NDLC Series
Standard Coin Type Supercapacitor

ISO 9001:2015 CERTIFIED

ROHS/REACH COMPLIANT HALOGEN FREE

NIC Components Corp.

FEATURES
- STANDARD COIN TYPE CONSTRUCTION
- HIGH TEMPERATURE (-40°C TO +70°C)
- GREEN MEETING RoHS REQUIREMENTS
- LONG CHARGE-DISCHAREGE CYCLE LIFE
- LOW LEAKAGE CURRENT, SUITABLE FOR MAINTAIN RTC

NDLC CHARACTERISTICS

Rated Voltage Rating	5.5VDC
Rated Capacitance Range	0.1 ~ 1.5F (100,000μF ~ 1,500,000μF)
Operating Temp. Range	-25°C ~ +70°C
Capacitance Tolerance	+80/-20% (Z)
Load Life @ +70°C 1,000 hours	ΔC: Less than or equal to 30% of the initial value
	ESR: Less than or equal to 4 times the initial value
	Appearance: No leakage or mechanical damage

CASE DIMENSIONS (mm)

NIC P/N	DIMENSIONS (mm)						
	D±0.5	h±0.5	H±1.0	P±0.5	B±0.1	C	Fig.
NDLC104Z5.5V13.2X7BF	13.2	7.0	13.0	5.0	0.4±0.1	0.8±0.10	2
NDLC224Z5.5V13.2X7BF	13.2	7.0	13.0	5.0	0.4±0.1	0.8±0.10	2
NDLC334Z5.5V13.2X7BF	13.2	7.0	13.0	5.0	0.4±0.1	0.8±0.10	2
NDLC474Z5.5V13.2X7BF	13.2	7.0	13.0	5.0	0.4±0.1	0.8±0.10	2
NDLC684Z5.5V21X7.5BF	21.0	7.5	12.5	5.5	0.5±0.1	0.8±0.15	1
NDLC105Z5.5V21X7.5BF	21.0	7.5	12.5	5.5	0.5±0.1	0.8±0.15	1
NDLC155Z5.5V21X7.5BF	21.0	7.5	12.5	5.5	0.5±0.1	0.8±0.15	1
NDLC104Z5.5V12X4.8HF	12.0	4.8	10	10	0.2±0.05	0.8±0.10	3
NDLC224Z5.5V12X4.8HF	12.0	4.8	10	10	0.2±0.05	0.8±0.10	3
NDLC334Z5.5V12X4.8HF	12.0	4.8	10	10	0.2±0.05	0.8±0.10	3
NDLC474Z5.5V12X4.8HF	12.0	4.8	10	10	0.2±0.05	0.8±0.10	3

PART NUMBER SYSTEM

NDLC 104 Z 5.5V 13.2x7 B F
- NDLC — Series
- 104 — Capacitance Code in μF, first 2 digits are significant, third digit is no. of zeros
- Z — Tolerance Code Z = +80%/-20%
- 5.5V — Working Voltage
- 13.2x7 — Size in mm
- B — Configuration (B, H or V)
- F — RoHS Compliant

Fig. 1

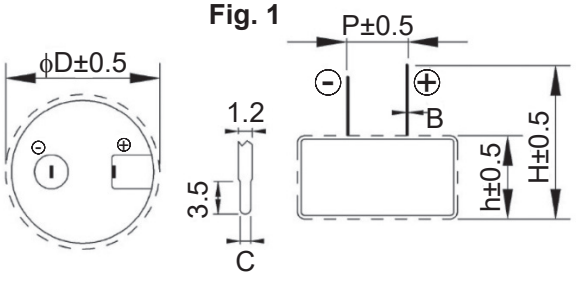


Fig. 2

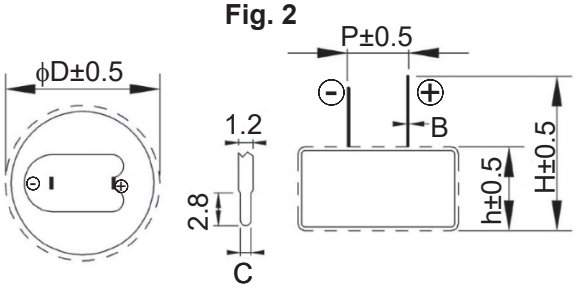
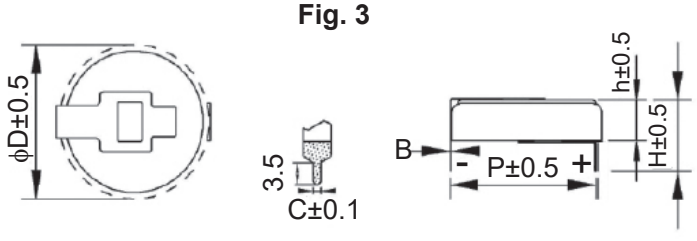


Fig. 3



CASE DIMENSIONS (mm)

NIC P/N	DIMENSIONS (mm)						
	D±0.5	h±0.5	H±1.0	P±0.5	B±0.1	C	Fig.
NDLC684Z5.5V19.2X4.8HF	19.2	4.8	9.5	19.5	0.2±0.05	1.0±0.10	4
NDLC105Z5.5V19.2X4.8HF	19.2	4.8	9.5	19.5	0.2±0.05	1.0±0.10	4
NDLC155Z5.5V19.2X4.8HF	19.2	4.8	9.5	19.5	0.2±0.05	1.0±0.10	4
NDLC104Z5.5V12X4.8VF	12.0	4.8	16.2	5.0	0.2±0.05	0.8±0.10	5
NDLC224Z5.5V12X4.8VF	12.0	4.8	16.2	5.0	0.2±0.05	0.8±0.10	5
NDLC334Z5.5V12X4.8VF	12.0	4.8	16.2	5.0	0.2±0.05	0.8±0.10	5
NDLC474Z5.5V12X4.8VF	12.0	4.8	16.2	5.0	0.2±0.05	0.8±0.10	5
NDLC684Z5.5V19.2X4.8VF	19.2	4.8	24.0	5.0	0.2±0.05	1.0±0.10	6
NDLC105Z5.5V19.2X4.8VF	19.2	4.8	24.0	5.0	0.2±0.05	1.0±0.10	6
NDLC155Z5.5V19.2X4.8VF	19.2	4.8	24.0	5.0	0.2±0.05	1.0±0.10	6

Fig. 4

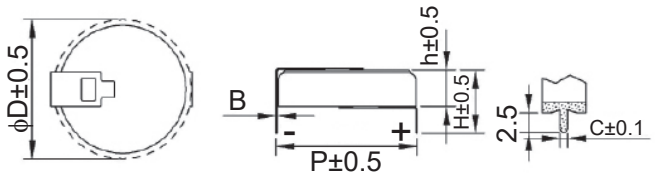


Fig. 5

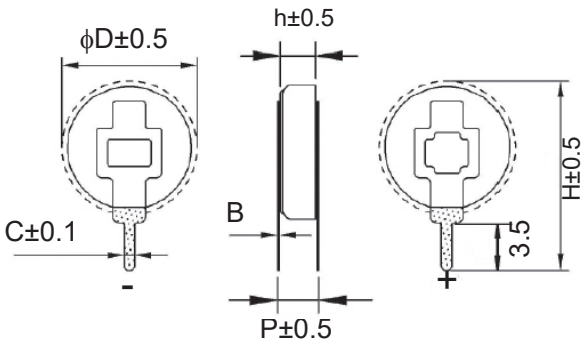
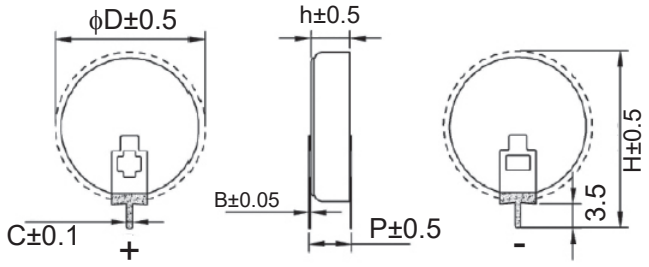


Fig. 6



NDLC ELECTRICAL SPECIFICATIONS

NIC P/N	Capacitance (F)	Voltage (VDC)	Max ESR 1KHz (Ω @25°C)	Test Current (mA)	LC after 24h (mA@ 25°C)	Max. Stored Energy (mWh)	Figure
NDLC104Z5.5V13.2X7BF	0.10	5.5	50	1.0	0.003	0.42	2
NDLC224Z5.5V13.2X7BF	0.22	5.5	50	2.2	0.003	0.92	2
NDLC334Z5.5V13.2X7BF	0.33	5.5	50	3.3	0.004	1.39	2
NDLC474Z5.5V13.2X7BF	0.47	5.5	40	4.7	0.004	1.97	2
NDLC684Z5.5V21X7.5BF	0.68	5.5	30	6.8	0.006	2.86	1
NDLC105Z5.5V21X7.5BF	1.0	5.5	15	10	0.006	4.20	1
NDLC155Z5.5V21X7.5BF	1.5	5.5	15	15	0.010	6.30	1
NDLC104Z5.5V12X4.8HF	0.1	5.5	50	1.0	0.003	0.42	3
NDLC224Z5.5V12X4.8HF	0.22	5.5	50	2.2	0.003	0.92	3
NDLC334Z5.5V12X4.8HF	0.33	5.5	50	3.3	0.004	1.39	3
NDLC474Z5.5V12X4.8HF	0.47	5.5	40	4.7	0.004	1.97	3
NDLC684Z5.5V19.2X4.8HF	0.68	5.5	30	6.8	0.006	2.86	4
NDLC105Z5.5V19.2X4.8HF	1.0	5.5	15	10	0.006	4.20	4
NDLC155Z5.5V19.2X4.8HF	1.5	5.5	15	15	0.010	6.30	4
NDLC104Z5.5V12X4.8VF	0.1	5.5	50	1.0	0.003	0.42	5
NDLC224Z5.5V12X4.8VF	0.22	5.5	50	2.2	0.003	0.92	5
NDLC334Z5.5V12X4.8VF	0.33	5.5	50	3.3	0.004	1.39	5
NDLC474Z5.5V12X4.8VF	0.47	5.5	40	4.7	0.004	1.97	5
NDLC684Z5.5V19.2X4.8VF	0.68	5.5	30	6.8	0.006	2.86	6
NDLC105Z5.5V19.2X4.8VF	1.0	5.5	15	10	0.006	4.20	6
NDLC155Z5.5V19.2X4.8VF	1.5	5.5	15	15	0.010	6.30	6

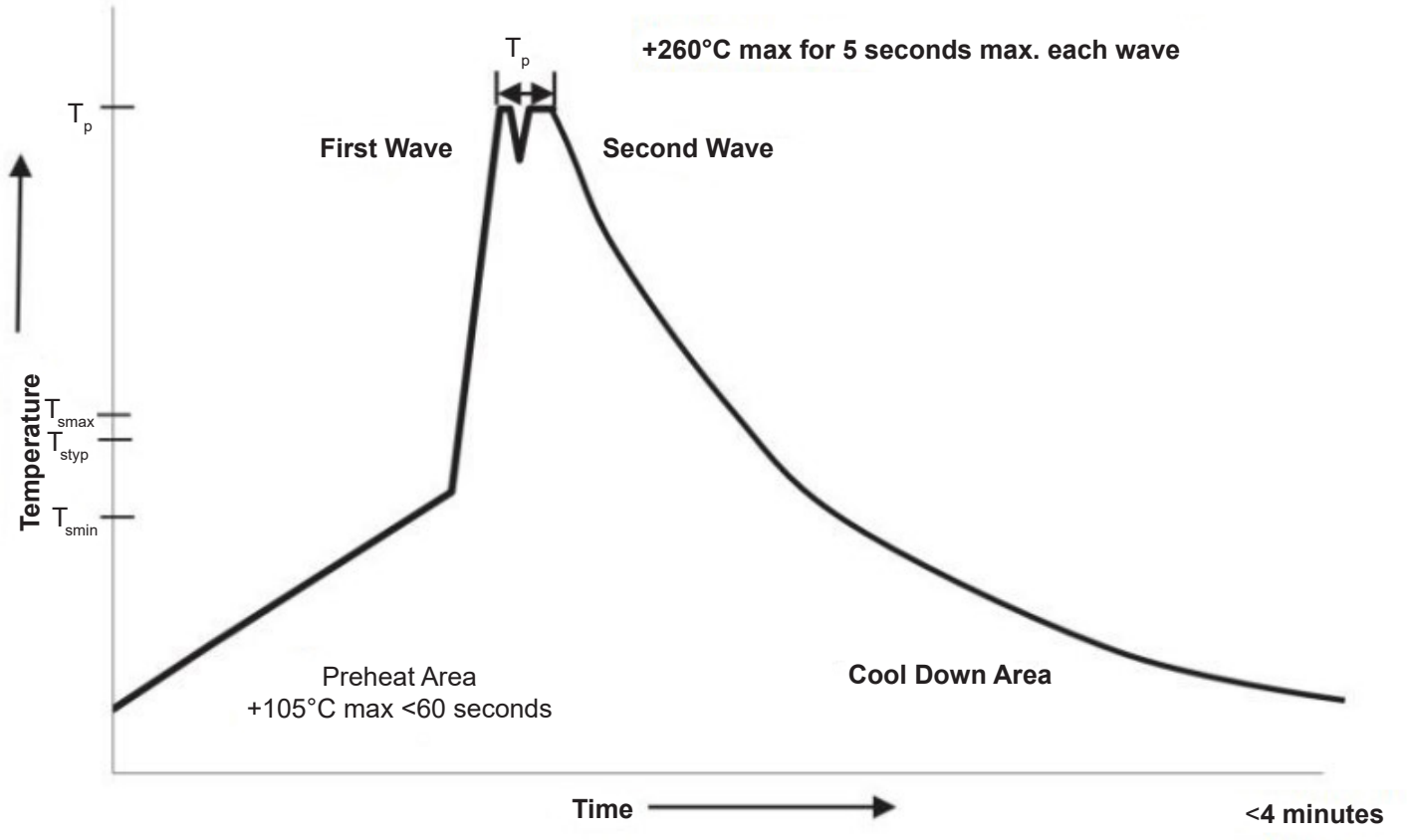
PACKAGING QUANTITY

NIC P/N	Quantity per Plastic Tray
NDLC104Z5.5V13.2X7BF	117
NDLC224Z5.5V13.2X7BF	117
NDLC334Z5.5V13.2X7BF	117
NDLC474Z5.5V13.2X7BF	117
NDLC684Z5.5V21X7.5BF	70
NDLC105Z5.5V21X7.5BF	70
NDLC155Z5.5V21X7.5BF	70
NDLC104Z5.5V12X4.8HF	168
NDLC224Z5.5V12X4.8HF	168
NDLC334Z5.5V12X4.8HF	168
NDLC474Z5.5V12X4.8HF	168
NDLC684Z5.5V19.2X4.8HF	70
NDLC105Z5.5V19.2X4.8HF	70
NDLC155Z5.5V19.2X4.8HF	70
NDLC104Z5.5V12X4.8VF	196
NDLC224Z5.5V12X4.8VF	196
NDLC334Z5.5V12X4.8VF	196
NDLC474Z5.5V12X4.8VF	196
NDLC684Z5.5V19.2X4.8VF	70
NDLC105Z5.5V19.2X4.8VF	70
NDLC155Z5.5V19.2X4.8VF	70

NDLC ENVIRONMENTAL CHARACTERISTICS

ITEM	REQUIREMENT		TEST CONDITION
Endurance	ΔC	Less than or equal to 30% of the initial measured value	Applied voltage: 5V Temperature: Upper limit temperature Test Duration:1000 hours
	ESR	Less than or equal to 4 times the initial measured value	
	Appearance	No leakage or mechanical damage	
Cycle Life	ΔC	Less than or equal to 30% of the initial measured value	At 25°C, charge to the rated voltage with constant current, stand for 5s, discharge to 50% voltage with constant current, stand for 5s, cycle 500000
	ESR	Less than or equal to 4 times the initial measured value	
Humidity Characteristics	ΔC	Within 30% of the rated specification	Temperature: +40°C ± 2°C Relative humidity: 90~95%RH Test Duration: 240 hours
	ESR	Less than or equal to 4 times the initial measured value	
	Appearance	No leakage or mechanical damage	
Temperature Cycle	ΔC	Less than or equal to 10% of the initial measured value	Temperature cycle: Lower limit temperature →normal temperature →Upper limit temperature →normal temperature Number of Cycles: 5
	Appearance	No mechanical damage or leakage	
Low Temperature Storage Characteristics	ΔC	Less than or equal to 30% of the initial value	Applied Voltage: 0v Temperature: Low temperature limit Test Duration:96 hours
	ESR	Less than or equal to 4 times the initial measured value	
	Appearance	No leakage or mechanical damage	
High Temperature Storage Characteristics	ΔC	Less than or equal to 30% of the initial value	Applied Voltage: 0v Temperature: Upper temperature limit Test Duration:96 hours
	ESR	Less than or equal to 4 times the initial measured value	
	Appearance	No leakage or mechanical damage	
Self-Discharge (Voltage Holding Characteristics)	The self-discharge cut off voltage is greater than or equal to 80% of the rated voltage.		Charging process: Normal temperature, no load, rated voltage charge 8 hours Placement process: Temperature less than or equal to 25 °C, relative humidity less than 60% RH, open 24 hours
Lead Strength	No damage to the outlet		DL/T1652-2016
Solderability	More than 3/4 of the terminal surface is covered by a tin layer		DL/T1652-2016

FLOW (WAVE) SOLDERING PROFILE



Note: The capacitor cannot be powered on immediately after wave soldering and must be left standing for more than 12 hours before use.