

NDRL Series

Standard Cylindrical Type Supercapacitor



FEATURES

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

NDRL CHARACTERISTICS

Rated Voltage Rating	2.7VDC
Rated Capacitance Range	0.5 ~ 60F (500,000μF ~ 60,000,000μF)
Operating Temp. Range	-40°C ~ +65°C (2.7V), +70°C (2.5V)
Capacitance Tolerance	± 20% (M)
Load Life @ +65°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)

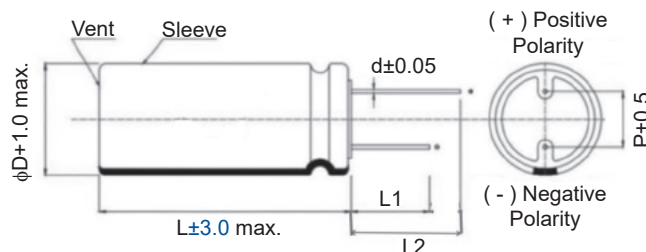
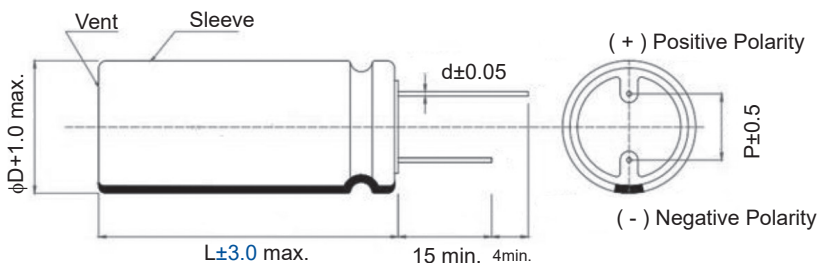
NIC P/N	DIMENSIONS (mm)					
	D±1.0	L	P ±0.5	d ±0.05	L1±2.0	L2±2.0
NDRL504M2.7V6.3X12.5F	6.3	12.5 ±1.5	2.5	0.5	20.0	25.0
NDRL105M2.7V6.3X12.5F	6.3	12.5 ±1.5	2.5	0.5	20.0	25.0
NDRL105M2.7V8X13F	8.0	13.0 ±1.5	3.5	0.6	20.0	26.0
NDRL155M2.7V6.3X12.5F	6.3	12.5 ±1.5	2.5	0.5	20.0	25.0
NDRL155M2.7V8X13F	8.0	13.0 ±1.5	3.5	0.6	20.0	26.0
NDRL205M2.7V8X13F	8.0	13.0 ±1.5	3.5	0.6	20.0	26.0
NDRL205M2.7V8X16F	8.0	16.0 ±1.5	3.5	0.6	20.0	26.0
NDRL305M2.7V8X20F	8.0	20.0 ±1.5	3.5	0.6	20.0	26.0
NDRL335M2.7V8X20F	8.0	20.0 ±1.5	3.5	0.6	20.0	26.0
NDRL505M2.7V8X24F	8.0	24.0 ±1.5	3.5	0.6	20.0	26.0
NDRL505M2.7V10X20F	10	20.0 ±1.5	5.0	0.6	19.0	25.0
NDRL605M2.7V10X20F	10	20.0 ±1.5	5.0	0.6	19.0	25.0
NDRL705M2.7V10X20F	10	20.0 ±1.5	5.0	0.6	19.0	25.0
NDRL106M2.7V10X25F	10	25.0 ±2.0	5.0	0.6	22.0	28.0
NDRL106M2.7V12.5X20F	12.5	20.0 ±2.0	5.0	0.6	23.0	29.0
NDRL126M2.7V12.5X20F	12.5	20.0 ±2.0	5.0	0.6	23.0	29.0
NDRL156M2.7V12.5X25F	12.5	25.0 ±2.0	5.0	0.6	22.0	28.0
NDRL206M2.7V12.5X25F	12.5	25.0 ±2.0	5.0	0.6	22.0	28.0
NDRL256M2.7V16X25F	16	25.0 ±3.0	7.5	0.8	22.0	28.0
NDRL306M2.7V16X30F	16	30.0 ±3.0	7.5	0.8	22.0	28.0
NDRL406M2.7V18X30F	18	30.0 ±3.0	7.5	0.8	-	-
NDRL506M2.7V18X40F	18	40.0 ±3.0	7.5	0.8	-	-
NDRL606M2.7V18X40F	18	40.0 ±3.0	7.5	0.8	-	-

PART NUMBER SYSTEM

NDRL 105 M 2.7V 8x12.5 F

Series Capacity Tolerance Code M = ±20% Working Voltage Size in mm RoHS Compliant

Capacitance Code in μF, first 2 digits are significant, third digit is no. of zeros



Performance Passives By Design

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Last Updated 10/9/2024. Specification subject to change without notice. Please check web site for latest information.

Page 1
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NDRL ELECTRICAL SPECIFICATIONS

NIC P/N	Capacitance (F)	Voltage (VDC)	ESR 1KHz (mΩ @25°C) Max.	Peak Current (A @ 25°C<1s) Max.	LC after 72h (mA@ 25°C)	Stored Energy (mWh) Max.
NDRL504M2.7V6.3X12.5F	0.5	2.7	500	0.54	0.008	0.51
NDRL105M2.7V6.3X12.5F	1.0	2.7	500	0.9	0.008	1.01
NDRL105M2.7V8X13F	1.0	2.7	350	1.0	0.008	1.01
NDRL155M2.7V6.3X12.5F	1.5	2.7	500	1.16	0.008	1.52
NDRL155M2.7V8X13F	1.5	2.7	350	1.33	0.010	1.52
NDRL205M2.7V8X13F	2.0	2.7	240	1.93	0.012	2.03
NDRL205M2.7V8X16F	2.0	2.7	200	1.99	0.012	2.03
NDRL305M2.7V8X20F	3.0	2.7	160	2.98	0.017	3.04
NDRL335M2.7V8X20F	3.3	2.7	160	3.19	0.017	3.34
NDRL505M2.7V8X24F	5.0	2.7	120	4.82	0.020	5.06
NDRL505M2.7V10X20F	5.0	2.7	120	4.91	0.020	5.06
NDRL605M2.7V10X20F	6.0	2.7	100	5.59	0.025	6.08
NDRL705M2.7V10X20F	7.0	2.7	80	6.34	0.030	7.09
NDRL106M2.7V10X25F	10	2.7	65	8.18	0.050	10.13
NDRL106M2.7V12.5X20F	10	2.7	70	7.94	0.500	10.13
NDRL126M2.7V12.5X20F	12	2.7	65	9.01	0.500	12.15
NDRL156M2.7V12.5X25F	15	2.7	55	11.1	0.065	15.19
NDRL206M2.7V12.5X25F	20	2.7	50	14.21	0.080	20.25
NDRL256M2.7V16X25F	25	2.7	45	19.29	0.070	25.31
NDRL306M2.7V16X30F	30	2.7	30	21.32	0.078	30.38
NDRL406M2.7V18X30F	40	2.7	30	25.47	0.880	40.50
NDRL506M2.7V18X40F	50	2.7	25	30.0	0.100	50.63
NDRL606M2.7V18X40F	60	2.7	25	32.4	0.120	60.75

PACKAGING QUANTITY

NIC P/N	Quantity per Plastic Tray
NDRL504M2.7V6.3X12.5F	180
NDRL105M2.7V6.3X12.5F	180
NDRL105M2.7V8X13F	160
NDRL155M2.7V6.3X12.5F	180
NDRL155M2.7V8X13F	160
NDRL205M2.7V8X13F	160
NDRL205M2.7V8X16F	140
NDRL305M2.7V8X20F	120
NDRL335M2.7V8X20F	120
NDRL505M2.7V8X24F	100
NDRL505M2.7V10X20F	120
NDRL605M2.7V10X20F	120
NDRL705M2.7V10X20F	120
NDRL106M2.7V10X25F	80
NDRL106M2.7V12.5X20F	64

NIC P/N	Quantity per Plastic Tray
NDRL126M2.7V12.5X20F	64
NDRL156M2.7V12.5X25F	60
NDRL206M2.7V12.5X25F	60
NDRL256M2.7V16X25F	50
NDRL306M2.7V16X30F	50
NDRL406M2.7V18X30F	44
NDRL506M2.7V18X40F	26
NDRL606M2.7V18X40F	26

NDRL ENVIRONMENTAL CHARACTERISTICS

ITEM	REQUIREMENT		TEST CONDITION
Endurance	ΔC	Less than or equal to 30% of the initial value	Applied voltage: 2.7V Temperature: +65°C $\pm$ 2°C Test Duration: 1000 hours
	ESR	Less than or equal to 4 times the initial value	
	Appearance	No leakage or mechanical damage	
Cycle Life	ΔC	Less than or equal to 30% of the initial 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 value	
Humidity Characteristics	ΔC	Within 30% of the initial rating	Temperature: +40°C $\pm$ 2°C Relative humidity: 90~95%RH Test Duration: 240 hours
	ESR	Less than or equal to 4 times the initial value	
	Appearance	No leakage or mechanical damage	
Temperature Cycle	ΔC	Less than or equal to 10% of the initial value	Temperature cycle: -25°C $\pm$ 2°C $\rightarrow$ normal temperature $\rightarrow$ +70°C $\pm$ 2°C $\rightarrow$ normal temperature Number of Cycles: 5
	Appearance	No mechanical damage or leakage	
Low Temperature Storage Characteristics	ΔC	Within 10% of the initial rating	Applied Voltage: 0v Temperature: -40°C $\pm$ 2°C Test Duration: 96 hours
	ESR	Less than or equal to 2 times the initial value	
	Appearance	No leakage or mechanical damage	
High Temperature Storage Characteristics	ΔC	Within 10% of the initial rating	Applied Voltage: 0v Temperature: +70°C $\pm$ 2°C Test Duration: 96 hours
	ESR	Less than or equal to 2 times the initial 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 8h Placement process: Temperature less than or equal to 25 °C, relative humidity less than 60% RH, open 24 h
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

