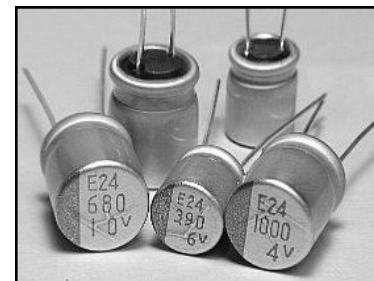


FEATURES

- HYBRID LIQUID-SOLID ELECTROLYTE
- LOW ESR & HIGH RIPPLE CURRENT AT 100KHz
- CAPACITANCE VALUES UP TO 1000 μ F
- 8x11.5mm ~ 10x12.5mm CASE SIZES, RADIAL LEADS
- LOWER COST ALTERNATIVE TO SOLID ELECTROLYTE TYPES

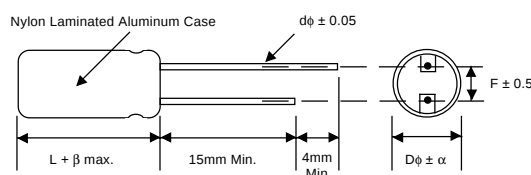


CHARACTERISTICS

Rated Voltage Range	4 ~ 10 Vdc			
Rated Capacitance Range	330 ~ 1000 μ F			
Operating Temp. Range	-55 ~ +105°C			
Capacitance Tolerance	$\pm 20\%$ (M)			
Max. Leakage Current After 2 Minutes @ 20°C	Less than 0.1CV			
Working and Surge Voltage Ratings	W.V. (Vdc)	4.0	6.3	10
	S.V. (Vdc)	4.6	7.2	11.5
Tan δ	120Hz/20°C	0.24	0.22	0.20
Low Temperature Stability Impedance Ratio @ 120Hz	Z -55°C/Z +20°C	≤ 2.5		
	Z +105°C/Z +20°C	≤ 1.0		
Load Life Test @ 105°C 2,000 Hours	Capacitance Change	Within $\pm 25\%$ of initial measured value		
	Tan δ	Within 200% of specified max. value		
	Leakage Current	Less than specified max. value		

STANDARD PRODUCTS AND CASE SIZES (mm)

Cap (μ F)	Code	Working Voltage (Vdc)		
		4.0	6.3	10
330	331	-	-	8x11.5
390	391	-	8x11.5	-
560	561	8x11.5	-	-
680	681	-	-	10x12.5
820	821	-	10x12.5	-
1000	102	10x12.5	-	-



STANDARD VALUES AND SPECIFICATIONS

Voltage (Vdc)	Cap. (μ F)	Max. ESR (m Ω) 20°C/100KHz	Ripple Current (mA) 105°C/100KHz
4	560	14	1,780
	1000	12	2,340
6.3	390	16	1,660
	820	13	2,245
10	330	18	1,450
	680	14	2,150

DIAMETER AND LEADSPACE (mm)

Case Dia. (D ϕ)	8	10
Lead Spacing (F)	3.5	5.0
Leads Dia. (d ϕ)	0.6	0.6
Dim. α	0.5	
Dim. β	1.5	

PART NUMBERING SYSTEM

NSPER 331 M 10V 8X11.5

Case Size in mm

Working Voltage

Tolerance Code M=20%

Capacitance Code in μ F, first 2 digits are significant, third digit is no. of zeros

Series

