

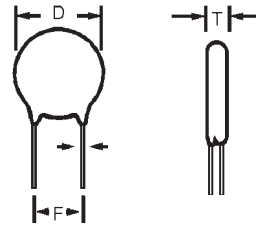
# Disc Ceramic Capacitors



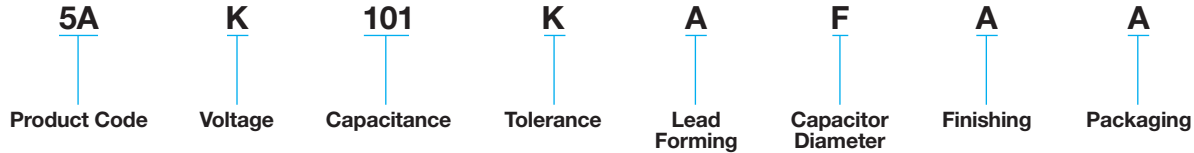
## General Specifications - Class I Temperature Compensating

### DIELECTRIC - CLASS I

These ceramic capacitors have linear temperature coefficient, very low tolerances, low losses, high insulation resistance and are specially suitable for tuned circuits, timing and other precision circuits. Meets IEC 384-8 (1988).



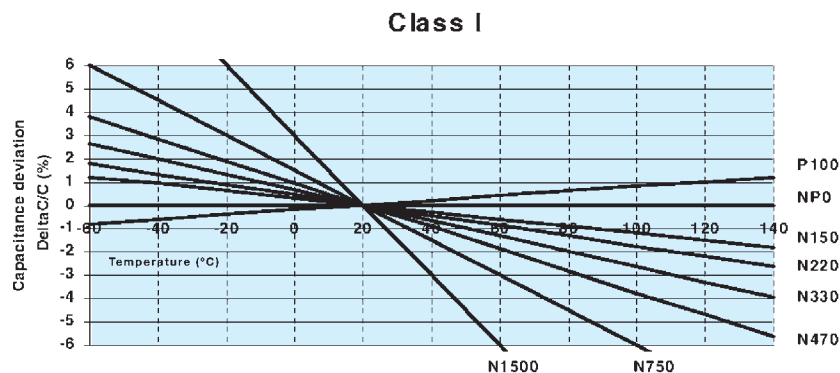
### HOW TO ORDER



### PERFORMANCE CHARACTERISTICS

Voltage Rating	100 V → 500 V	1kV → 5kV
Measured at	1.0 MHz @ 1.0 Vrms / 25°C	1.0 MHz @ 1.0 Vrms / 25°C
Dissipation Factor (%)	$C_R \leq 30 \text{ pF} \rightarrow \leq 1/C_R + 0.07$ $C_R > 30 \text{ pF} \rightarrow \leq 0.1\%$	$C_R \leq 30 \text{ pF} \rightarrow \leq 1/C_R + 0.07$ $C_R > 30 \text{ pF} \rightarrow \leq 0.1\%$
Tolerance	$C_R < 10 \text{ pF} \rightarrow \pm 0.25 \text{ pF}, \pm 0.5 \text{ pF}$ $C_R \geq 10 \text{ pF} \rightarrow \pm 5\%, \pm 10\%$	$C_R < 10 \text{ pF} \rightarrow \pm 0.25 \text{ pF}, \pm 0.5 \text{ pF}$ $C_R \geq 10 \text{ pF} \rightarrow \pm 5\%, \pm 10\%$
Insulation Resistance (IR)	@ $V_R \geq 10 \text{ G}\Omega$	@ $500V \geq 10 \text{ G}\Omega$
Dielectric Strength NOTE: Charging current limited to 50 mA	@ $V_R = 100V \rightarrow V_t = 250V \text{ (DC)}$ @ $V_R = 500V \rightarrow V_t = 1250V \text{ (DC)}$	$1.5 \times V_R + 500 \text{ (DC)}$
Operating Temperature Range (°C)	-30 → +85°C	-30 → +85°C -30 → +125°C
Climatic Category	30 / 85 / 21 Phenolic Coated	30 / 085 / 21 Phenolic Coated 30 / 085 / 56 Epoxy Coated

### TEMPERATURE COEFFICIENT – TYPICAL CURVES



# Disc Ceramic Capacitors



## Dimension Table - Class I Temperature Compensating

### CLASS I - CAPACITANCE VS. DISC DIAMETER

millimeters (inches)

Temp. Coefficient	NPO					
Digits 1, 2, 3 of P.N.	5AK	5AQ	5AR	5AS	5AT	5AU
Rated Voltage (V <sub>R</sub> )	100 VDC	500 VDC	1000 VDC 130 VAC	2000 VDC 250 VAC	3000 VDC 380 VAC	4000 VDC 440 VAC
C <sub>R</sub> (pF)						
1.0	5.0 (0.197)	5.0 (0.197)	5.0 (0.197)	5.0 (0.197)	5.0 (0.197)	5.0 (0.197)
1.2						
1.5						
1.8						
2.2						
2.7						
3.3						
3.9						
4.7						
5.6						
6.8						
8.2						
10						
12						
15						
18						
22						
27						
33						
39						
47	7.0 (0.276)	7.0 (0.276)	8.0 (0.315)	9.0 (0.354)	11.0 (0.433)	11.0 (0.433)
56	8.0 (0.315)	8.0 (0.315)	9.0 (0.354)	11.0 (0.433)	12.0 (0.472)	12.0 (0.472)
68	9.0 (0.354)	9.0 (0.354)	10.0 (0.394)	14.0 (0.551)	14.0 (0.551)	14.0 (0.551)
82	11.0 (0.433)	11.0 (0.433)	12.0 (0.472)	16.0 (0.630)		
100	12.0 (0.472)	12.0 (0.472)	14.0 (0.551)			
120		14.0 (0.551)	16.0 (0.630)			
150		16.0 (0.630)				
180		19.0 (0.748)				
220						
270						
330						
390						

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## Dimension Table - Class I Temperature Compensating

### CLASS I - CAPACITANCE VS. DISC DIAMETER

millimeters (inches)

Temp. Coefficient Digits 1, 2, 3 of P.N.	N750							N1500	
	5GK	5GQ	5GR	5GS	5GT	5GU	5GW	5HK	5HQ
Rated Voltage (V <sub>R</sub> )	100 VDC	500 VDC	1000 VDC 130 VAC	2000 VDC 250 VAC	3000 VDC 380 VAC	4000 VDC 440 VAC	5000 VDC 550 VAC	100 VDC	500 VDC
C <sub>R</sub> (pF)									
1.5									
1.8									
2.2									
2.7									
3.3									
3.9									
4.7									
5.6									
6.8									
8.2									
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