

### FEATURES

- DOUBLE LAYER CONSTRUCTION
- POWER BACK-UP FOR CMOS DEVICES
- SURFACE MOUNTABLE V-CHIP STYLE
- LEAD-FREE FINISH

**\*\*\*New\*\*\***  
**High Temperature Reflow**  
**+260°C**

See Datasheet for Available Values



### CHARACTERISTICS

Rated Voltage Range	3.5 & 5.5VDC	
Rated Capacitance Range	0.047F ~ 1.0F (47,000µF ~ 1,000,000µF)	
Operating Temp. Range	-25°C ~ +70°C (-40°C ~ +85°C*)	
Capacitance Tolerance	+80%/-20% (Z)	
Load Life Test +70°C 1,000 hours +85°C 240 hours (NEXCW)	Δ Capacitance Change	Less than ±30% of initial measured value
	Maximum ESR	Less than 200% of the specified maximum value
	Current at 30 minutes	Less than 200% of the specified maximum value
Temperature Cycling (5 cycles, -25 ~ +70°C)	Δ Capacitance Change	Within +80%/-20% of specified value
	Maximum ESR	Less than specified maximum value
	Current at 30 minutes	Less than specified maximum value
Humidity Resistance (240 hours @ 40°C/90% RH)	Δ Capacitance Change	Less than ±20% of initial measured value
	Maximum ESR	Less than 120% of the specified maximum value
	Current at 30 minutes	Less than 120% of the specified maximum value

Super Capacitor  
Application Guide

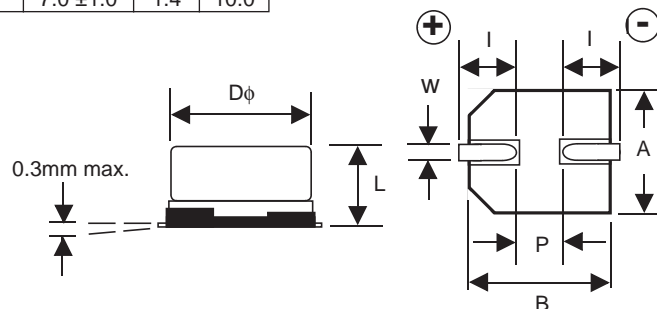
### STANDARD VALUES AND SPECIFICATIONS

NIC P/N	Capacitance Value (F) Discharge	Working Voltage (VDC)	Holding Voltage (VDC min.)	Max. Current @ 30 minutes (mA)	Max. ESR @ 1KHz (Ω)	Typical DCR (Ω)
NEXC104Z3.5V10.5X5.5TRF	0.1	3.5	-	0.090	50	21
NEXC224Z3.5V10.5X5.5TRF	0.22	3.5	-	0.200	25	12
NEXC474Z3.5V10.5X8.5TRF	0.47	3.5	-	0.420	25	15
NEXC473Z5.5V10.5X5.5TRF	0.047	5.5	4.2	0.071	50	22
NEXC104Z5.5V10.5X5.5TRF	0.1	5.5	4.2	0.150	25	17
NEXCW104Z5.5V10.7X5.5TRF*	0.1	5.5	-	0.150	50	17
NEXC224Z5.5V10.5X8.5TRF	0.22	5.5	4.2	0.330	25	14
NEXC474Z5.5V16X9.5TRF	0.47	5.5	4.2	0.710	13	8.2
NEXC105Z5.5V21X10.5TRF	1.0	5.5	4.2	1.500	7	6

\* High temperature reflow part (operating temperature range: -40°C ~ +85°C) available by special order

### CASE DIMENSIONS (mm)

Case Size	Dφ ±	L max.	A/B ±0.2	I	W	P
10.5 x 5.5	10.5	5.5	10.8	3.6 ±0.5	1.2	5.0
10.5 x 8.5	10.5	8.5	10.8	3.6 ±0.5	1.2	5.0
10.7 x 5.5	10.7	5.5	10.8	3.9 ±0.5	1.2	5.0
16 x 9.5	16.0	9.5	16.3	6.8 ±1.0	1.2	5.0
21 x 10.5	21.0	10.5	21.6	7.0 ±1.0	1.4	10.0



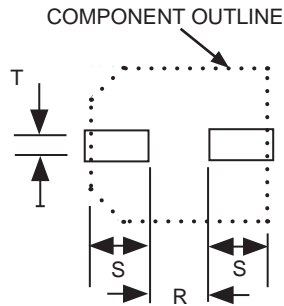
### PRECAUTIONS

WASHING IS NOT RECOMMENDED. Additional 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)

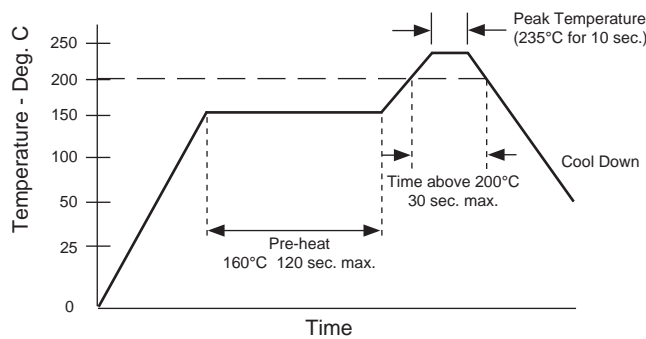


## LAND PATTERN DIMENSIONS (mm)

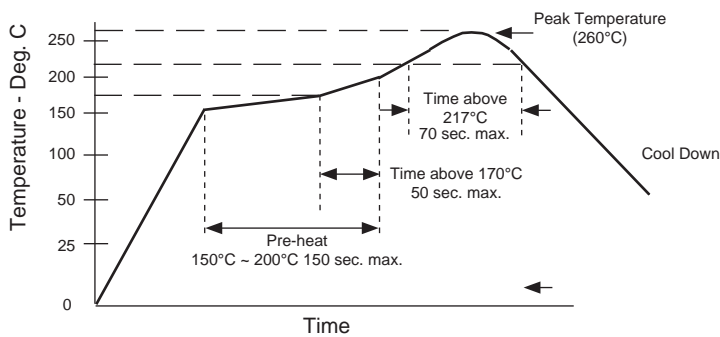
Case Diameter	R	S	T
10.5	5.0	4.6	2.5
10.7	5.0	4.9	2.5
16.0	5.0	10.0	2.5
21.0	10.0	10.5	3.5



## STANDARD RECOMMENDED REFLOW PROFILE



## HIGH TEMPERATURE REFLOW PROFILE

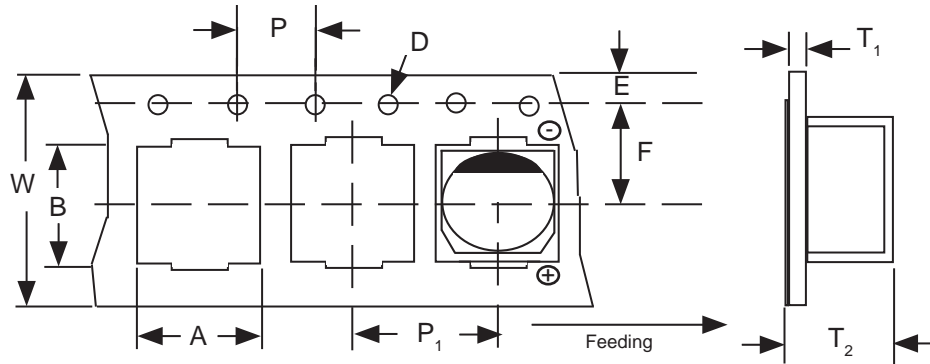


Peak Temperature	+260°C
Time above +255°C	10 sec. max.
Time above +230°C	45 sec. max.
Time above +220°C	60 sec. max.
Time above +217°C	70 sec. max.
150°C ~ +200°C (with time above +170°C 50 sec. max.)	150 sec. max.

1. The temperatures shown are the surface temperature values on the top of the can and on the capacitor terminals.
2. 2x reflow process maximum. Capacitor should be allowed to return to room temperature before second reflow process.

## CARRIER TAPE DIMENSIONS (mm)

Case Size	A	B	D	E	F	G	P	P <sub>1</sub>	T <sub>1</sub>	T <sub>2</sub>	W	Quantity/Reel
10.5 x 5.5	11.4	13.0	1.55	1.75	11.5	-	4.0	16.0	0.4	6.0	24.0	1,000
10.5 x 8.5	11.4	13.0	1.55	1.75	11.5	-	4.0	16.0	0.4	8.4	24.0	500
10.7 x 5.5	11.4	13.0	1.55	1.75	11.5	-	4.0	16.0	0.4	6.0	24.0	1,000
16 x 9.5	18.0	20.0	1.55	1.75	14.2	28.4	4.0	24.0	0.5	10.0	32.0	200
21 x 10.5	23.0	25.0	1.55	1.75	20.2	40.4	4.0	32.0	0.5	12.0	44.0	150



## REEL DIMENSIONS (mm)

Case Size	A ± 2.0	B ± 1.0	C ± 0.5	D ± 0.8	E ± 0.5	W	t
10.5 x 5.5	380	80.0	13.0	21.0	2.0	25.5	3.0
10.5 x 8.5	380	100.0	13.0	21.0	2.0	25.5	2.8
10.7 x 5.5	380	80.0	13.0	21.0	2.0	25.5	3.0
16 x 9.5	330	100.0	13.0	21.0	2.0	33.5	2.8
21 x 10.5	380	100.0	13.0	21.0	2.0	45.5	2.8

