



**THE DATASHEET OF
5AK101JOFAL**



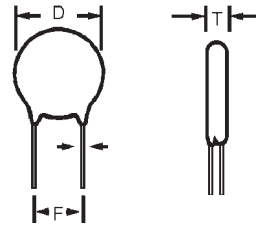
Disc Ceramic Capacitors



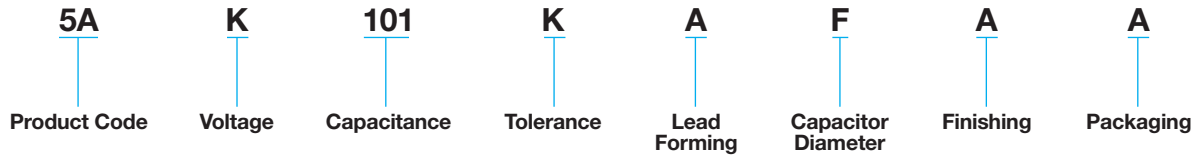
General Specifications - Class I Temperature Compensating

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).



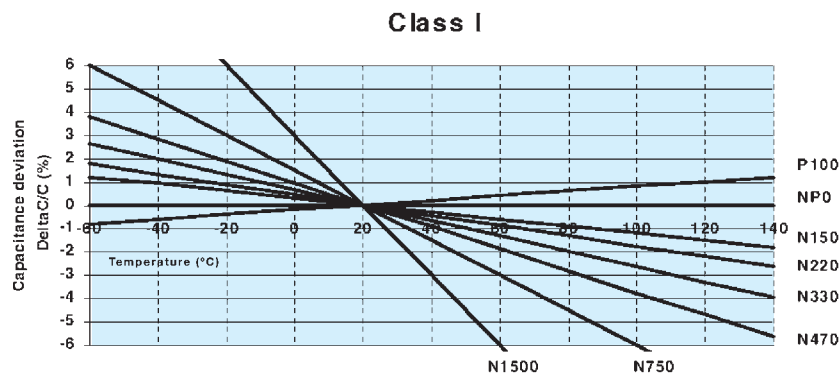
HOW TO ORDER



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	6.0 (0.236)	8.0 (0.315)	8.0 (0.315)	9.0 (0.354)	11.0 (0.433)	
39						
47	7.0 (0.276)	8.0 (0.315)	9.0 (0.354)	11.0 (0.433)	12.0 (0.472)	
56						
68	8.0 (0.315)	9.0 (0.354)	10.0 (0.394)	11.0 (0.433)	12.0 (0.472)	
82						
100	9.0 (0.354)	11.0 (0.433)	12.0 (0.472)	14.0 (0.551)	14.0 (0.551)	
120						
150	11.0 (0.433)	12.0 (0.472)	14.0 (0.551)	16.0 (0.630)	16.0 (0.630)	
180						
220	12.0 (0.472)	14.0 (0.551)	16.0 (0.630)	16.0 (0.630)	16.0 (0.630)	
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)	11.0 (0.433)	12.0 (0.472)	12.0 (0.472)	7.0 (0.276)	7.0 (0.276)
10.0 (0.394)	9.0 (0.354)	10.0 (0.394)	11.0 (0.433)	11.0 (0.433)	12.0 (0.472)	14.0 (0.551)	14.0 (0.551)	8.0 (0.315)	8.0 (0.315)
11.0 (0.433)	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)
14.0 (0.551)	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)
16.0 (0.630)									



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