

### FEATURES

- Values from 4.7μF to 150μF
- Ultra Low Profile (0.9mm Height)
- P & B4 Case Sizes (2.0mm x 1.25mm & 3.5mm x 2.8mm)



### CHARACTERISTICS

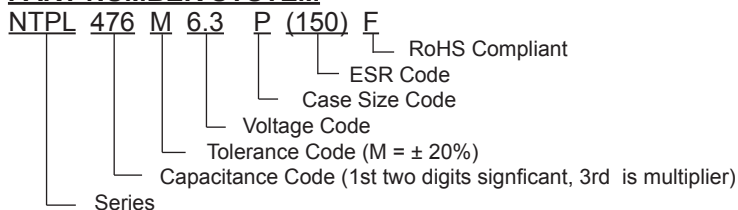
Capacitance Range	4.7μF to 150μF
Capacitance Tolerance	±20% (M)
Rated Voltage Range @ 85°C (Vdc)	2.5Vdc ~ 10Vdc
Operating Temperature Range	-55°C ~ +85°C
Dissipation Factor	See Specifications Table
Leakage Current @ +25°C (After 5 Minutes at Rated Voltage)	
Capacitance Change With Temperature	-55°C ΔC ±20%
Resistance to Soldering Heat (+260°C for 5 Seconds)	ΔC ± 10% of initial measured value LC = Less than 300% of specified max. value DF less than 200% of specified max. value
Moisture Resistance (500 hours; 90~95% RH @ +60°C)	ΔC -20% ~ +40% Max, LC = <300% of specified max. value DF = 150% of specified max. value
Load Life at Rated Voltage (1,000 hours @ 85°C)	ΔC ±20% initial measure value, LC = Less than specified max. value DF = 150% of specified max. value
Base Failure Rate	1%/1000 hours at +85°C and rated voltage

\* Parts with rated voltage ≤8V recommended derating is 90% of the rated voltage.  
For parts with rated voltage >8V recommended derating is 80% of the rated voltage.

### STANDARD VALUES AND CASE SIZES

Rated Voltage @ +85°C	2.5	4.0	6.3	10	
Surge Voltage @ +85°C	2.9	4.6	7.2	12	
Capacitance (μF)	Code	Case Size	Case Size	Case Size	Case Size
4.7	475	-	-	-	P
10	106	-	-	P	-
22	226	-	-	P	-
47	476	P	-	P	-
68	686	-	P	-	-
100	107	P	-	-	-
150	157	-	-	B4	-

### PART NUMBER SYSTEM



### PRECAUTIONS

Please review the notes on correct use, safety and precautions found on pages T10 & T11 of NIC's Electrolytic Capacitor catalog.  
Also 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)



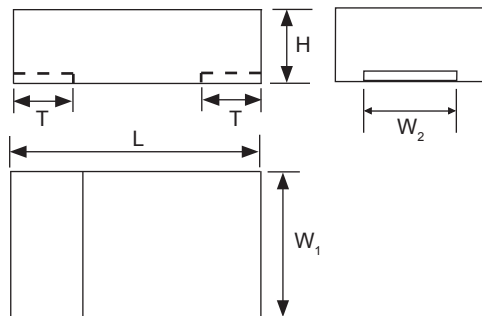
## STANDARD PART NUMBERS AND SPECIFICATIONS

NIC Part Number	Capacitance Value (μF)	Rated Voltage (Vdc) +85°C	Dissipation Factor @ +20°C/120Hz	ESR (mΩ) @+20°C/100KHz	Max. LC (μA) after 5 min.	Ripple Current Rating (mA) @ +45°C 100KHz ~ 500KHz
NTPL476M2.5P(150)F	47	2.5	0.10	150	23.5	510
NTPL107M2.5P(150)F	100		0.10	150	50.0	510
NTPL686M4P(150)F	68	4.0	0.10	150	54.4	510
NTPL106M6.3P(250)F	10	6.3	0.10	250	6.3	400
NTPL226M6.3P(150)F	22		0.10	150	27.7	510
NTPL476M6.3P(150)F	47		0.10	150	59.2	510
NTPL157M6B4(100)F*	150		0.10	100	94.5	670
NTPL475M10P(300)F	4.7	10	0.10	300	4.7	360

\*Due to character limitation voltage code is "6" instead of "6.3" for the NTPL157M6B4(100)F part.

## CASE DIMENSIONS (mm)

Case Size	L	H	W <sub>1</sub>	W <sub>2</sub>	T
P	2.0 ± 0.1	0.9 ± 0.1	1.25 ± 0.1	0.9 ± 0.1	0.5 ± 0.1
B4	3.5 ± 0.2	0.9 ± 0.1	2.80 ± 0.2	2.2 ± 0.1	0.8 ± 0.2



## VOLTAGE CODES

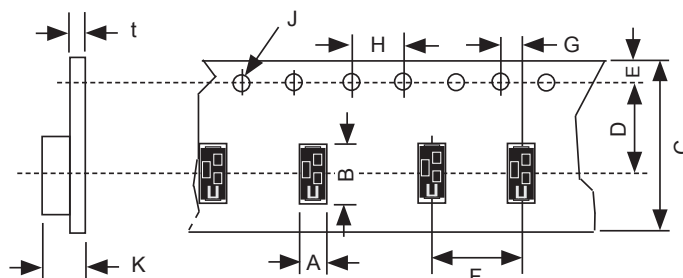
e	g	j	A
2.5V	4.0V	6.3V	10V

## CAPACITANCE CODES

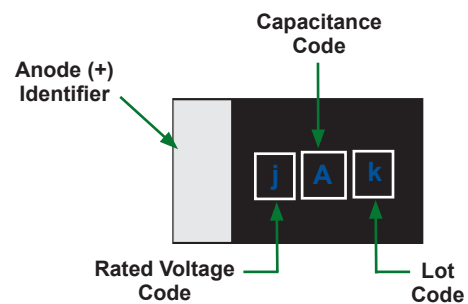
Case Size	4.7μF	10μF	22μF	47μF	68μF	100μF	150μF
P	s	A	J	S	W	A	-
B4	-	-	-	-	-	-	E8

## TAPE SPECIFICATIONS (mm)

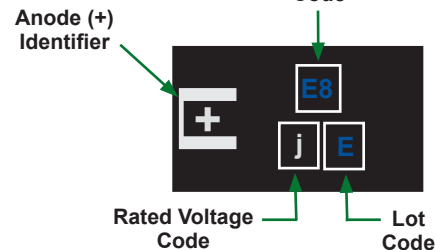
Case Size	A	B	C	D	E	F	G	H	J	K	t	Reel Qty
	P	±0.1	±0.1	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	+0.1	±0.2	±0.1
B4	3.20	3.80	8.0	3.5	1.75	4.0	2.0	4.0	φ1.5	1.3	0.25	3,000
												3,000



## Part Marking P Case Size

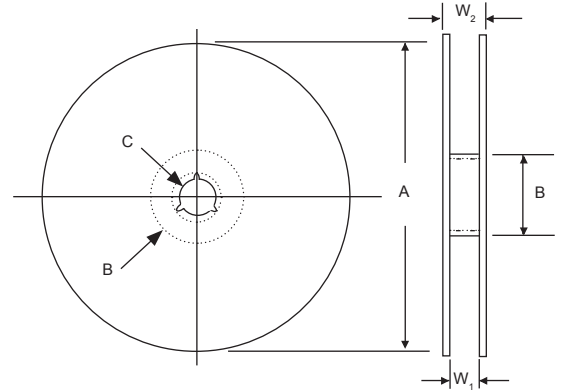


## Part Marking B4 Case Size



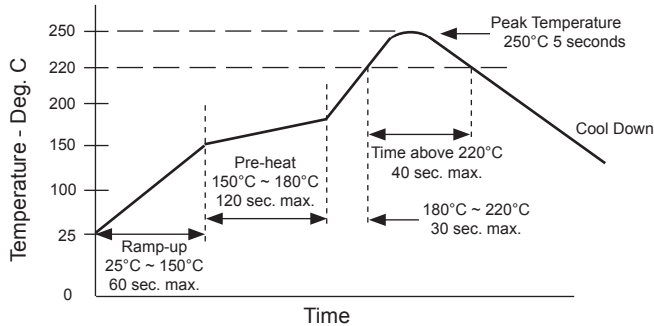
### REEL SPECIFICATIONS (mm)

Tape Width	A +0.0/-3.0	B ± 2.0	C ± 0.2	W <sub>1</sub> ± 0.5	W <sub>2</sub> ± 1.0
8mm	φ180	φ60	φ13	9.0	11.4

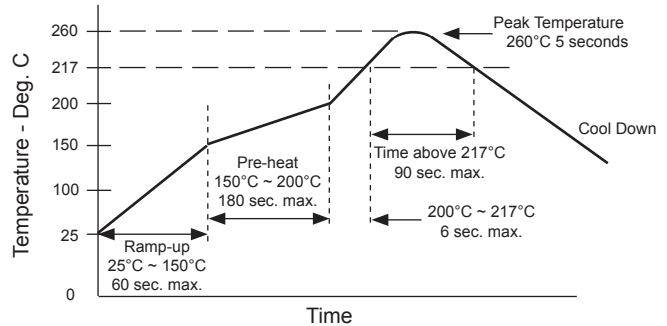


### MAXIMUM OF 2 REFLOW PASSES UNDER BELOW CONDITIONS

#### 250°C REFLOW TEMPERATURES/DURATIONS

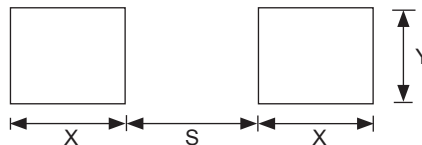


#### 260°C REFLOW TEMPERATURES/DURATIONS FOR NTPL475M10P(300)F & NTPL157M6B4(100)F ONLY



### RECOMMENDED LAND PATTERN (mm)

Case Size	S max.	X min.	Y min.
P	0.6	1.0	0.9
B4	1.4	1.6	2.7



1. NTPL series maximum storage period is 18 months. The NTPL parts are moisture sensitive (MSL 3) and are shipped in moisture control bags. After opening the bag capacitors should be stored ≤30°C, relative humidity of ≤60% maximum and soldered within 168 hours.

#### 250°C & 260°C PEAK REFLOW TEMPERATURE

Case Size	Time	Conditions	MSL
All Sizes	168 hours	<30°C/60% RH	3

2. The parts should be soldered using the minimum amount of heat required.