

ALUMINUM ELECTROLYTIC CAPACITORS

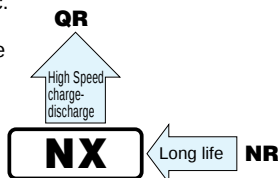
nichicon

NX series

Screw Terminal Type, High ripple longer life.



- Suited for use in industrial power supplies for inverter circuitry, etc.
- High ripple current, extra-high voltage application.
- High reliability, long life for 20,000 hours application of rated ripple current at +85°C.
- Extended range up to $\phi 100 \times 250L$ size.
- Flame retardant electroly to type available.
- Bushing type for better vibration and insulation also available.
- Available for adapted to the RoHS directive (2002/95/EC).

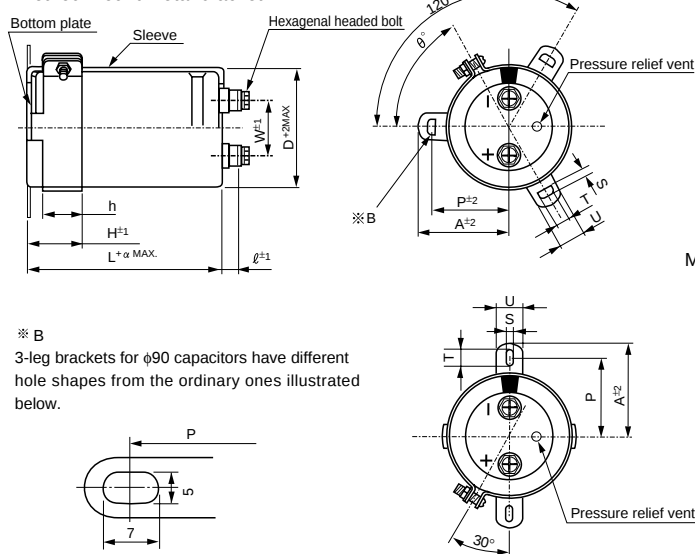


Specifications

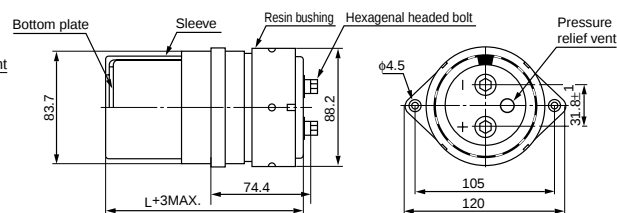
Item	Performance Characteristics	
Category Temperature Range	- 25 ~ +85°C	
Rated Voltage Range	350 ~ 630V	
Rated Capacitance Range	1000 ~ 27000 μ F	
Capacitance Tolerance	$\pm 20\%$ at 120Hz, 20°C	
Leakage Current	After 5 minutes' application of rated voltage, leakage current is not more than $3\sqrt{C/V}$ (μ A) or 5 mA, whichever is smaller (at 20°C). [C: Rated Capacitance(μ F), V: Voltage (V)]	
tan δ	See P225 (Measurement frequency: 120Hz, Temperature: 20°C)	
Stability at Low Temperature	Rated voltage (V)	350 ~ 630
	Impedance ratio ZT/Z20(MAX.)	Z - 25°C / Z+20°C 8
Endurance	After an application of DC voltage (in the range of rated voltage even after over-lapping the standard ripple current) for 20,000 hours at 85°C, capacitors shall meet the characteristics requirements indicated at right. (2000 hours at 85°C for the parts rated at 630V, 5000 hours at 85°C for the parts rated at 500V and 550V)	
	After an application of DC voltage (in the range of rated DC voltage even after over-lapping the maximum allowable ripple current) for 5000 hours at 85°C, capacitors meet the characteristic requirements listed at right.	
	Capacitance change	Within $\pm 20\%$ of initial value
	tan δ	300% or less of initial specified value
Shelf Life	After leaving capacitors under no load at 85°C for 1000 hours, they meet the specified value for endurance characteristics listed above.	
	Marking	
Marking	Printed with white color letter on black sleeve.	

Drawing

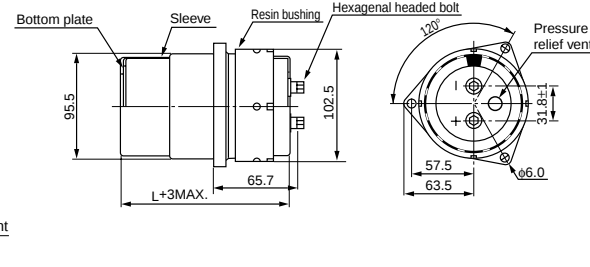
Method mount metal bracket



Method to mount resin bushing ($\phi 76.2$) (Apply to L=150 or more)



Method to mount resin bushing ($\phi 90$) (Apply to L=150 or more)



● Dimension of terminal pitch (W) and length (ℓ) and Nominal dia. of bolt (mm)

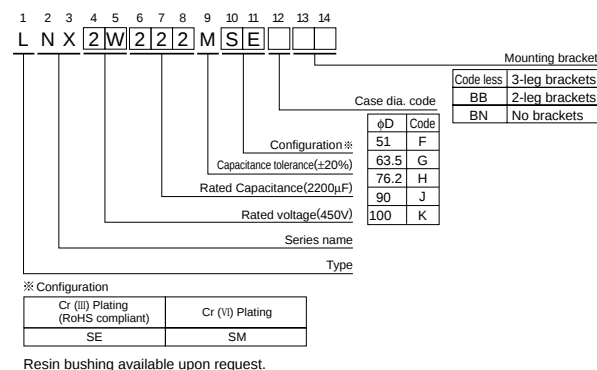
ϕD	W	ℓ	α	Nominal dia. of bolt
51	22.0	6	3	M5
63.5	28.6	6	3	M5
76.2	31.8	6	3	M5
90	31.8	6	3	M5
100	41.5	10	4	M8

● Dimensions of mounting bracket (mm)

Leg shape	3-Leg					2-Leg				
	ϕD	51	63.5	76.2	90	100	51	63.5	76.2	90
P		32.5	38.1	44.5	50.8	56.3	33.2	40.5	46.5	53
A		38.5	43	49.2	58.5	62	40	46.5	53	59
T		7.5	8.0	7.0	8.0	8.0	6.0	7.0	6.0	6.0
S		5.0	5.0	5.0	5.0	5.0	4.5	4.5	4.5	4.5
U		12	14	14	18	16	14	14	14	14
θ°		60	60	60	60	60	30	30	30	30
H		20	25	30	35	36	25	35	35	35
h		15	20	24	25	30	15	20	20	20

● Dimension table in next page.

Type numbering system (Example : 450V 2200 μ F)



※ Please contact to us if PVCless products are required.

CAT.8100U

■ Dimensions

V (Surge) (Code)	Cap.(μF)	Case size φ D×L(mm)	Standard ripple (Arms) ×1	Rated ripple (Arms) ×2	tan δ (MAX)	Leakage current (mA MAX) ×3	Code
350V (400) (2V)	1000	51 × 60	3.5	4.6	0.2	1.77	LNX2V102MSEF
	1200	51 × 70	4.2	5.3	0.2	1.94	LNX2V122MSEF
	1500	51 × 80	4.9	6.3	0.2	2.17	LNX2V152MSEF
	1800	51 × 90	5.6	7.3	0.2	2.38	LNX2V182MSEF
	2200	51 × 110	6.7	8.8	0.2	2.63	LNX2V222MSEF
	2700	51 × 130	8.0	10.3	0.2	2.92	LNX2V272MSEF
		63.5 × 90	7.7	9.9	0.2	2.92	LNX2V272MSEG
	3300	51 × 150	9.2	12.1	0.2	3.22	LNX2V332MSEF
		63.5 × 100	9.0	11.8	0.2	3.22	LNX2V332MSEG
	3900	63.5 × 110	10.4	12.5	0.2	3.50	LNX2V392MSEG
		76.2 × 90	10.3	12.2	0.2	3.50	LNX2V392MSEH
	4700	63.5 × 130	12.0	14.8	0.2	3.85	LNX2V472MSEG
		76.2 × 100	11.9	14.0	0.2	3.85	LNX2V472MSEH
	5600	63.5 × 150	14.0	17.0	0.2	4.20	LNX2V562MSEG
		76.2 × 110	13.5	16.4	0.2	4.20	LNX2V562MSEH
	6800	63.5 × 170	16.3	19.6	0.2	4.63	LNX2V682MSEG
		76.2 × 130	16.0	19.1	0.2	4.63	LNX2V682MSEH
	8200	76.2 × 150	18.7	22.0	0.2	5.00	LNX2V822MSEH
		90 × 130	18.2	21.4	0.2	5.00	LNX2V822MSEJ
	10000	76.2 × 170	21.8	25.5	0.2	5.00	LNX2V103MSEG
		90 × 150	21.3	25.3	0.2	5.00	LNX2V103MSEJ
	12000	76.2 × 190	25.1	29.1	0.2	5.00	LNX2V123MSEH
		90 × 150	24.8	28.8	0.2	5.00	LNX2V123MSEJ
	15000	90 × 190	29.0	36.0	0.2	5.00	LNX2V153MSEJ
	18000	90 × 220	32.4	39.7	0.2	5.00	LNX2V183MSEJ
	22000	100 × 220	38.0	43.2	0.2	5.00	LNX2V223MSEK
	27000	100 × 250	42.0	47.0	0.2	5.00	LNX2V273MSEK
400V (450) (2G)	1000	51 × 70	3.8	5.0	0.2	1.90	LNX2G102MSEF
	1200	51 × 80	4.5	5.8	0.2	2.08	LNX2G122MSEF
	1500	51 × 100	5.3	6.8	0.2	2.32	LNX2G152MSEF
	1800	51 × 110	6.0	8.2	0.2	2.55	LNX2G182MSEF
	2200	51 × 130	7.0	9.3	0.2	2.81	LNX2G222MSEF
		63.5 × 90	6.8	8.9	0.2	2.81	LNX2G222MSEG
	2700	63.5 × 110	8.2	10.8	0.2	3.12	LNX2G272MSEG
		76.2 × 90	8.1	10.6	0.2	3.12	LNX2G272MSEH
	3300	63.5 × 130	9.6	12.9	0.2	3.45	LNX2G332MSEG
		76.2 × 100	9.3	12.4	0.2	3.45	LNX2G332MSEH
	3900	63.5 × 150	11.0	14.4	0.2	3.75	LNX2G392MSEG
		76.2 × 100	10.5	13.9	0.2	3.75	LNX2G392MSEH
	4700	63.5 × 170	12.6	16.6	0.2	4.11	LNX2G472MSEG
		76.2 × 130	12.3	16.0	0.2	4.11	LNX2G472MSEH
	5600	63.5 × 190	14.7	18.8	0.2	4.49	LNX2G562MSEG
		76.2 × 150	14.3	18.3	0.2	4.49	LNX2G562MSEH
	6800	76.2 × 170	16.7	21.2	0.2	4.95	LNX2G682MSEH
		90 × 130	16.3	20.7	0.2	4.95	LNX2G682MSEJ
	8200	76.2 × 190	19.3	24.1	0.2	5.00	LNX2G822MSEH
		90 × 150	19.0	23.7	0.2	5.00	LNX2G822MSEJ
	10000	76.2 × 220	22.7	28.3	0.2	5.00	LNX2G103MSEH
		90 × 170	22.2	28.0	0.2	5.00	LNX2G103MSEJ
	12000	90 × 190	25.5	31.9	0.2	5.00	LNX2G123MSEJ
	15000	100 × 190	29.6	37.0	0.2	5.00	LNX2G153MSEK
	18000	100 × 220	33.0	40.5	0.2	5.00	LNX2G183MSEK
	22000	100 × 250	41.4	44.7	0.2	5.00	LNX2G223MSEK

● Frequency coefficient of rated ripple current

Frequency (Hz)	60	120	360	1k	10k~
Coefficient	0.82	1.00	1.20	1.35	1.40

(※ 1) • Standard ripple current:

Ripple current value allowable for the life time of 20,000 hours at 85°C.
(5,000 hours at 85°C for the voltage rating of 500V and 550V, 2,000 hours at 85°C for the voltage rating of 630V)

(※ 2) • Maximum rated ripple current:

Ripple current value allowable for the life time of 5,000 hours at 85°C.
• Estimated life time of capacitor is calculated by the following formula, taking the operating temperature, inner temperature rise due to the ripple and derated voltage into consideration.

$$L_n = L_0 \times 2^{\frac{85-T}{10}} \times 2^{\frac{\Delta T}{K}} \times \alpha$$

Where,

L_n : Lifetime under normal operating conditions.(h)
 L_0 : Lifetime under maximum operating temperature of 85°C and applied DC voltage. (28000h)
 T : Ambient temperature.(°C)
 ΔT : Inner temperature rise of capacitor due to ripple current(°C)
 K : Acceleration coefficient for temperature rise due to the ripple current.
when $T+\Delta T \leq 90^\circ\text{C}$, $K=10$
when $T+\Delta T > 90^\circ\text{C}$, $K=2.5$
 α : Life factor

• Life factor α due to the voltage derating shall be decided by the temperature and the applied voltage

Oper.temp.	T ≤ 70°C	70°C < T ≤ 85°C
Voltage ratio	—	$V/V_0 \leq 0.8$ $0.8 < V/V_0 \leq 0.9$ $0.9 < V/V_0 \leq 1.0$
α	1.0	1.0 0.8 0.7

V : Applied voltage(V) V_0 : Rated voltage(V)

V (Surge) (Code)	Cap.(μF)	Case size φ D×L(mm)	Standard ripple (Arms) ×1	Rated ripple (Arms) ×2	tan δ (MAX)	Leakage current (mA MAX) ×3	Code
450V (500) (2W)	1000	51 × 80	4.0	5.2	0.2	2.01	LNX2W102MSEF
	1200	51 × 100	4.7	6.3	0.2	2.20	LNX2W122MSEF
	1500	51 × 110	5.4	7.3	0.2	2.46	LNX2W152MSEF
	1800	51 × 130	6.4	8.7	0.2	2.70	LNX2W182MSEF
		63.5 × 90	6.1	7.6	0.2	2.70	LNX2W182MSEG
	2200	63.5 × 110	7.2	9.6	0.2	2.98	LNX2W222MSEG
		76.2 × 90	7.1	9.4	0.2	2.98	LNX2W222MSEH
	2700	63.5 × 130	8.6	11.3	0.2	3.31	LNX2W272MSEG
		76.2 × 100	8.3	11.0	0.2	3.31	LNX2W272MSEH
	3300	63.5 × 150	10.0	13.3	0.2	3.66	LNX2W332MSEG
		76.2 × 110	9.7	12.9	0.2	3.66	LNX2W332MSEH
	3900	63.5 × 170	11.4	15.1	0.2	3.97	LNX2W392MSEG
		76.2 × 130	11.2	14.6	0.2	3.97	LNX2W392MSEH
	4700	63.5 × 190	13.0	17.3	0.2	4.36	LNX2W472MSEG
		76.2 × 150	12.9	16.9	0.2	4.36	LNX2W472MSEH
	5600	76.2 × 170	15.4	19.4	0.2	4.76	LNX2W562MSEH
		90 × 150	15.3	19.1	0.2	4.76	LNX2W562MSEJ
	6800	76.2 × 190	17.3	22.0	0.2	5.00	LNX2W682MSEH
		90 × 150	17.1	21.6	0.2	5.00	LNX2W682MSEJ
	8200	76.2 × 220	20.3	25.7	0.2	5.00	LNX2W822MSEH
		90 × 170	19.8	25.4	0.2	5.00	LNX2W822MSEJ
	10000	90 × 190	23.0	29.6	0.2	5.00	LNX2W103MSEJ
	12000	90 × 220	26.9	33.5	0.2	5.00	LNX2W123MSEJ
	15000	100 × 220	31.1	38.0	0.2	5.00	LNX2W153MSEK
	18000	100 × 250	37.0	41.3	0.2	5.00	LNX2W183MSEK
500V (550) (2H)	1000	51 × 110	4.2	—	0.2	2.12	LNX2H102MSEF
	1200	63.5 × 90	4.8	—	0.2	2.32	LNX2H122MSEG
	1500	63.5 × 90	5.5	—	0.2	2.60	LNX2H152MSEG
	1800	63.5 × 110	6.5	—	0.2	2.85	LNX2H182MSEG
	2200	63.5 × 130	7.7	—	0.2	3.15	LNX2H222MSEG
	2700	76.2 × 110	8.8	—	0.2	3.49	LNX2H272MSEH
	3300	76.2 × 130	10.4	—	0.2	3.85	LNX2H332MSEH
	3900	76.2 × 150	12.1	—	0.2	4.19	LNX2H392MSEH
	4700	90 × 130	13.7	—	0.2	4.60	LNX2H472MSEJ
	5600	90 × 150	15.9	—	0.2	5.00	LNX2H562MSEJ
	6800	90 × 170	18.5	—	0.2	5.00	LNX2H682MSEJ
	8200	90 × 190	21.4	—	0.2	5.00	LNX2H822MSEJ
	10000	100 × 190	23.8	—	0.2	5.00	LNX2H103MSEK
	12000	100 × 220	27.8	—	0.2	5.00	LNX2H123MSEK
	1000	51 × 130	4.3	—	0.2	2.22	LNX2L102MSEF
550V (600) (2L)	1200	63.5 × 110	5.0	—	0.2	2.44	LNX2L122MSEG
	1500	63.5 × 130	6.0	—	0.2	2.72	LNX2L152MSEG
	1800	76.2 × 110	6.7	—	0.2	2.98	LNX2L182MSEG
	2200	76.2 × 130	8.0	—	0.2	3.30	LNX2L222MSEH
	2700	76.2 × 150	9.4	—	0.2	3.66	LNX2L272MSEH
	3300	76.2 × 170	11.0	—	0.2	4.04	LNX2L332MSEH
	3900	90 × 150	12.5	—	0.2	4.39	LNX2L392MSEJ
	4700	90 × 170	14.5	—	0.2	4.82	LNX2L472MSEJ
	5600	90 × 190	16.6	—	0.2	5.00	LNX2L562MSEJ
	6800	90 × 220	19.5	—	0.2	5.00	LNX2L682MSEJ
	8200	100 × 220	21.6	—	0.2	5.00	LNX2L822MSEK
	10000	100 × 250	25.2	—	0.2	5.00	LNX2L103MSEK
630V (680) (2J)	1000	63.5 × 130	5.9	—	0.3	2.38	LNX2J102MSEG
	1200	76.2 × 110	6.7	—	0.3	2.61	LNX2J122MSEG
	1500	76.2 × 130	8.1	—	0.3	2.92	LNX2J152MSEH
	1800	76.2 × 150	9.6	—	0.3	3.19	LNX2J182MSEH
	2200	90 × 130	10.7	—	0.3	3.53	LNX2J222MSEJ
	2700	90 × 150	12.6	—	0.3	3.91	LNX2J272MSEJ
	3300	90 × 170	14.7	—	0.3	4.33	LNX2J332MSEJ
	3900	90 × 190	17.3	—	0.3	4.70	LNX2J392MSEJ
	4700	100 × 220	21.4	—	0.3	5.00	LNX2J472MSEK
	5600	100 × 250	24.7	—	0.3	5.00	LNX2J562MSEK

Ripple (A rms) at 85°C 120Hz

(※ 3) Leakage current: $I = 3\sqrt{C/V} \times 10^{-3}$ or 5mA, whichever the smaller.

I : Leakage Current (mA)
C : Rated Capacitance (μF)
V : Voltage (V)

• 3-leg bracket is furnished as standard.

In case no-bracket or 2-leg bracket required, please put BN or BB at the end of type number.

Ex. 3-leg bracket LNX2G472MSEH
2-leg bracket LNX2G472MSEHBB
No bracket LNX2G472MSEHBN

• Flame-retardant type electrolyte is also available.

Please contact to Nichicon representative for the rated ripple current value.