

### FEATURES

- DOUBLE LAYER CAPACITOR
- WIDE TEMPERATURE (-25°C ~ +85°C)
- LONG LIFE (3,000 HOURS)
- SUITABLE FOR FLOW SOLDERING
- LEAD-FREE FINISH

**RoHS Compliant**  
includes all homogeneous materials



### CHARACTERISTICS

|  |  |   |
|--|--|---|
| Rated Voltage Range                          | 5.5VDC                                 |   |
| Rated Capacitance Range                      | 0.047F ~ 1.0F (47,000μF ~ 1,000,000μF) |   |
| Operating Temp. Range                        | -25°C ~ +85°C                          |   |
| Capacitance Tolerance                        | +80%/-20% (Z)                          |   |
| Load Life Test @ 85°C<br>3,000 hours         | Δ Capacitance Change                   | Less than ±30% of initial measured value      |
|  | Maximum ESR                            | Less than 400% of the specified maximum value |
| Temperature Characteristics<br>-25°C & +85°C | Δ Capacitance Change                   | Within ±30% of 20°C value                     |
|  | Maximum ESR                            | 500% of 20°C value                            |
| Shelf Life @ +85°C<br>(1,000 hours)          | Δ Capacitance Change                   | Less than ±30% of initial measured value      |
|  | Maximum ESR                            | Less than 400% of the specified maximum value |

Super Capacitor  
Application Guide

### STANDARD VALUES AND SPECIFICATIONS

| NIC P/N                | Case Size (mm) | Capacitance (F) | Voltage (VDC) | Holding Voltage (VDC min.)* | Max. Leakage Current @ minutes (μA) | Max. ESR @ 1KHz (Ω) |
|------------------------|----------------|-----------------|---------------|-----------------------------|-------------------------------------|---------------------|
| NEZHC473Z5.5V13.5X9.5F | 13.5X9.5       | 0.047           | 5.5           | 4.0                         | 69 @ 30 minutes                     | 300                 |
| NEZHC104Z5.5V13.5X9.5F | 13.5X9.5       | 0.1             | 5.5           | 4.0                         | 100 @ 30 minutes                    | 200                 |
| NEZHC224Z5.5V13.5X9.5F | 13.5X9.5       | 0.22            | 5.5           | 4.0                         | 135 @ 30 minutes                    | 120                 |
| NEZHC474Z5.5V21.5X9.5F | 21.5X9.5       | 0.47            | 5.5           | 4.0                         | 216 @ 30 minutes                    | 50                  |
| NEZHC684Z5.5V21.5X9.5F | 21.5X9.5       | 0.68            | 5.5           | 4.0                         | 260 @ 30 minutes                    | 50                  |
| NEZHC105Z5.5V21.5X9.5F | 21.5X9.5       | 1.0             | 5.5           | 4.0                         | 315 @ 30 minutes                    | 30                  |

\*Minimum voltage at 24 hours after charging for 1 hour at 5VDC.

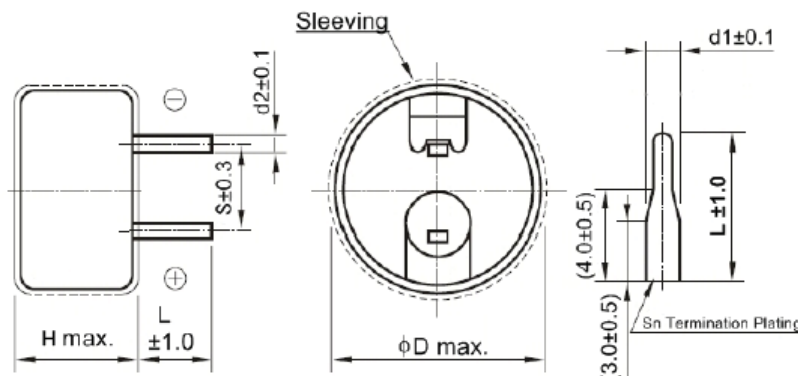
### CASE DIMENSIONS (mm)

| NIC P/N                | DIMENSIONS (mm) |     |     |     |                |                |
|------------------------|-----------------|-----|-----|-----|----------------|----------------|
|                        | D               | H   | S   | L   | d <sub>1</sub> | d <sub>2</sub> |
| NEZHC473Z5.5V13.5X9.5F | 13.5            | 9.5 | 5.0 | 6.0 | 1.2            | 0.5            |
| NEZHC104Z5.5V13.5X9.5F | 13.5            | 9.5 | 5.0 | 6.0 | 1.2            | 0.5            |
| NEZHC224Z5.5V13.5X9.5F | 13.5            | 9.5 | 5.0 | 6.0 | 1.2            | 0.5            |
| NEZHC474Z5.5V21.5X9.5F | 21.5            | 9.5 | 5.0 | 6.0 | 1.2            | 0.5            |
| NEZHC684Z5.5V21.5X9.5F | 21.5            | 9.5 | 5.0 | 6.0 | 1.2            | 0.5            |
| NEZHC105Z5.5V21.5X9.5F | 21.5            | 9.5 | 5.0 | 6.0 | 1.2            | 0.5            |

### PART NUMBER SYSTEM

NEZHC 104 Z 5.5V 13.5x9.5 F

Series      Capacitance Code in μF, first 2 digits are significant, third digit is no. of zeros      Working Voltage      Tolerance Code Z = +80%/-20%      Size in mm      RoHS Compliant



### PRECAUTIONS

WASHING is NOT RECOMMENDED. Additional guidelines and precautions can be found at [www.niccomp.com/precautions](http://www.niccomp.com/precautions)  
If in doubt or uncertainty, please review your specific application - process details with NIC's technical support personnel: [tpmg@niccomp.com](mailto:tpmg@niccomp.com)

