

Non-Polar Aluminum Electrolytic Capacitors

NSRN Series

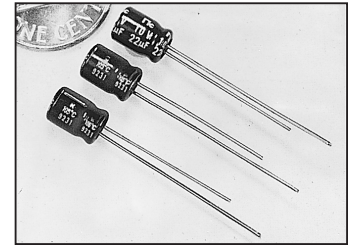
LOW PROFILE, SUB-MINIATURE, RADIAL LEADS,
NON-POLAR ALUMINUM ELECTROLYTIC

FEATURES

- BI-POLAR
- 5mm HEIGHT / LOW PROFILE

CHARACTERISTICS

Rated Voltage Range	6.3 ~ 50Vdc						
Capacitance Range	4.7 ~ 47μF						
Operating Temperature Range	-40 ~ +85°C						
Capacitance Tolerance	±20%(M)						
Max. Leakage Current After 1 minutes At +20°C	0.03CV +6μA						
Surge Voltage & Max. Tan δ @ 120Hz/+20°C	W.V. (Vdc)	6.3	10	16	25	35	50
	S.V. (Vdc)	8	13	20	32	44	63
	Tan δ	0.24	0.22	0.20	0.20	0.20	0.18
Low Temperature Stability (Impedance Ratio @ 120Hz)	Z-25°C/Z+20°C	4	3	2	2	2	2
	Z-40°C/Z+20°C	8	6	4	4	3	3
Load Life Test at Rated W.V. & +85°C 1,000 Hours (Polarity Shall Be Reversed Every 250 Hours)	Capacitance Change		Within ±25% of initial measured value				
	Tan δ		Less than 200% of specified maximum value				
	Leakage Current		Less than specified maximum value				



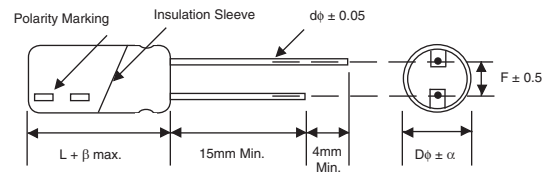
STANDARD PRODUCT AND CASE SIZE TABLE D ϕ x L (mm)

Cap. (μ F)	Code	Working Voltage (Vdc)					
		6.3	10	16	25	35	50
4.7	4R7	-	-	-	-	-	6.3x5
10	100	-	-	-	6.3x5	6.3x5	-
22	220	-	6.3x5	6.3x5	-	-	-
33	330	6.3x5	6.3x5	6.3x5	-	-	-
47	470	6.3x5	-	-	-	-	-

LEAD SPACING AND DIAMETER (mm)

Case Dia. (D ϕ)	4	5	6.3
Lead Dia. (d ϕ)	0.45	0.45	0.45
Lead Space (F)	1.5	2.0	2.5

DIMENSIONS (mm)



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

PART NUMBER SYSTEM

NSRN 100 M 35V 6.3X5 TB F

NSRN: Series
 100: Capacitance Code: First 2 characters significant, third character is multiplier
 M: Tolerance Code (M=20%)
 35V: Working Voltage (Vdc)
 6.3X5: Case Size (D ϕ x L)
 TB: TB = Tape & Box*
 F: RoHS Compliant

*see taping specifications for details

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
If in doubt or uncertainty, please review your specific application - process details with NIC's technical support personnel: tpmg@niccomp.com



STANDARD PRODUCT, SPECIFICATIONS AND CASE SIZES D ϕ x L (mm)

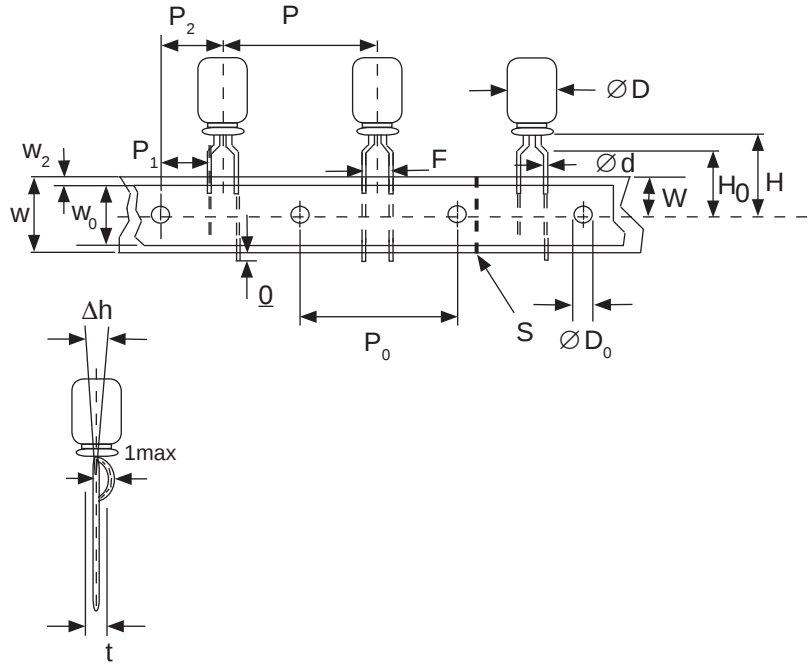
Part Number	Cap. (μ F)	W.V. (Vdc)	Dissipation Factor +20°C/120Hz	Ripple Current Rating (mA) +85°C/120Hz	Max. ESR (Ω) +20°C/120Hz	Load Life Hours @ +85°C
NSRN330M6.3V6.3x5F	33	6.3	0.24	37	12.1	1,000
NSRN470M6.3V6.3x5F	47		0.24	45	8.47	1,000
NSRN330M10V6.3x5F	33	10	0.22	33	15.1	1,000
NSRN470M10V6.3x5F	47		0.22	41	10.1	1,000
NSRN220M16V6.3x5F	22	16	0.20	37	12.8	1,000
NSRN330M16V6.3x5F	33		0.20	49	8.05	1,000
NSRN100M25V6.3x5F	10	25	0.20	27	28.2	1,000
NSRN100M35V6.3x5F	10	35	0.20	29	24.9	1,000
NSRN4R7M50V6.3x5F	4.7	50	0.18	20	53.0	1,000

Miniature Aluminum Electrolytic Capacitors Taping Specifications

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

Taping Dimensions (mm)

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



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

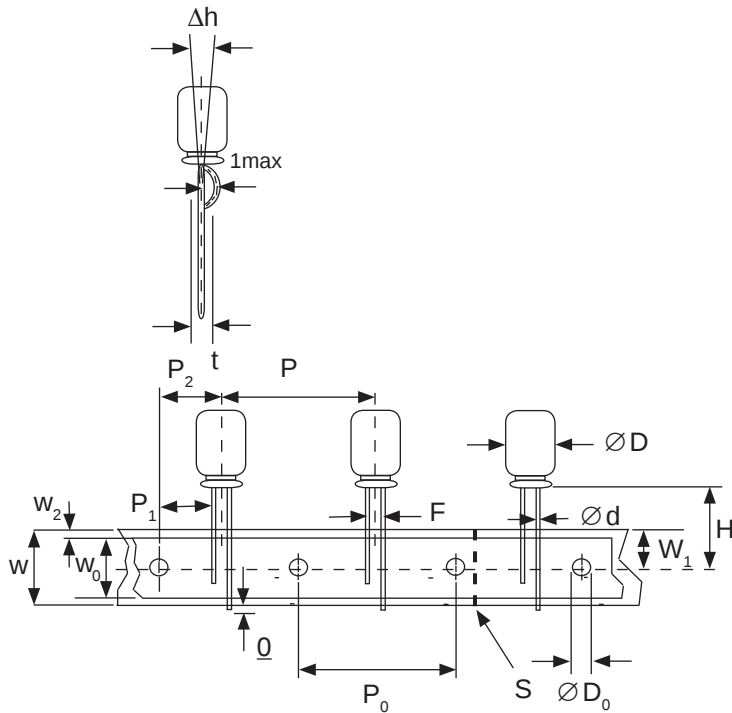
Taping Dimensions (mm)

Case Dia. (D ϕ)	10	12.5
Case Size	All	All
Dim.	All	All
d ϕ ± 0.05	0.6	0.6
H ± 0.75	19.0	19.0
F $+0.8 \sim -0.2$	5.0	5.0
P ± 1.0	25.4*	
P ₀	12.7 ± 0.2	
P ₁	3.85	
P ₂	6.35 ± 1.0	
W	18.0 ± 0.5	
W ₀	11.5 min	
W ₁	9.0 ± 0.5	
W ₂	0 ~ 2.5	
H ₀	16.0 ± 0.5	
l	1.0 max.	
D ₀ ϕ	4.0 ± 0.2	
Δh	0 ± 1.0 (at top of can)	
t	0.7 ± 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, P₁ = 5.0mm,
P₀ = 15.0mm & P₂ = 7.5mm (P/N Suffix: TB15MMP)



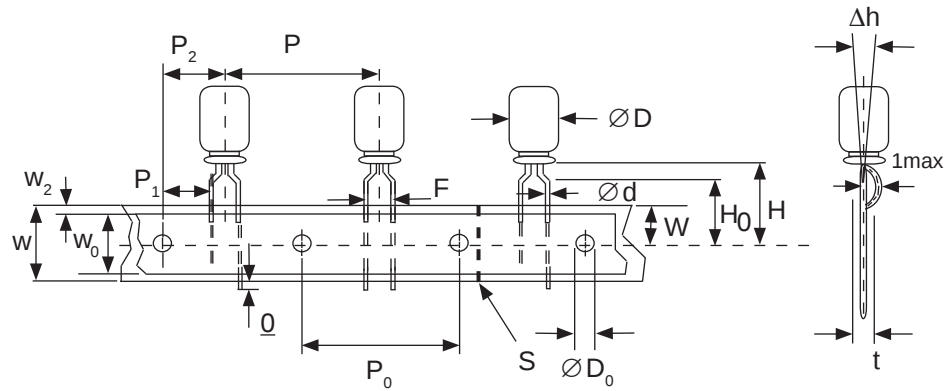
NOTE: ANODE (+) LEAD FEEDS OFF FIRST.
FOR OPTION OF NEGATIVE (-) LEAD FIRST,
SPECIFY "TBN".



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

Taping Dimensions (mm)

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

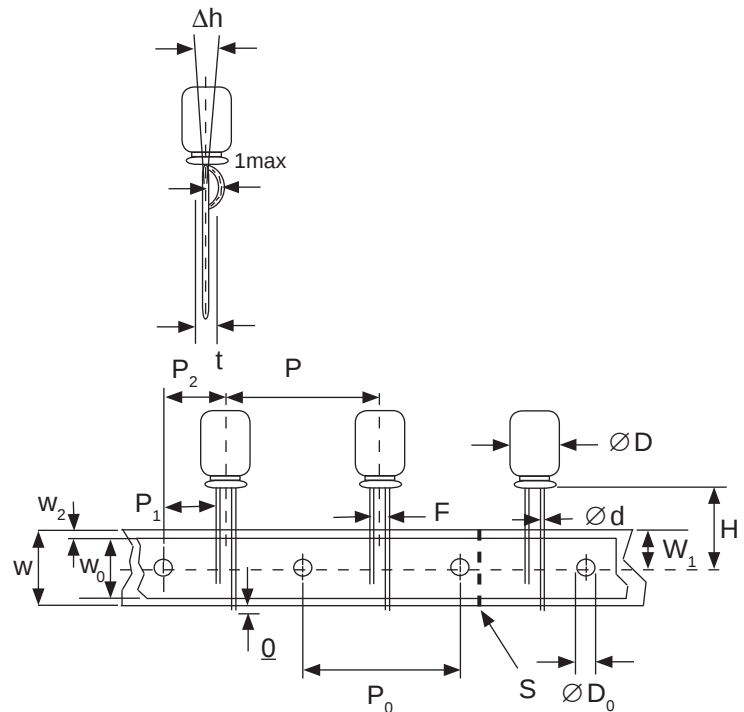


SPECIAL STRAIGHT LEAD TAPING TBST

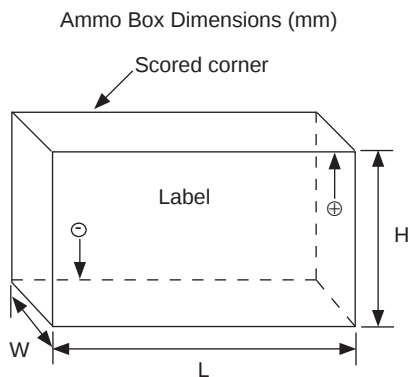
Taping Dimensions (mm)

Case Dia. (D ϕ)	4	5		6.3		8
Case Size	4x5	5x5	5x11	6.3x5	6.3x11	8x11.5
Dim.	4x7	5x7		6.3x7		
d $\phi \pm 0.05$	0.45	0.45	0.5	0.45	0.5	0.6
H ± 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 ± 1.0	12.7 ± 0.2					
P ₀	12.7 ± 0.2					
P ₁	5.1	5.1	5.1	5.1	5.1	4.6
P ₂	6.35 ± 1.0					
W	18.0 ± 0.5					
W ₀	11.5 min.					
W ₁	9.0 ± 0.5					
W ₂	0 ~ 2.5					
H ₀	16.0 ± 0.5					
l	1.0 max.					
D ₀ ϕ	4.0 ± 0.2					
Δh	0 ± 1.0 (at top of can)					
t	0.7 ± 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 ϕ) 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