

SUPER LOW PROFILE, WIDE TEMPERATURE,  
RADIAL LEADS, POLARIZED

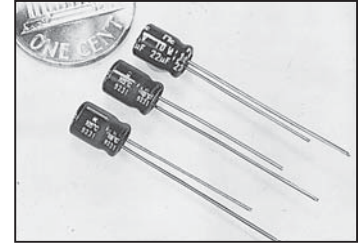
### FEATURES

- 5mm MAX. HEIGHT
- EXTENDED TEMPERATURE -55 TO +105°C

### CHARACTERISTICS

Rated Voltage Range	6.3 ~ 50VDC						
Capacitance Range	10 ~ 100 $\mu$ F						
Operating Temperature Range	-55°C ~ +105°C						
Capacitance Tolerance	$\pm$ 20% (M)						
Maximum Leakage Current After 2 minutes	0.01CV or 3 $\mu$ A whichever is greater						
Max. Tan $\delta$ at 120Hz/20°C	W.V. (Vdc)	6.3	10	16	25	35	50
	S.V. (Vdc)	8	13	20	32	44	63
	Tan $\delta$	0.26	0.22	0.16	0.14	0.12	0.10
Low Temperature Stability Impedance Ratio @ 120Hz	Z-40°C/Z+20°C	4	3	2	2	2	2
	Z-55°C/Z+20°C	6	5	4	3	3	3
Load Life Test @ 105°C 1,000 hours	$\Delta$ Capacitance	Within $\pm$ 25% of initial measured value					
	$\Delta$ Tan $\delta$	Less than 200% of specified value					
	$\Delta$ LC	Less than specified value					

**RoHS Compliant**  
Includes all homogeneous materials  
\*See Part Number System for Details



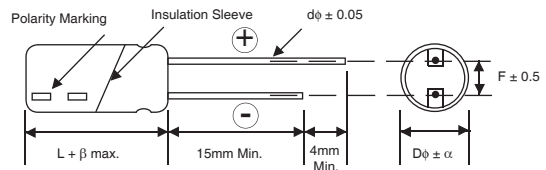
### STANDARD PRODUCT AND CASE SIZE TABLE D $\phi$ x L (mm)

Cap. ( $\mu$ F)	Code	Working Voltage (Vdc)					
		6.3	10	16	25	35	50
10	100	-	-	-	-	-	6.3x5
22	220	-	-	-	-	6.3x5	-
33	330	-	-	6.3x5	6.3x5	-	-
47	470	-	6.3x5	6.3x5	-	-	-
100	101	6.3x5	-	-	-	-	-

### LEAD SPACING AND DIAMETER (mm)

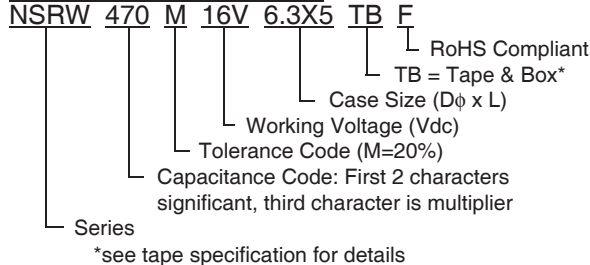
Case Dia. (D $\phi$ )	6.3
Lead Dia. (d $\phi$ )	0.45
Lead Spacing (F)	2.5
Dim. $\alpha$	0.5
Dim. $\beta$	1.0

### DIMENSIONS (mm)



Drawing is representative of parts as supplied in bulk or straight lead format, please see taping specification for details on taped format packaging.

### 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 VALUES, SPECIFICATIONS AND CASE SIZES (mm)

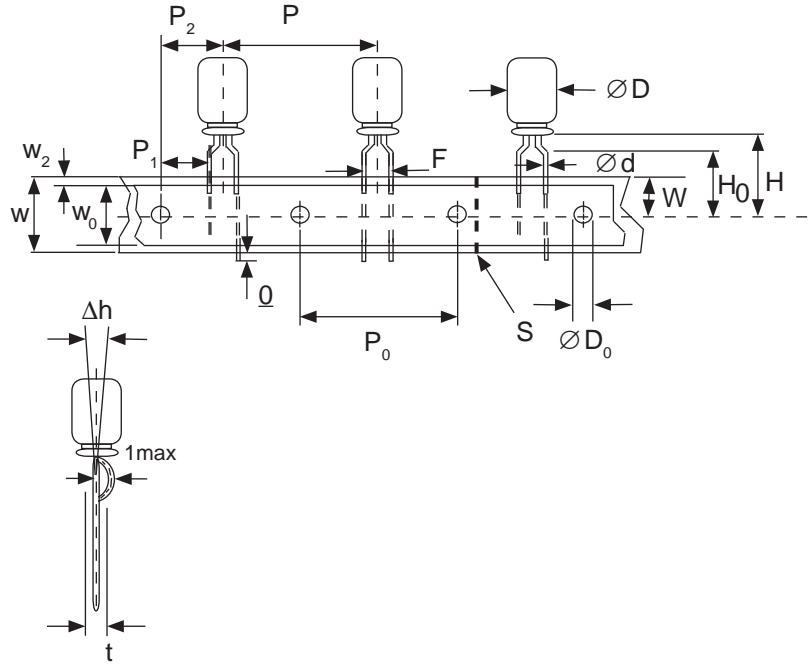
Part Number	Cap. (μF)	W.V. (Vdc)	Dissipation Factor +20°C/120Hz	Ripple Current Rating (mA) +105°C/100KHz	Max. ESR (Ω) +20°C/100KHz	Load Life Hours @+105°C
NSRW101M6.3V6.3x5F	100	6.3	0.26	50	4.4	1,000
NSRW470M10V6.3x5F	47	10	0.22	41	7.8	1,000
NSRW330M16V6.3x5F	33	16	0.16	40	8.1	1,000
NSRW470M16V6.3x5F	47		0.16	48	5.7	1,000
NSRW220M25V6.3x5F	22	25	0.14	36	10.6	1,000
NSRW330M25V6.3x5F	33		0.14	44	7.1	1,000
NSRW220M35V6.3x5F	22	35	0.12	38	9.1	1,000
NSRW100M50V6.3x5F	10	50	0.10	24	16.6	1,000

# Miniature Aluminum Electrolytic Capacitors Taping Specifications

## STANDARD RADIAL TAPING (5mm LEAD SPACING, FORMED LEADS) TB

Taping Dimensions (mm)

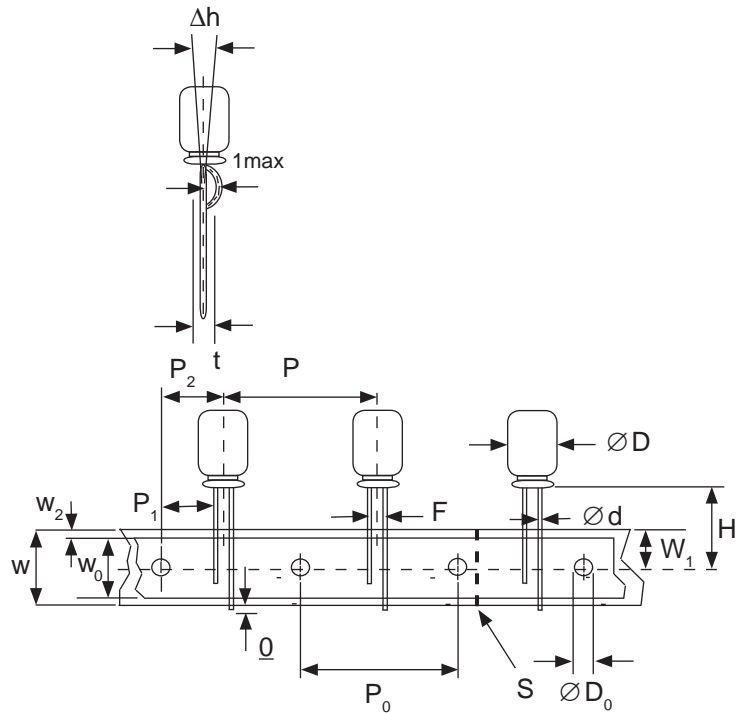
Case Dia. (D $\phi$ )	4	5	6.3	8
Case Size	4x5 4x7	5x5 5x7	5x11	6.3x5 6.3x7 6.3x11 8x11.5
d $\phi$ $\pm$ 0.05	0.45	0.45	0.5	0.45
H $\pm$ 0.75	17.5	17.5	18.5	17.5
F +0.8 ~ -0.2	5.0 -0.2 ~ +0.8			
P	12.7 $\pm$ 1.0			
P <sub>0</sub>	12.7 $\pm$ 0.2			
P <sub>1</sub>	3.85 $\pm$ 0.5 (at end of tape)			
P <sub>2</sub>	6.35 $\pm$ 1.0			
W	18.0 $\pm$ 0.5			
W <sub>0</sub>	11.5 min.			
W <sub>1</sub>	9.0 $\pm$ 0.5			
W <sub>2</sub>	0 ~ 2.5			
H <sub>0</sub>	16.0 $\pm$ 0.5			
l	1.0 max.			
D <sub>0</sub> $\phi$	4.0 $\pm$ 0.2			
$\Delta$ h	0 $\pm$ 1.0 (at top of can)			
t	0.7 $\pm$ 0.2 (not including lead)			



## STANDARD RADIAL TAPING (5mm LEAD SPACING, STRAIGHT LEADS) TB

Taping Dimensions (mm)

Case Dia. (D $\phi$ )	10	12.5
Case Size	All	All
d $\phi$ $\pm$ 0.05	0.6	0.6
H $\pm$ 0.75	19.0	19.0
F +0.8 ~ -0.2	5.0	5.0
P $\pm$ 1.0	25.4*	
P <sub>0</sub>	12.7 $\pm$ 0.2	
P <sub>1</sub>	3.85	
P <sub>2</sub>	6.35 $\pm$ 1.0	
W	18.0 $\pm$ 0.5	
W <sub>0</sub>	11.5 min	
W <sub>1</sub>	9.0 $\pm$ 0.5	
W <sub>2</sub>	0 ~ 2.5	
H <sub>0</sub>	16.0 $\pm$ 0.5	
l	1.0 max.	
D <sub>0</sub> $\phi$	4.0 $\pm$ 0.2	
$\Delta$ h	0 $\pm$ 1.0 (at top of can)	
t	0.7 $\pm$ 0.2 (not including lead)	



### \*Optional Taping Specifications

10mm diameter available with P dim. = 12.7mm  
(P/N Suffix: TB12.7MMP)

12.5mm diameter available with P dim. = 15mm, P<sub>1</sub> = 5.0mm,  
P<sub>0</sub> = 15.0mm & P<sub>2</sub> = 7.5mm (P/N Suffix: TB15MMP)

**NOTE:** ANODE (+) LEAD FEEDS OFF FIRST.  
FOR OPTION OF NEGATIVE (-) LEAD FIRST,  
SPECIFY "TBN".

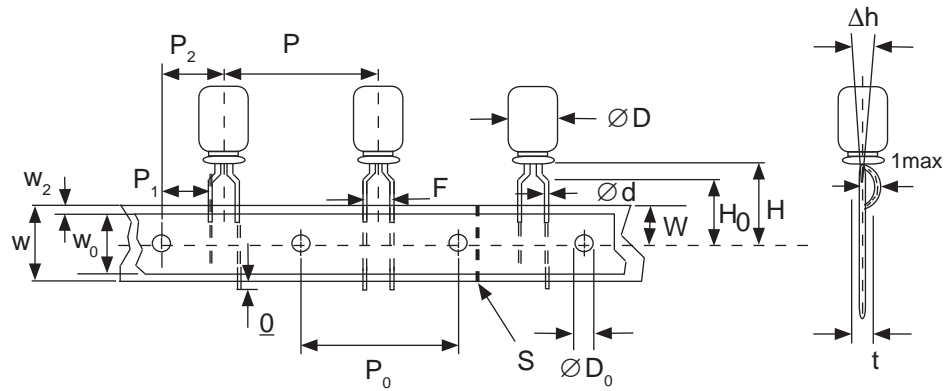


# Miniature Aluminum Electrolytic Capacitors Taping Specifications

## SPECIAL RADIAL TAPING (2.5mm LEAD SPACING, FORMED LEADS) TBF1

Taping Dimensions (mm)

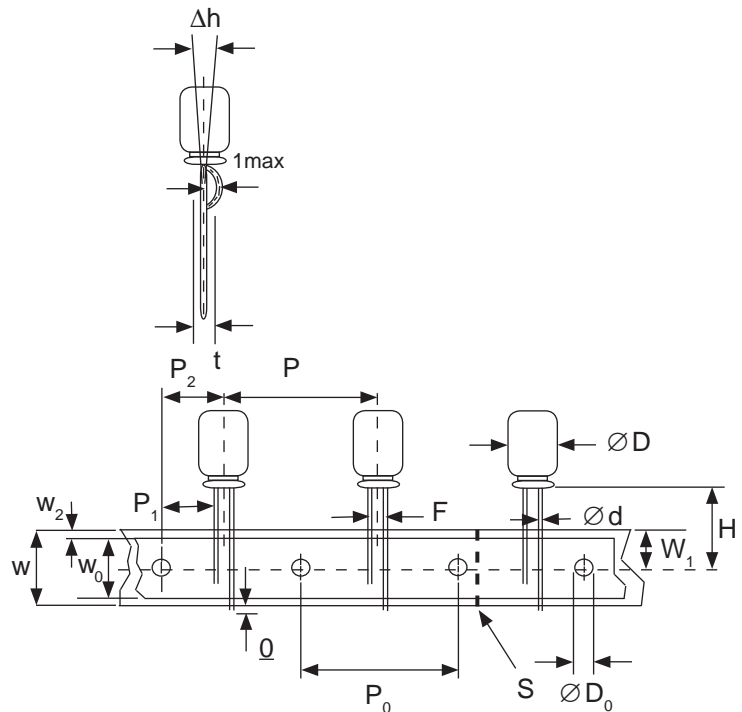
Case Dia. (D $\phi$ )	4	5	
Case Size Dim.	4x5 4x7	5x5 5x7	5x11
d $\phi$ $\pm$ 0.05	0.45	0.45	0.5
H $\pm$ 0.75	17.5	17.5	18.5
H <sub>0</sub> $\pm$ 0.5	16.0	-	-
F	2.5 -0.2 ~ +0.8		
P	12.7 $\pm$ 1.0		
P <sub>0</sub>	12.7 $\pm$ 0.2		
P <sub>1</sub>	5.1 $\pm$ 0.5		
P <sub>2</sub>	6.35 $\pm$ 1.0		
W	18.0 $\pm$ 0.5		
W <sub>0</sub>	11.5 min.		
W <sub>1</sub>	9.0 $\pm$ 0.5		
W <sub>2</sub>	0 ~ 1.5		
l	1.0 max.		
D <sub>0</sub> $\phi$	4.0 $\pm$ 0.2		
$\Delta$ h	0 $\pm$ 1.0		
t	0.7 $\pm$ 0.2		



## SPECIAL STRAIGHT LEAD TAPING TBST

Taping Dimensions (mm)

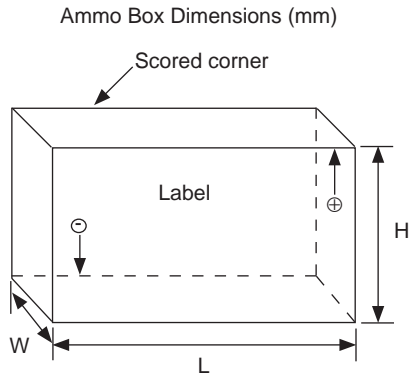
Case Dia. (D $\phi$ )	4	5			6.3		8
Case Size Dim.	4x5 4x7	5x5 5x7	5x11	6.3x5 6.3x7	6.3x11	8x11.5	
d $\phi$ $\pm$ 0.05	0.45	0.45	0.5	0.45	0.5	0.6	
H $\pm$ 0.75	17.5	17.5	18.5	17.5	18.5	20.0	
F +0.8 ~ -0.2	2.0*	2.0	2.0	2.5	2.5	3.5	
P $\pm$ 1.0	12.7 $\pm$ 0.2						
P <sub>0</sub>	12.7 $\pm$ 0.2						
P <sub>1</sub>	5.1	5.1	5.1	5.1	5.1	4.6	
P <sub>2</sub>	6.35 $\pm$ 1.0						
W	18.0 $\pm$ 0.5						
W <sub>0</sub>	11.5 min.						
W <sub>1</sub>	9.0 $\pm$ 0.5						
W <sub>2</sub>	0 ~ 2.5						
H <sub>0</sub>	16.0 $\pm$ 0.5						
l	1.0 max.						
D <sub>0</sub> $\phi$	4.0 $\pm$ 0.2						
$\Delta$ h	0 $\pm$ 1.0 (at top of can)						
t	0.7 $\pm$ 0.2 (not including lead)						



\* Parts with 4mm diameter are taped with a slight flare in the lead and a 2.0mm lead-space.



## RADIAL TAPED PACKAGING



Ammo Box (Tape & Box) TB, TBF1, TBST

Size of box and component quantity

Case Dia (D $\phi$ ) or Case Size	Q'ty per Box (pcs)	Dim. L	Dim. H	Dim. W
4x5, 4x7	2,000	331	175	43
5x5, 5x7	2,000	331	220	43
5x11	2,000	340	255	55
6.3x5, 6.3x7	2,000	331	280	43
6.3x11	2,000	331	280	48
8x11.5, 8x12.5	1,000	335	235	53
10x12.5*	500	335	190	53
10x16*	500	335	300	53
10x20*	500	335	300	55
12.x20*	500	335	300	55
12.5x25*	500	335	300	61

\*Special Taping Consult Factory For Availability