

Capacitor Tolerance Markings – Page 1

In addition to the capacitance value (and possibly the working voltage or breakdown voltage) the capacitor may be marked by its tolerance.

There are several tolerance marking systems used; two of the most common are shown here. The first is used with small ceramic capacitors, and appears as a single letter.

The second is used for a variety of capacitor types, and is indicated by a unique assortment of letters and numbers, which represent the low and high temperature requirements (the lower and upper acceptable temperature range of operating the capacitor), and its tolerance within this temperature range.

Ceramic Capacitor Tolerance Markings

Code	Tolerance	Code	Tolerance
B	± 0.1 pF	J	$\pm 5\%$
C	± 0.25 pF	K	$\pm 10\%$
D	± 0.5 pF	M	$\pm 20\%$
F	$\pm 1\%$	Z	+ 80%, -20%
G	$\pm 2\%$		

EIA Capacitor Tolerance Markings

1st Letter Symbol	Low Temp. Requirement	Number Symbol	High Temp. Requirement	2nd Letter Symbol	Max. Capacitance Change Over Temperature Rating
Z	+10° C	2	+45° C	A	$\pm 1.0\%$
Y	-30° C	4	+65° C	B	$\pm 1.5\%$
X	-55° C	5	+85° C	C	$\pm 2.2\%$
		6	+105° C	D	$\pm 3.3\%$
		7	+125° C	E	$\pm 4.7\%$
				F	$\pm 7.5\%$

Capacitor Tolerance Markings – Page 2

				P	±10.0%
				R	±15.0%
				S	±22.0%
				T	±22% ~ 33%
				U	±22% ~ 56%
				V	±22% ~ 82%

Example: Y5P ± 10% variation of temperature over range of -30° C to +85° C.