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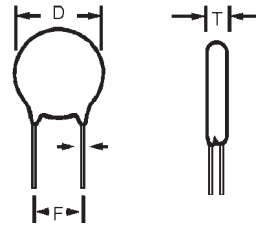
Disc Ceramic Capacitors



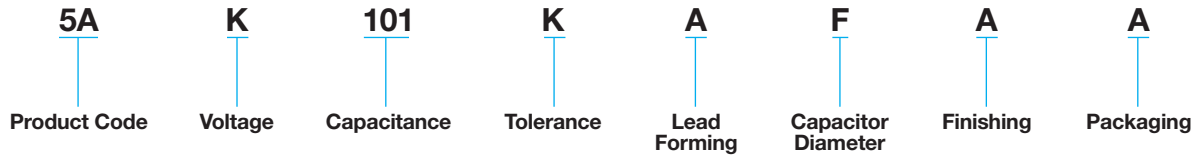
General Specifications - Class I Temperature Compensating

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).



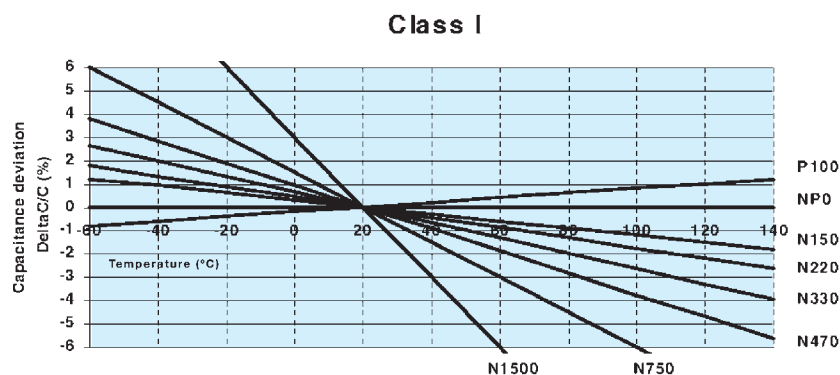
HOW TO ORDER



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) | @ $V_R \geq 10 \text{ G}\Omega$ | @ $500\text{V} \geq 10 \text{ G}\Omega$ |
| Dielectric Strength NOTE: Charging current limited to 50 mA | @ $V_R = 100\text{V} \rightarrow V_t = 250\text{V (DC)}$ @ $V_R = 500\text{V} \rightarrow V_t = 1250\text{V (DC)}$ | $1.5 \times V_R + 500 \text{ (DC)}$ |
| 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 _R) | 100 VDC | 500 VDC | 1000 VDC 130 VAC | 2000 VDC 250 VAC | 3000 VDC 380 VAC | 4000 VDC 440 VAC | | | | | | |
| C _R (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) | 8.0 (0.315) | 9.0 (0.354) | 11.0 (0.433) | | | | | | |
| 56 | | | | | | | | | | | | |
| 68 | | | | | | | | | | | | |
| 82 | | | | | | | | | | | | |
| 100 | | | | | | | | | | | | |
| 120 | | | | | | | | | | | | |
| 150 | | | | | | | | | | | | |
| 180 | | | | | | | | | | | | |
| 220 | | | | | | | | | | | | |
| 270 | | | | | | | | | | | | |
| 330 | | | | | | | | | | | | |
| 390 | | | | | | | | | | | | |
| 47 | | | | | | | 9.0 (0.354) | 11.0 (0.433) | 12.0 (0.472) | 14.0 (0.551) | 14.0 (0.551) | 14.0 (0.551) |
| 56 | | | | | | | | | | | | |
| 68 | | | | | | | | | | | | |
| 82 | | | | | | | | | | | | |
| 100 | | | | | | | | | | | | |
| 120 | | | | | | | | | | | | |
| 150 | | | | | | | | | | | | |
| 180 | | | | | | | | | | | | |
| 220 | | | | | | | | | | | | |
| 270 | | | | | | | | | | | | |
| 330 | | | | | | | | | | | | |
| 390 | | | | | | | | | | | | |
| 47 | 11.0 (0.433) | 14.0 (0.551) | 16.0 (0.630) | 16.0 (0.630) | 16.0 (0.630) | 16.0 (0.630) | | | | | | |
| 56 | | | | | | | | | | | | |
| 68 | | | | | | | | | | | | |
| 82 | | | | | | | | | | | | |
| 100 | | | | | | | | | | | | |
| 120 | | | | | | | | | | | | |
| 150 | | | | | | | | | | | | |
| 180 | | | | | | | | | | | | |
| 220 | | | | | | | | | | | | |
| 270 | | | | | | | | | | | | |
| 330 | | | | | | | | | | | | |
| 390 | | | | | | | | | | | | |
| 47 | | | | | | | 12.0 (0.472) | 16.0 (0.630) | 19.0 (0.748) | 19.0 (0.748) | 19.0 (0.748) | 19.0 (0.748) |
| 56 | | | | | | | | | | | | |
| 68 | | | | | | | | | | | | |
| 82 | | | | | | | | | | | | |
| 100 | | | | | | | | | | | | |
| 120 | | | | | | | | | | | | |
| 150 | | | | | | | | | | | | |
| 180 | | | | | | | | | | | | |
| 220 | | | | | | | | | | | | |
| 270 | | | | | | | | | | | | |
| 330 | | | | | | | | | | | | |
| 390 | | | | | | | | | | | | |

Disc Ceramic Capacitors



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 _R) | 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 _R (pF) | | | | | | | | | |
| 1.5 | 5.0 (0.197) | 5.0 (0.197) | 5.0 (0.197) | 5.0 (0.197) | 5.0 (0.197) | 6.0 (0.236) | 6.0 (0.236) | 5.0 (0.197) | 5.0 (0.197) |
| 1.8 | | | | | | | | | |
| 2.2 | | | | | | | | | |
| 2.7 | | | | | | | | | |
| 3.3 | | | | | | | | | |
| 3.9 | | | | | | | | | |
| 4.7 | | | | | | | | | |
| 5.6 | | | | | | | | | |
| 6.8 | | | | | | | | | |
| 8.2 | | | | | | | | | |
| 9.0 | | | | | | | | | |
| 10 | | | | | | | | | |
| 12 | | | | | | | | | |
| 15 | | | | | | | | | |
| 18 | | | | | | | | | |
| 22 | | | | | | | | | |
| 27 | | | | | | | | | |
| 33 | | | | | | | | | |
| 39 | | | | | | | | | |
| 47 | | | | | | | | | |
| 56 | | | | | | | | | |
| 68 | | | | | | | | | |
| 82 | | | | | | | | | |
| 100 | | | | | | | | | |
| 120 | | | | | | | | | |
| 150 | | | | | | | | | |
| 180 | | | | | | | | | |
| 220 | | | | | | | | | |
| 270 | | | | | | | | | |
| 330 | | | | | | | | | |
| 7.0 (0.276) | 8.0 (0.315) | 9.0 (0.354) | 9.0 (0.354) | 10.0 (0.394) | 10.0 (0.394) | 12.0 (0.472) | 12.0 (0.472) | 7.0 (0.276) | 7.0 (0.276) |
| 8.0 (0.315) | 9.0 (0.354) | 10.0 (0.394) | 11.0 (0.433) | 11.0 (0.433) | 14.0 (0.551) | 14.0 (0.551) | 14.0 (0.551) | 8.0 (0.315) | 8.0 (0.315) |
| 10.0 (0.394) | 11.0 (0.433) | 12.0 (0.472) | 12.0 (0.472) | 14.0 (0.551) | 14.0 (0.551) | 16.0 (0.630) | 16.0 (0.630) | 9.0 (0.354) | 9.0 (0.354) |
| 11.0 (0.433) | 14.0 (0.551) | 14.0 (0.551) | 14.0 (0.551) | 16.0 (0.630) | 16.0 (0.630) | | | 10.0 (0.394) | 11.0 (0.433) |
| 14.0 (0.551) | | | | | | | | | |

