

# Capacitors Made Easy

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## Capacitance value conversion

0.000001 $\mu$ F	=	0.001nF	=	1pF
0.00001 $\mu$ F	=	0.01nF	=	10pF
0.0001 $\mu$ F	=	0.1nF	=	100pF
0.001 $\mu$ F	=	1nF	=	1000pF
0.01 $\mu$ F	=	10nF	=	10000pF
0.1 $\mu$ F	=	100nF	=	100000pF
1 $\mu$ F	=	1000nF	=	1000000pF
10 $\mu$ F	=	10000nF	=	10000000pF
100 $\mu$ F	=	100000nF	=	100000000pF

## Capacitor Identification

The unit of capacitance is expressed in Farads.

But as values are typically very small multipliers are generally used. i.e.

Pico (p)	=	$10^{-12}$
Nano (n)	=	$10^{-9}$
Micro ( $\mu$ )	=	$10^{-6}$

Values may be written on the capacitor in various ways

A) As the Value

$$3n3 = 3.3nF = 3.300pF$$

B) Using the multiplier as the decimal point

$$n22 = 0.22nF = 220pF$$

C) With no multiplier, usually = pico

$$10 = 10pF$$

D) With 3 figures - 1st two as significant number 3rd as multiplier

$$103 = 10 \times 10^3 = 10.000pF = 10nF = 0.01\mu F$$

E) On Electrolytic and Tantalum capacitors in units of  $\mu$ F with the max working voltage

$$47\mu 16V \quad \text{or} \quad 47/16$$