



KZN Series

- Adoption of innovative high stability electrolyte
- High ripple current and long endurance
- Rated voltage range : 6.3 to 100V_{dc}, Capacitance range : 8.2 to 22,000μF
- Endurance with ripple current : 6,000 to 10,000 hours at 105°C
- Non solvent resistant type
- RoHS2 Compliant

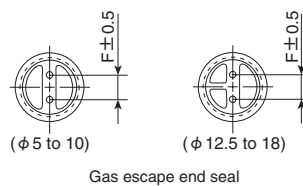
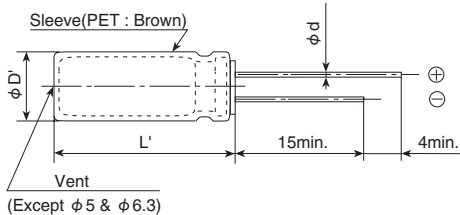


SPECIFICATIONS

Items	Characteristics	
Category Temperature Range	-40 to +105°C	
Rated Voltage Range	6.3 to 100V _{dc}	
Capacitance Tolerance	±20% (M) (at 20°C, 120Hz)	
Leakage Current	I=0.01CV or 3μA, whichever is greater. Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 2 minutes)	
Dissipation Factor (tan δ)	Rated voltage (V _{dc})	6.3V 10V 16V 25V 35V 50V 63V 80V 100V
	tan δ (Max.)	0.22 0.19 0.16 0.14 0.12 0.10 0.09 0.09 0.08
	When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase. (at 20°C, 120Hz)	
Low Temperature Characteristics (Max. Impedance Ratio)	Z (-25°C) / Z (+20°C)	2max.
	Z (-40°C) / Z (+20°C)	3max.
Endurance	The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for the specified period of time at 105°C.	
	Time	Case size φ 5& φ 6.3 φ 8×11.5L φ 10×12.5L φ 8×15L, 20L φ 10×16L, 20L, 25L φ 12.5 to φ 18
		6.3V _{dc} 6,000 hours 8,000 hours 9,000 hours 9,000 hours 10,000 hours
		10 to 50V _{dc} 7,000 hours 9,000 hours 9,000 hours 10,000 hours 10,000 hours
		63 to 100V _{dc} 6,000 hours 8,000 hours 9,000 hours 9,000 hours 10,000 hours
	Capacitance change	≤ ±25% of the initial value (6.3, 10V _{dc} : ≤ ±30%)
	D.F. (tan δ)	≤200% of the initial specified value
Leakage current	≤The initial specified value	
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 500 hours at 105°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4.	
	Capacitance change	≤ ±25% of the initial value (6.3, 10V _{dc} : ≤ ±30%)
	D.F. (tan δ)	≤200% of the initial specified value
	Leakage current	≤The initial specified value

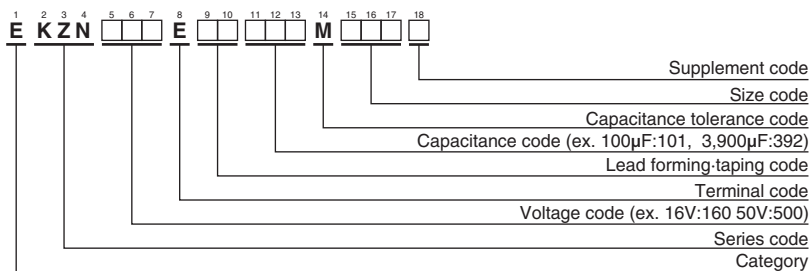
DIMENSIONS [mm]

● Terminal Code : E



φ D	5	6.3	8	10	12.5	16	18
φ d	0.5	0.5	0.6	0.6	0.6	0.8	0.8
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
D'	φ D + 0.5max.						
L'	L + 1.5max.						

PART NUMBERING SYSTEM





KZN Series

◆ STANDARD RATINGS

WV (V _{dc})	Cap (μF)	Case size φD×L(mm)	Impedance (Ω max./100kHz)		Rated ripple current (mA rms/105°C, 100kHz)	Part No.	WV (V _{dc})	Cap (μF)	Case size φD×L(mm)	Impedance (Ω max./100kHz)		Rated ripple current (mA rms/105°C, 100kHz)	Part No.	
			20°C	-10°C						20°C	-10°C			
6.3	220	5×11	0.38	1.2	345	EKZN6R3E□□221ME11D	16	3,300	12.5×30	0.018	0.054	3,660	EKZN160E□□332MK30S	
	470	6.3×11	0.17	0.51	540	EKZN6R3E□□471MF11D		3,900	12.5×35	0.016	0.048	4,120	EKZN160E□□392MK35S	
	820	8×11.5	0.075	0.23	945	EKZN6R3E□□821MHB5D		3,900	16×20	0.021	0.063	3,330	EKZN160E□□392ML20S	
	1,200	8×15	0.059	0.18	1,250	EKZN6R3E□□122MH15D		4,700	18×20	0.020	0.060	3,450	EKZN160E□□472MM20S	
	1,200	10×12.5	0.053	0.16	1,330	EKZN6R3E□□122MJC5S		5,600	16×25	0.017	0.051	3,810	EKZN160E□□562ML25S	
	1,500	8×20	0.041	0.13	1,500	EKZN6R3E□□152MH20D		6,800	16×31.5	0.016	0.048	4,100	EKZN160E□□682MLN3S	
	1,800	10×16	0.038	0.12	1,760	EKZN6R3E□□182MJ16S		6,800	18×25	0.016	0.048	3,880	EKZN160E□□682MM25S	
	2,700	10×20	0.028	0.084	1,960	EKZN6R3E□□272MJ20S		8,200	16×35.5	0.014	0.042	4,280	EKZN160E□□822MLP1S	
	2,700	12.5×16	0.035	0.11	1,900	EKZN6R3E□□272MK16S		8,200	18×31.5	0.014	0.042	4,190	EKZN160E□□822MMN3S	
	3,300	10×25	0.026	0.072	2,250	EKZN6R3E□□332MJ25S		10,000	16×40	0.013	0.039	4,580	EKZN160E□□103ML40S	
	3,900	12.5×20	0.025	0.075	2,480	EKZN6R3E□□392MK20S		10,000	18×35.5	0.012	0.036	4,380	EKZN160E□□103MMP1S	
	5,600	12.5×25	0.019	0.057	2,900	EKZN6R3E□□562MK25S		12,000	18×40	0.011	0.033	4,960	EKZN160E□□123MM40S	
	6,800	12.5×30	0.018	0.054	3,450	EKZN6R3E□□682MK30S		25	68	5×11	0.38	1.2	450	EKZN250E□□680ME11D
	6,800	16×20	0.021	0.063	3,250	EKZN6R3E□□682ML20S			150	6.3×11	0.17	0.51	700	EKZN250E□□151MF11D
	8,200	12.5×35	0.016	0.048	3,570	EKZN6R3E□□822MK35S			270	8×11.5	0.075	0.23	1,200	EKZN250E□□271MHB5D
	8,200	18×20	0.020	0.060	3,450	EKZN6R3E□□822MM20S			470	8×15	0.059	0.18	1,600	EKZN250E□□471MH15D
	10,000	16×25	0.017	0.051	3,630	EKZN6R3E□□103ML25S			470	10×12.5	0.053	0.16	1,700	EKZN250E□□471MJC5S
	12,000	16×31.5	0.016	0.048	4,100	EKZN6R3E□□123MLN3S			560	8×20	0.041	0.13	1,960	EKZN250E□□561MH20D
	12,000	18×25	0.016	0.048	3,880	EKZN6R3E□□123MM25S			680	10×16	0.038	0.12	2,000	EKZN250E□□681MJ16S
	15,000	16×35.5	0.014	0.042	4,280	EKZN6R3E□□153MLP1S			820	10×20	0.028	0.084	2,500	EKZN250E□□821MJ20S
	15,000	18×31.5	0.014	0.042	4,190	EKZN6R3E□□153MMN3S			1,000	12.5×16	0.035	0.11	2,400	EKZN250E□□102MK16S
	18,000	16×40	0.013	0.039	4,580	EKZN6R3E□□183ML40S			1,200	10×25	0.026	0.072	2,900	EKZN250E□□122MJ25S
18,000	18×35.5	0.012	0.036	4,380	EKZN6R3E□□183MMP1S	1,500	12.5×20		0.025	0.075	2,600	EKZN250E□□152MK20S		
22,000	18×40	0.011	0.033	4,960	EKZN6R3E□□223MM40S	1,800	12.5×25		0.019	0.057	3,200	EKZN250E□□182MK25S		
10	150	5×11	0.38	1.2	450	EKZN100E□□151ME11D	2,200		12.5×30	0.018	0.054	3,660	EKZN250E□□222MK30S	
	330	6.3×11	0.17	0.51	700	EKZN100E□□331MF11D	2,200		16×20	0.021	0.063	3,330	EKZN250E□□222ML20S	
	560	8×11.5	0.075	0.23	1,200	EKZN100E□□561MHB5D	2,700		12.5×35	0.016	0.048	4,120	EKZN250E□□272MK35S	
	820	8×15	0.059	0.18	1,600	EKZN100E□□821MH15D	3,300		16×25	0.017	0.051	3,810	EKZN250E□□332ML25S	
	1,000	8×20	0.041	0.13	1,960	EKZN100E□□102MH20D	3,300		18×20	0.020	0.060	3,450	EKZN250E□□332MM20S	
	1,000	10×12.5	0.053	0.16	1,700	EKZN100E□□102MJC5S	4,700		16×31.5	0.016	0.048	4,100	EKZN250E□□472MLN3S	
	1,200	10×16	0.038	0.12	2,000	EKZN100E□□122MJ16S	4,700		18×25	0.016	0.048	3,880	EKZN250E□□472MM25S	
	1,800	10×20	0.028	0.084	2,500	EKZN100E□□182MJ20S	5,600		16×35.5	0.014	0.042	4,280	EKZN250E□□562MLP1S	
	1,800	12.5×16	0.035	0.11	2,400	EKZN100E□□182MK16S	5,600		18×31.5	0.014	0.042	4,190	EKZN250E□□562MMN3S	
	2,200	10×25	0.026	0.072	2,900	EKZN100E□□222MJ25S	6,800		16×40	0.013	0.039	4,580	EKZN250E□□682ML40S	
	2,700	12.5×20	0.025	0.075	2,600	EKZN100E□□272MK20S	6,800	18×35.5	0.012	0.036	4,380	EKZN250E□□682MMP1S		
	3,900	12.5×25	0.019	0.057	3,200	EKZN100E□□392MK25S	8,200	18×40	0.011	0.033	4,960	EKZN250E□□822MM40S		
	4,700	12.5×30	0.018	0.054	3,660	EKZN100E□□472MK30S	35	47	5×11	0.38	1.2	450	EKZN350E□□470ME11D	
	4,700	16×20	0.021	0.063	3,330	EKZN100E□□472ML20S		100	6.3×11	0.17	0.51	700	EKZN350E□□101MF11D	
	5,600	12.5×35	0.016	0.048	4,120	EKZN100E□□562MK35S		180	8×11.5	0.075	0.23	1,200	EKZN350E□□181MHB5D	
	5,600	18×20	0.020	0.060	3,450	EKZN100E□□562MM20S		220	8×15	0.059	0.18	1,600	EKZN350E□□221MH15D	
	6,800	16×25	0.017	0.051	3,810	EKZN100E□□682ML25S		270	10×12.5	0.053	0.16	1,700	EKZN350E□□271MJC5S	
	8,200	16×31.5	0.016	0.048	4,100	EKZN100E□□822MLN3S		330	8×20	0.041	0.13	1,960	EKZN350E□□331MH20D	
	8,200	18×25	0.016	0.048	3,880	EKZN100E□□822MM25S		390	10×16	0.038	0.12	2,000	EKZN350E□□391MJ16S	
	10,000	16×35.5	0.014	0.042	4,280	EKZN100E□□103MLP1S		470	10×20	0.028	0.084	2,500	EKZN350E□□471MJ20S	
	10,000	18×31.5	0.014	0.042	4,190	EKZN100E□□103MMN3S		560	12.5×16	0.035	0.11	2,400	EKZN350E□□561MK16S	
	12,000	16×40	0.013	0.039	4,580	EKZN100E□□123ML40S		680	10×25	0.026	0.072	2,900	EKZN350E□□681MJ25S	
12,000	18×35.5	0.012	0.036	4,380	EKZN100E□□123MMP1S	820		12.5×20	0.025	0.075	2,600	EKZN350E□□821MK20S		
15,000	18×40	0.011	0.033	4,960	EKZN100E□□153MM40S	1,200		12.5×25	0.019	0.057	3,200	EKZN350E□□122MK25S		
16	120	5×11	0.38	1.2	450	EKZN160E□□121ME11D		1,500	12.5×30	0.018	0.054	3,660	EKZN350E□□152MK30S	
	270	6.3×11	0.17	0.51	700	EKZN160E□□271MF11D		1,500	16×20	0.021	0.063	3,330	EKZN350E□□152ML20S	
	470	8×11.5	0.075	0.23	1,200	EKZN160E□□471MHB5D		1,800	12.5×35	0.016	0.048	4,120	EKZN350E□□182MK35S	
	680	8×15	0.059	0.18	1,600	EKZN160E□□681MH15D		1,800	16×25	0.017	0.051	3,810	EKZN350E□□182ML25S	
	680	10×12.5	0.053	0.16	1,700	EKZN160E□□681MJC5S		1,800	18×20	0.020	0.060	3,450	EKZN350E□□182MM20S	
	820	8×20	0.041	0.13	1,960	EKZN160E□□821MH20D		2,700	16×31.5	0.016	0.048	4,100	EKZN350E□□272MLN3S	
	1,000	10×16	0.038	0.12	2,000	EKZN160E□□102MJ16S		2,700	18×25	0.016	0.048	3,880	EKZN350E□□272MM25S	
	1,500	10×20	0.028	0.084	2,500	EKZN160E□□152MJ20S		3,300	16×35.5	0.014	0.042	4,280	EKZN350E□□332MLP1S	
	1,500	12.5×16	0.035	0.11	2,400	EKZN160E□□152MK16S		3,300	18×31.5	0.014	0.042	4,190	EKZN350E□□332MMN3S	
	1,800	10×25	0.026	0.072	2,900	EKZN160E□□182MJ25S		3,900	16×40	0.013	0.039	4,580	EKZN350E□□392ML40S	
	2,200	12.5×20	0.025	0.075	2,600	EKZN160E□□222MK20S	3,900	18×35.5	0.012	0.036	4,380	EKZN350E□□392MMP1S		
	2,700	12.5×25	0.019	0.057	3,200	EKZN160E□□272MK25S	4,700	18×40	0.011	0.033	4,960	EKZN350E□□472MM40S		

□ □ : Enter the appropriate lead forming or taping code.
 Production of the products shown in [] is scheduled to be discontinued.



KZN Series

STANDARD RATINGS

Table with columns: WV (Vdc), Cap (µF), Case size φD×L(mm), Impedance (Ω max./100kHz) at 20°C and -10°C, Rated ripple current (mA rms/105°C, 100kHz), Part No. The table is divided into three sections for WV ratings of 50V, 63V, and 80V, each with sub-sections for capacitance values ranging from 27µF to 1,800µF.

□ □ : Enter the appropriate lead forming or taping code. Production of the products shown in [] is scheduled to be discontinued.



KZN Series

◆ RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

Capacitance(μF) \ Frequency(Hz)	120	1k	10k	100k
8.2 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 22,000	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](#)

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- ⊖ [View EKZN630ELL102ML25S on WIN SOURCE](#)
- ⊖ [United Chemi-Con Information](#)

Optimize Your Supply Chain with WIN SOURCE Solutions

- ✓ Global Sourcing Solution
- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management