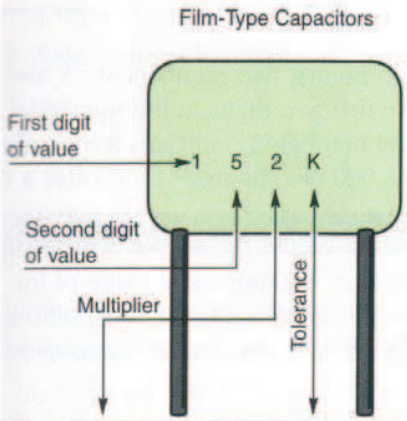
Capacitor Values

Ceramic Capacitor



Multiplier		Tolerance of Capacitor		
For the Number	Multiplier	Letter	10 pF or Less	Over 10 pF
0 1	1 10	B C	±0.1 pF ±0.25 pF	
2 3	100 1,000	D F	±0.5 pF ±1.0 pF	±1%
4 5	10,000 100,000	G H	±2.0 pF	±2% ±3%
8	0.01	J K		±5% ±10%
9	0.1	M		±20%

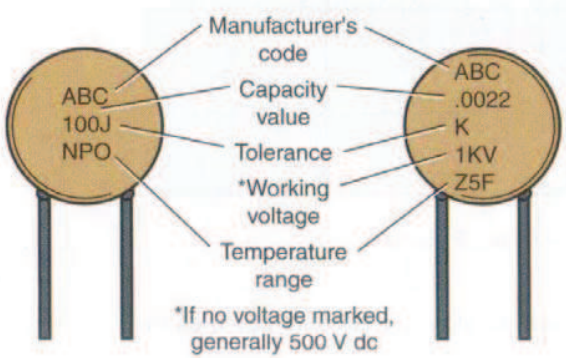
Examples:
152K = 15 × 100 = 1500 pF or 0.0015 μF, ±10%
759J = 75 × 0.1 = 7.5 pF, ±5%

Note: The letter R may be used at times to signify a decimal point, as in 2R2 = 2.2 (pF or μF).

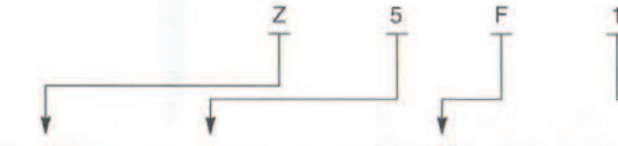
Capacitor Values

Film Capacitor

Ceramic Disk Capacitors



Typical Ceramic Disk Capacitor Markings



Low Temp.	Letter Symbol	High Temp.	Numerical Symbol	Max. Capacitance Change over Temp. Range	Letter Symbol
+10°C	Z	+45°C	2	±1.0%	A
−30°C	Y	+65°C	4	±1.5%	B
−55°C	X	+85°C	5	±1.1%	C
		+105°C	6	±3.3%	D
		+125°C	7	±4.7%	E
				±7.5%	F
				±10.0%	P
				±15.0%	R
				±22.0%	S
				+22%, −33%	T
				+22%, −56%	U
				+22%, −82%	V

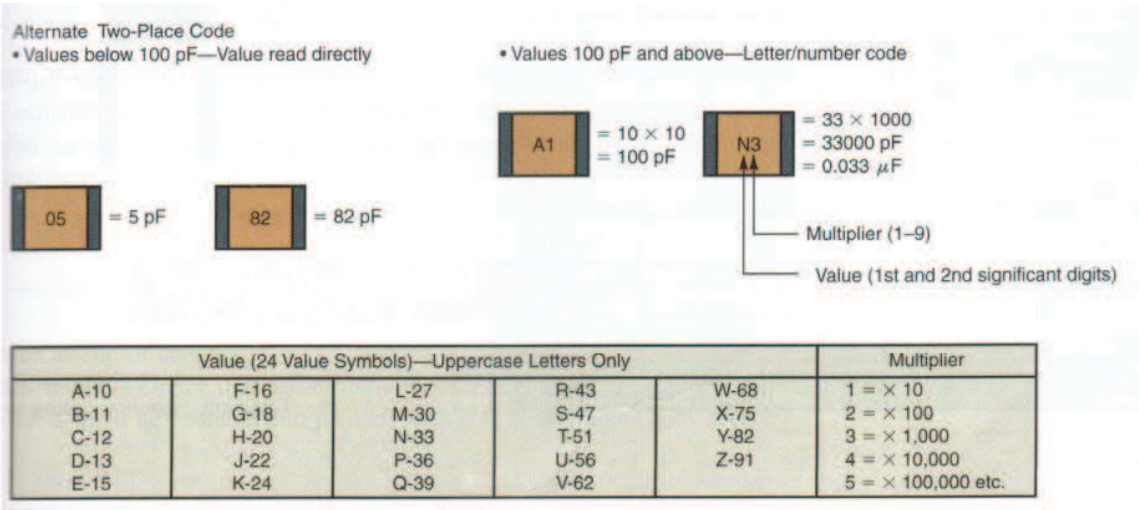
Temperature Range Identification of Ceramic Disk Capacitors

1st & 2nd Fig. of Capacitance	Multiplier	Numerical Symbol	Tolerance on Capacitance	Letter Symbol
	1	0		
	10	1		
	100	2	±5%	J
	1,000	3	±10%	K
	10,000	4	±20%	M
	100,000	5	+100%, −0%	P
		—	+80%, −20%	Z
		—		
	0.01	8		
	0.1	9		

Capacity Value and Tolerance of Ceramic Disk Capacitors

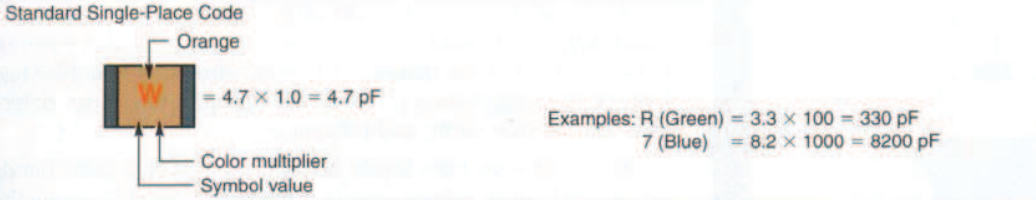
Capacitor Values

Chip Capacitor



Value (24 Value Symbols)—Uppercase Letters Only					Multiplier
A-10	F-16	L-27	R-43	W-68	1 = × 10
B-11	G-18	M-30	S-47	X-75	2 = × 100
C-12	H-20	N-33	T-51	Y-82	3 = × 1,000
D-13	J-22	P-36	U-56	Z-91	4 = × 10,000
E-15	K-24	Q-39	V-62		5 = × 100,000 etc.

Chip capacitor coding system.



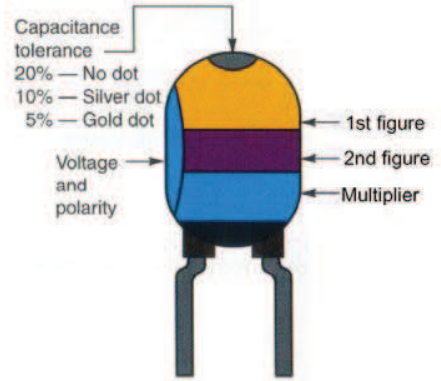
Value (24 Value Symbols)—Uppercase Letters and Numerals					Multiplier (Color)
A-1.0	H-1.6	N-2.7	V-4.3	3-6.8	Orange = × 1.0
B-1.1	I-1.8	O-3.0	W-4.7	4-7.5	Black = × 10
C-1.2	J-2.0	R-3.3	X-5.1	7-8.2	Green = × 100
D-1.3	K-2.2	S-3.6	Y-5.6	9-9.1	Blue = × 1,000
E-1.5	L-2.4	T-3.9	Z-6.2		Violet = × 10,000
					Red = × 100,000

Capacitor Values

Tantalum Capacitor

Color	Rated Voltage	Capacitance in Picofarads		Multiplier
		1st Figure	2nd Figure	
Black	4	0	0	—
Brown	6	1	1	—
Red	10	2	2	—
Orange	15	3	3	—
Yellow	20	4	4	10,000
Green	25	5	5	100,000
Blue	35	6	6	1,000,000
Violet	50	7	7	10,000,000
Gray	—	8	8	—
White	3	9	9	—

Dipped Tantalum Capacitors



Capacitor Values

Chip Capacitor

Value (33 Value Symbols)—Upper and Lowercase Letters					Multiplier
A-1.0	H-2.0	b-3.5	f-5.0	X-7.5	0 = × 1.0
B-1.1	J-2.2	P-3.6	T-5.1	t-8.0	1 = × 10
C-1.2	K-2.4	Q-3.9	U-5.6	Y-8.2	2 = × 100
D-1.3	a-2.5	d-4.0	m-6.0	y-9.0	3 = × 1,000
E-1.5	L-2.7	R-4.3	V-6.2	Z-9.1	4 = × 10,000
F-1.6	M-3.0	e-4.5	W-6.8		5 = × 100,000
G-1.8	N-3.3	S-4.7	n-7.0		etc.