be satisfied when the capacitors are measurement, the capacitor shall be preco		
	Capacitance change	≦±20% of the initial value		
	D.F. (tan δ )	≦200% of the initial specified value		
	Leakage current	≦The initial specified value		

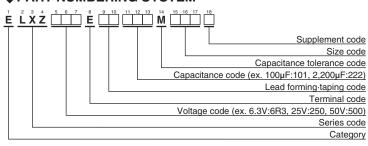
## **◆DIMENSIONS** [mm]





ød         0.6         0.6         0.8         0.8           F         5.0         5.0         7.5         7.5           øD'         φD+0.5max.           L+1.5max.	φD	10	12.5	16	18						
<b>φD' φD+0.5max</b> .	φd	0.6	0.6	0.8	0.8						
	F	5.0	5.0	7.5	7.5						
L' L+1.5max.	φD'	φD+0.5max.									
	L'	L+1.5max.									

## **◆PART NUMBERING SYSTEM**



Please refer to "Product code guide (radial lead type)"

# CHEMI-CON ALUMINUM ELECTROLYTIC CAPACITORS



•	STAND	ARD RA	TINGS	S									
wv	Сар	Case size φD×L(mm)		dance /100kHz)	Rated ripple current		rt No. WV	Сар	Case size		dance /100kHz)	Rated ripple current (mArms/ 105°C, 100kHz)	Part No.
(V <sub>dc</sub> )			20℃	-10℃	(mArms/ 105℃, 100kHz)	Part No.			φD×L(mm)	20℃	-10℃		
	820	10×12.5	0.090	0.18	760	ELXZ6R3E□□821MJC5S		330	10×12.5	0.090	0.18	760	ELXZ250E□□331MJC5S
	1,200	10×16	0.068	0.136	1,050	ELXZ6R3E□□122MJ16S		470	10×16	0.068	0.136	1,050	ELXZ250E□□471MJ16S
	1,500	10×20	0.052	0.104	1,220	ELXZ6R3E□□152MJ20S		680	10×20	0.052	0.104	1,220	ELXZ250E□□681MJ20S
	2,200	10×25	0.045	0.090	1,440	ELXZ6R3E□□222MJ25S		820	10×25	0.045	0.090	1,440	ELXZ250E□□821MJ25S
	2,700	10×30	0.037	0.074	1,690	ELXZ6R3E□□272MJ30S		1,000	10×30	0.037	0.074	1,690	ELXZ250E□□102MJ30S
	3,300	12.5×20	0.038	0.076	1,660	ELXZ6R3E□□332MK20S		1,000	12.5×20	0.038	0.076	1,660	ELXZ250E□□102MK20S
	3,900	12.5×25	0.030	0.060	1,950	ELXZ6R3E□□392MK25S		1,500	12.5×25	0.030	0.060	1,950	ELXZ250E□□152MK25S
	4,700	12.5×30	0.025	0.050	2,310	ELXZ6R3E□□472MK30S		1,800	12.5×30	0.025	0.050	2,310	ELXZ250E□□182MK30S
	5,600	12.5×35	0.022	0.044	2,510	ELXZ6R3E□□562MK35S		1,800	16×20	0.029	0.058	2,210	ELXZ250E□□182ML20S
6.3	5,600	16×20	0.029	0.058	2,210	ELXZ6R3E□□562ML20S		2,200	12.5×30	0.025	0.050	2,310	ELXZ250E□□222MK30S
	6,800	12.5×40	0.017	0.034	2,870	ELXZ6R3E□□682MK40S		2,200	12.5×35	0.022	0.044	2,510	ELXZ250E□□222MK35S
	6,800	16×25	0.022	0.044	2,560	ELXZ6R3E□□682ML25S	25	2,200	18×20	0.028	0.056	2,490	ELXZ250E 222MM20S
	6,800	18×20	0.028	0.056	2,490	ELXZ6R3E = 682MM20S		2,700	12.5×40	0.017	0.034	2,870	ELXZ250E 272MK40S
	8,200	16×30	0.019	0.038	3,010	ELXZ6R3E B22ML30S		2,700	16×25	0.022	0.044	2,560	ELXZ250E 272ML25S
	10,000	16×35	0.017	0.034	3,150	ELXZ6R3E 103ML35S		3,300	16×25	0.022	0.044	2,560	ELXZ250E 332ML25S
	10,000	18×25	0.020	0.040	2,740	ELXZ6R3E 103MM25S		3,300	16×30	0.019	0.038	3,010	ELXZ250E 332ML30S
	12,000	16×40	0.015	0.030	3,710	ELXZ6R3E 123ML40S		3,300	18×20	0.028	0.056	2,490	ELXZ250E 332MM20S
	12,000	18×30	0.018	0.036	3,330	ELXZ6R3E 123MM30S		3,300	18×25	0.020	0.040	2,740	ELXZ250E 332MM25S
	15,000	18×35	0.016	0.032	3,680	ELXZ6R3E 153MM35S		3,900	16×35	0.017	0.034	3,150	ELXZ250E 392ML35S
$\vdash$	18,000	18×40 10×12.5	0.015	0.030	3,800	ELXZ6R3E 183MM40S		3,900	18×30 16×40	0.018	0.036	3,330	ELXZ250E 392MM30S
	1,000	10×12.5	0.090	0.136	760 1,050	ELXZ100E = 681MJC5S ELXZ100E = 102MJ16S		4,700 4,700	18×35	0.015	0.030	3,710 3,680	ELXZ250E□□472ML40S ELXZ250E□□472MM35S
	1,200	10×10	0.052	0.104	1,220	ELXZ100E 102MJ20S		5,600	18×40	0.015	0.032	3,800	ELXZ250E 562MM40S
	1,500	10×25	0.032	0.090	1,440	ELXZ100E 152MJ25S		220	10×40	0.013	0.030	760	ELXZ350E 221MJC5S
	1,800	10×30	0.037	0.074	1,690	ELXZ100E 182MJ30S		330	10×16	0.068	0.136	1,050	ELXZ350E□□331MJ16S
	2,200	10×30	0.037	0.074	1,690	ELXZ100E 222MJ30S		470	10×10	0.052	0.104	1,220	ELXZ350E 471MJ20S
	2,200	12.5×20	0.038	0.076	1,660	ELXZ100E 222MK20S		560	10×20	0.052	0.104	1,220	ELXZ350E 561MJ20S
	3,300	12.5×25	0.030	0.060	1,950	ELXZ100E 332MK25S		560	10×25	0.045	0.090	1,440	ELXZ350E 561MJ25S
	3,900	12.5×30	0.025	0.050	2,310	ELXZ100E 392MK30S		680	10×30	0.037	0.074	1,690	ELXZ350E□□681MJ30S
	3,900	16×20	0.029	0.058	2,210	ELXZ100E 392ML20S		680	12.5×20	0.038	0.076	1,660	ELXZ350E□□681MK20S
10	4,700	12.5×35	0.022	0.044	2,510	ELXZ100E□□472MK35S		1,000	12.5×20	0.038	0.076	1,660	ELXZ350E□□102MK20S
İ	5,600	12.5×40	0.017	0.034	2,870	ELXZ100E□□562MK40S	İ	1,000	12.5×25	0.030	0.060	1,950	ELXZ350E□□102MK25S
	5,600	16×25	0.022	0.044	2,560	ELXZ100E□□562ML25S		1,200	12.5×30	0.025	0.050	2,310	ELXZ350E□□122MK30S
	5,600	18×20	0.028	0.056	2,490	ELXZ100E□□562MM20S		1,200	16×20	0.029	0.058	2,210	ELXZ350E□□122ML20S
	6,800	16×30	0.019	0.038	3,010	ELXZ100E□□682ML30S		1,500	12.5×35	0.022	0.044	2,510	ELXZ350E□□152MK35S
	6,800	18×25	0.020	0.040	2,740	ELXZ100E□□682MM25S	35	1,800	12.5×40	0.017	0.034	2,870	ELXZ350E□□182MK40S
	8,200	16×35	0.017	0.034	3,150	ELXZ100E□□822ML35S		1,800	16×25	0.022	0.044	2,560	ELXZ350E□□182ML25S
	8,200	18×30	0.018	0.036	3,330	ELXZ100E B22MM30S		1,800	18×20	0.028	0.056	2,490	ELXZ350E \Box 182MM20S
	10,000	16×40	0.015	0.030	3,710	ELXZ100E 103ML40S		2,200	16×25	0.022	0.044	2,560	ELXZ350E 222ML25S
	10,000	18×35		0.032	3,680	ELXZ100E 103MM35S		2,200	16×30		0.038	3,010	ELXZ350E 222ML30S
<u> </u>	12,000	18×40	0.015	0.030	3,800	ELXZ100E 123MM40S		2,200	18×20	0.028	0.056	2,490	ELXZ350E 222MM20S
	470	10×12.5	0.090	0.18	760	ELXZ160E 471MJC5S		2,200	18×25	0.020	0.040	2,740	ELXZ350E 222MM25S
	680	10×16	0.068	0.136	1,050	ELXZ160E G81MJ16S		2,700	16×35	0.017	0.034	3,150	ELXZ350E 272ML35S
	1,000	10×20	0.052	0.104	1,220	ELXZ160E 102MJ20S		2,700	18×30	0.018	0.036	3,330	ELXZ350E 272MM30S
	1,200	10×25 10×30	0.045	0.090	1,440	ELXZ160E□□122MJ25S ELXZ160E□□152MJ30S		3,300	16×40	0.015	0.030	3,710	ELXZ350E□□332ML40S ELXZ350E□□332MM35S
	1,500		0.037	0.074	1,690 1,660	ELXZ160E		3,300	18×35	0.016	0.032	3,680	ELXZ350E 332MM40S
	2,200		0.030	0.076	1,950	ELXZ160E 222MK25S		4,700	18×40 18×40	0.015		3,800	ELXZ350E 392MM40S
		12.5×25	0.030	0.050	2,310	ELXZ160E 272MK30S		4,700	10 × 40	0.013	0.030	3,000	LLXZ330L 47ZIVIIVI403
	2,700	16×20	0.025	0.058	2,210	ELXZ160E 272ML20S							
	3,300		0.029	0.038	2,510	ELXZ160E 332MK35S							
16	3,900		0.017	0.034	2,870	ELXZ160E 392MK40S							
	3,900	16×25	0.022	0.044	2,560	ELXZ160E 392ML25S							
	3,900	18×20	0.028	0.056	2,490	ELXZ160E 392MM20S							
	4,700	16×30	0.019	0.038	3,010	ELXZ160E□□472ML30S							
	4 700	18×25		0.040		FLXZ160F□□472MM25S							

 $\square\,\square$  : Enter the appropriate lead forming or taping code.

18×25 0.020 0.040 2,740 ELXZ160E□□472MM25S 16×35 0.017 0.034 3,150 ELXZ160E□□562ML35S

18×35 | 0.016 | 0.032 | 3,680 | ELXZ160E□□822MM35S

18×40 | 0.015 | 0.030 | 3,800 | ELXZ160E□□103MM40S

0.018 | 0.036 | 3,330 | ELXZ160E□□562MM30S 16×40 0.015 0.030 3,710 ELXZ160E□□682ML40S

4,700

5,600 5,600

6,800 8,200

10,000

18×30

## CHEMI-CON ALUMINUM ELECTROLYTIC CAPACITORS



## **STANDARD RATINGS**

wv	Сар	Case size	Case size Impedance (Ω max./100kHz)  Rated ripple current Part No.	wv	/ Cap Cas	Case size	Impedance (Ω max./100kHz)		Rated ripple current	Part No.			
(V <sub>dc</sub> )	(µF)	φD×L(mm)	20℃	-10℃	(mArms/ 105℃, 100kHz)	Part NO.	(V <sub>dc</sub> )	(μF)	φD×L(mm)	20℃	-10℃	(mArms/ 105℃, 100kHz)	
	120	10×12.5	0.16	0.32	620	ELXZ500E□□121MJC5S		100	10×12.5	0.255	0.51	540	ELXZ630E□□101MJC5S
	180	10×16	0.13	0.26	850	ELXZ500E□□181MJ16S		120	10×16	0.19	0.38	600	ELXZ630E□□121MJ16S
	220	10×20	0.088	0.18	1,050	ELXZ500E□□221MJ20S		180	10×20	0.145	0.29	890	ELXZ630E□□181MJ20S
	330	10×25	0.073	0.15	1,250	ELXZ500E□□331MJ25S		220	10×25	0.13	0.26	1,050	ELXZ630E□□221MJ25S
	390	10×30	0.054	0.11	1,500	ELXZ500E□□391MJ30S		330	10×30	0.090	0.18	1,300	ELXZ630E□□331MJ30S
	390	12.5×20	0.059	0.12	1,480	ELXZ500E□□391MK20S		330	12.5×20	0.085	0.17	1,290	ELXZ630E□□331MK20S
	470	12.5×20	0.059	0.12	1,480	ELXZ500E□□471MK20S		390	12.5×25	0.070	0.14	1,720	ELXZ630E□□391MK25S
	560	12.5×25	0.044	0.088	1,840	ELXZ500E□□561MK25S	63	470	12.5×30	0.055	0.11	2,090	ELXZ630E□□471MK30S
	680	12.5×30	0.039	0.078	2,220	ELXZ500E□□681MK30S		470	16×20	0.059	0.12	1,770	ELXZ630E□□471ML20S
	680	16×20	0.048	0.096	1,840	ELXZ500E□□681ML20S		680	12.5×35	0.047	0.094	2,270	ELXZ630E□□681MK35S
50	820	12.5×35	0.033	0.066	2,290	ELXZ500E□□821MK35S		680	16×25	0.050	0.10	2,160	ELXZ630E□□681ML25S
	820	18×20	0.042	0.084	1,980	ELXZ500E□□821MM20S		680	18×20	0.055	0.11	2,290	ELXZ630E□□681MM20S
	1,000	12.5×40	0.029	0.058	2,500	ELXZ500E□□102MK40S		820	12.5×40	0.042	0.084	2,560	ELXZ630E□□821MK40S
	1,000	16×25	0.034	0.068	2,240	ELXZ500E□□102ML25S		820	16×30	0.043	0.086	2,670	ELXZ630E□□821ML30S
	1,200	16×30	0.028	0.056	2,700	ELXZ500E□□122ML30S		820	18×25	0.043	0.086	2,590	ELXZ630E□□821MM25S
	1,200	18×25	0.029	0.058	2,610	ELXZ500E□□122MM25S		1,000	16×30	0.043	0.086	2,670	ELXZ630E□□102ML30S
	1,500	16×35	0.025	0.050	2,800	ELXZ500E□□152ML35S		1,000	16×35	0.036	0.072	2,770	ELXZ630E□□102ML35S
	1,800	16×40	0.021	0.042	3,200	ELXZ500E□□182ML40S		1,200	16×40	0.030	0.060	2,850	ELXZ630E□□122ML40S
	1,800	18×30	0.025	0.050	3,000	ELXZ500E□□182MM30S		1,200	18×30	0.032	0.064	2,950	ELXZ630E□□122MM30S
	2,200	18×35	0.023	0.046	3,100	ELXZ500E□□222MM35S		1,500	18×35	0.030	0.060	3,100	ELXZ630E□□152MM35S
	2,700	18×40	0.020	0.040	3,400	ELXZ500E□□272MM40S		1,800	18×40	0.025	0.050	3,210	ELXZ630E□□182MM40S
	□□ : Enter the appropriate lead forming or taping code.							2,200 3.300	18×40 18×40	0.025	0.050	3,210 3.900	ELXZ630E□□222MM40S ELXZ630E□□332MM40S

## **PRATED RIPPLE CURRENT MULTIPLIERS**

### Frequency Multipliers

' '				
Capacitance(µF) Frequency(Hz)	120	1k	10k	100k
100 to 180	0.40	0.75	0.90	1.00
220 to 560	0.50	0.85	0.94	1.00
680 to 1,800	0.60	0.87	0.95	1.00
2,200 to 3,900	0.75	0.90	0.95	1.00
4,700 to 18,000	0.85	0.95	0.98	1.00

The deterioration of aluminum electrolytic capacitors accelerates their life due to the internal heating produced by ripple current. For details, refer to Section "5-3 Ripple Current Effect on Lifetime" in the catalog, Technical Note.



- Always read "Notes on Use" before using the product in order to enable you to use the product correctly and prevent any faults and accidents from occurring.
- Request the Product Specification on the product of NIPPON CHEMI-CON CORPORATION to refer to it as well as this brochure prior to the order of the products. Some specific notes on use of the ordered product may be described in the specifications.
- The products listed in this catalog are designed and manufactured for general electronics equipment use and are not intended for use in applications that can adversely affect human life; where the malfunction of equipment may cause damage to life or property. In addition, our products are not intended to be used in specific applications that may cause a major social impact. Please consult with us in advance of usage of our products in the following listed applications. ① Aerospace equipment ② Power generation equipment such as thermal power, nuclear power etc. ③ Medical equipment ④ Transport equipment (automobiles, trains, ships, etc.) ⑤ Transportation control equipment ⑥ Disaster prevention / crime prevention equipment ⑦ Highly publicized information processing equipment ⑧ Submarine equipment ⑨ Other applications that are not considered general-purpose applications.
- The circuits described as examples in this catalog and the "delivery specifications" are featured in order to show the operations and usage of our products, however, this fact does not guarantee that the circuits are available to function in your equipment systems. We are not in any case responsible for any failures or damage caused by the use of information contained herein. You should examine our products, of which the characteristics are described in the "delivery specifications" and other documents, and determine whether or not our products suit your requirements according to the specifications of your equipment systems. Therefore, you bear final responsibility regarding the use of our products.
  - Please make sure that you take appropriate safety measures such as use of redundant design and malfunction prevention measures in order to prevent fatal accidents and/or fires in the event any of our products malfunction.
- We strongly recommend our customers to purchase Nippon Chemi-Con products only through our official sales channels. We assume no responsibility for any defects or damages caused by using products purchased from outside our official sales channel or of counterfeit goods. In addition, we will ask the customer to pay the investigation cost for products purchased outside our official sales channel.
- We reserve the right to discontinue production and delivery of products. We do not guarantee that all the products included in this catalog will be available in the future.
  - The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products
- We continually strive to improve the quality and reliability of our products, but in any case that our product does not meet our published specifications, please stop using it promptly and contact us immediately. As for compensation for non-conforming goods delivered by Chemi-Con, we will limit it only to goods found in non-compliance of our published specifications. This may be accomplished by a no cost replacement of non-conforming individual products, a credit of the piece price paid per each individual non-conforming product, or in other ways deemed necessary.
  - In addition, we have an established system with enhanced traceability, therefore we will limit the applicable lot items for any potential compensation.

Part Numbering System
Part Numbering System (Appendix)
Standardization
Available Items by Manufacturing Locations
Environmental Measures
Technical Note
Precautions and Guidelines
Recommended Soldering Conditions
Taping, Lead-preforming and Packaging
Available Terminals for Snap-in and Screw Mount Type