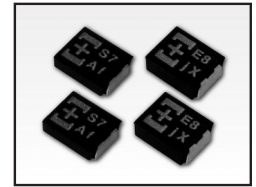


### FEATURES

- Values from 33μF to 220μF
- Low Profile (1.1mm ~ 1.4mm)
- B Case Size (3.5mm x 2.8mm)



### CHARACTERISTICS

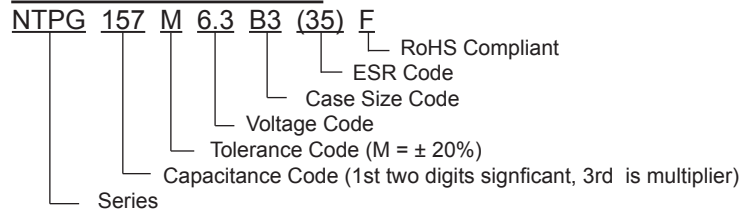
Capacitance Range	33μF to 220μF
Capacitance Tolerance	±20% (M)
Rated Voltage Range @ 85°C (Vdc)	2.5Vdc ~ 12.5Vdc
Operating Temperature Range	-55°C ~ +105°C (voltage derating above +85°C, see specifications table)
Dissipation Factor	See Specifications Table
Leakage Current @ +25°C (After 5 Minutes at 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	8	10	12.5	
Surge Voltage @ +85°C	2.9	4.6	7.2	9.2	12	14	
Derated Voltage @ 105°C	2.0	3.2	5.0	6.3	8	10	
Capacitance (μF)	Code	Case Size	Case Size	Case Size	Case Size	Case Size	Case Size
33	336	-	-	-	-	-	B2
47	476	-	-	-	B2	B2	-
100	107	-	-	B2	-	-	-
150	157	-	-	B3	-	-	-
220	227	B3, B2	B3	-	-	-	-

### 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)

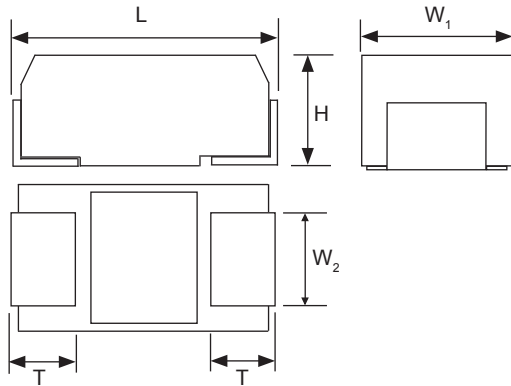


## STANDARD PART NUMBERS AND SPECIFICATIONS

NIC Part Number	Cap. Value (μF)	Rated Voltage (Vdc) +85°C	Rated Voltage Derated for Operation >+85°C (Vdc)	Dissipation Factor @ +20°C & 120Hz	ESR (mΩ) @+20°C & 100KHz	Max. LC (μA) after 5 min.	Ripple Current Rating (mA) 100KHz ~ 500KHz		
							≤+45°C	>+45°C ~ ≤+85°C	>+85°C ~ ≤+105°C (with >+85°C voltage derating)
NTPG227M2.5B2(70)F	220	2.5	2.0	0.10	70	55	1,000	700	250
NTPG227M2.5B3(30)F	220			0.10	30/300KHz	110	1,400	980	350
NTPG227M4B3(70)F	220	4.0	3.2	0.10	70	88	1,000	700	250
NTPG107M6.3B2(70)F	100	6.3	5.0	0.10	70	63	1,000	700	250
NTPG107M6.3B2(55)F	100			0.10	55	63	1,100	770	275
NTPG157M6.3B3(70)F	150			0.10	70	94.5	1,000	700	250
NTPG157M6.3B3(35)F	150			0.10	35/300KHz	189	1,200	840	300
NTPG476M8B2(70)F	47			8.0	6.3	0.10	70	37.6	1,000
NTPG476M10B2(70)F	47	10	8.0	0.10	70	47	1,000	700	250
NTPG336M12B2(70)F	33	12.5	10	0.10	70	41.3	1,000	700	250

## CASE DIMENSIONS (mm)

Case Size	L	H	W <sub>1</sub>	W <sub>2</sub>	T
B2	3.5 +0.3/-0.1	1.1 ± 0.1	2.8 +0.3/-0.1	2.2 ± 0.1	0.8 ± 0.2
B3	3.5 +0.3/-0.1	1.4 ± 0.1	2.8 +0.3/-0.1	2.2 ± 0.1	0.8 ± 0.2

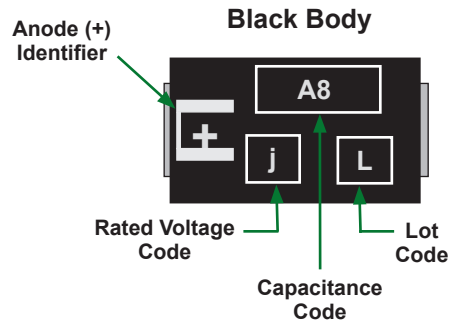


## VOLTAGE CODES

e	g	j	k	A	B
2.5V	4.0V	6.3V	8.0V	10V	12.5V

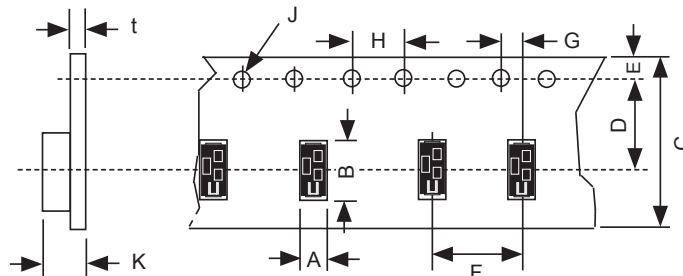
## CAPACITANCE CODES

N7	S7	A8	E8	J8
33μF	47μF	100μF	150μF	220μF



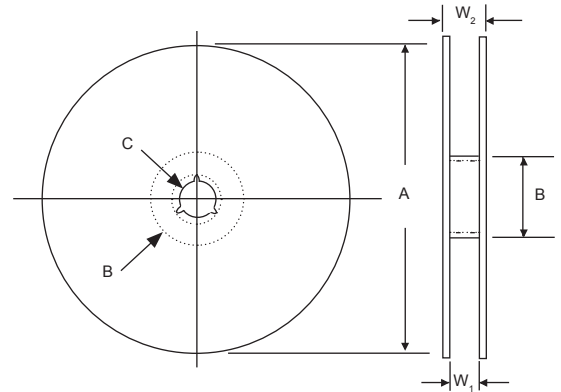
## TAPE SPECIFICATIONS (mm)

Case Size	A	B	C	D	E	F	G	H	J	K	t	Reel Qty
B3, B2	±0.1	±0.1	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	+0.1	±0.2	±0.1	180mm Reel
	3.25	3.90	8.0	3.5	1.75	4.0	2.0	4.0	φ1.5	1.7	0.25	2,500



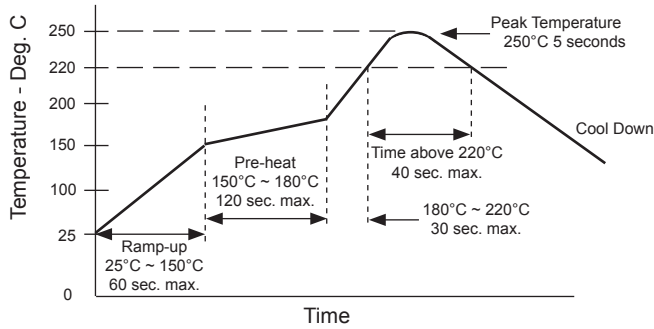
### REEL SPECIFICATIONS (mm)

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

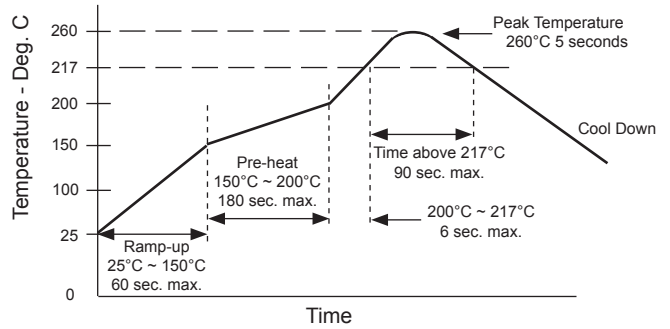


### MAXIMUM OF 2 REFLOW PASSES UNDER BELOW CONDITIONS

#### 250°C REFLOW TEMPERATURES/DURATIONS

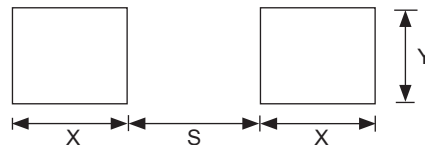


#### 260°C REFLOW TEMPERATURES/DURATIONS



### RECOMMENDED LAND PATTERN (mm)

Case Size	S max.	X min.	Y min.
B3, B2	1.4	1.6	2.7



1. NTPG 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.