

COG (NPO) DIELECTRIC CAPACITORS

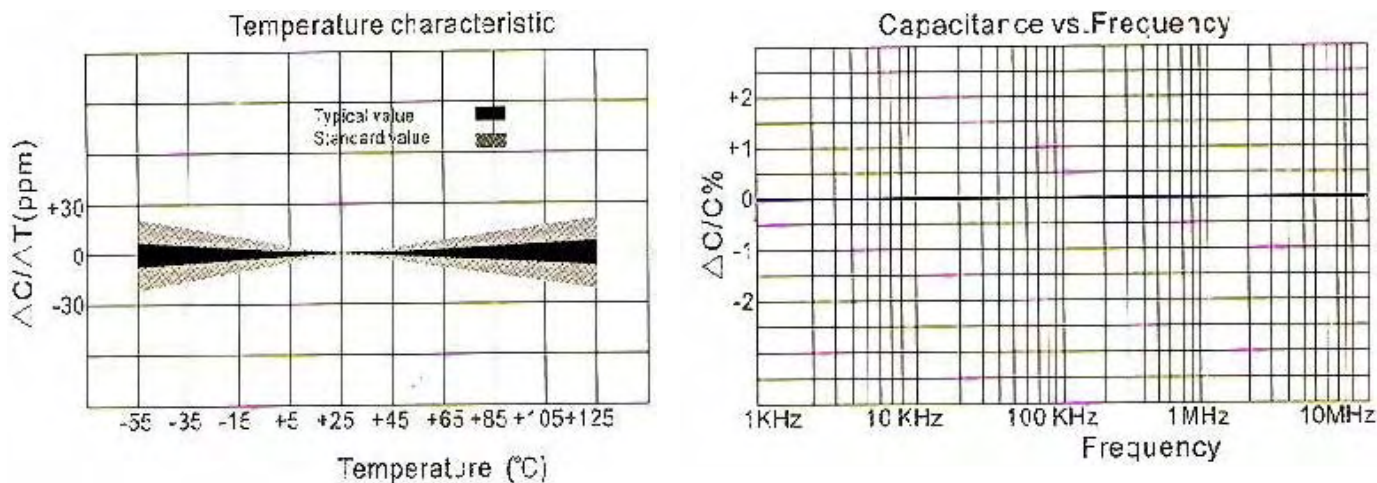
FEATURES

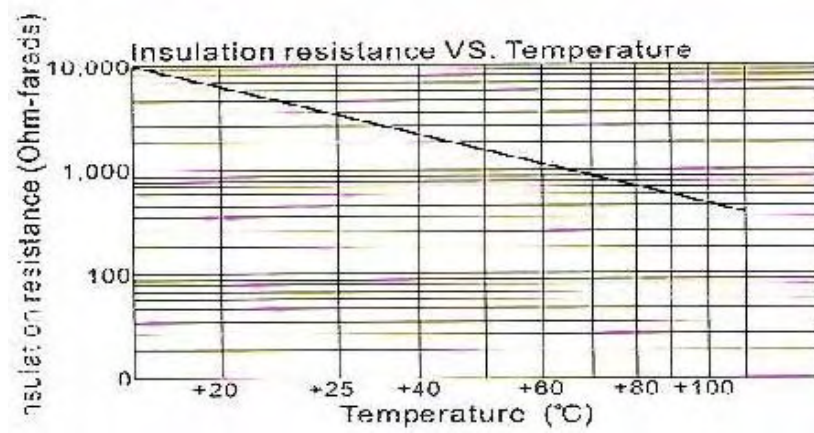
COG (NPO) is the most popular formulation of the “ temperature compensation” , capacitor according to EIA, it is Class 1 dielectric and temperature coefficient is within  $0 \pm 30\text{ppm}/^{\circ}\text{C}$ . Typical capacitance change With frequency and voltages is negligible at less than  $\pm 0.05\%$  COG (NPO) formulations show no aging Characteristics. COG (NPO) formulations usually have a “Q” in excess of 1000 and shows little capacitanc

Performance Characteristics

Capacitance Range	0.2pF ~ 10nF
Capacitance tolerance	$\pm 5\%$ , $\pm 10\%$ Preferred $\pm 5\%$ , $\pm 10\%$ $\text{CR} \leq 10\text{pF}$ , $\pm 0.25 \text{ pF}$ , $\pm 0.5 \text{ pF}$ For values $\leq 10\text{pF}$ , Preferred tolerance is $\pm 0.5 \text{ pF}$ , also available $\pm 0.25 \text{ pF}$
Operating temperature range	$-55 \sim 125^{\circ}$
Temperature coefficient	$0 \pm 30 \text{ ppm}$
Rated voltage	25V,50V,100V
Dissipation factor and “Q”	$\text{CR} \geq 30 \text{ pF}$ , $\text{Q} \geq 1000$ $\text{CR} \leq 30\text{pF}$ , $\text{Q} \geq 400+20\text{CR}$
Insulation resistance	more than $10\text{G}\Omega$
Dielectric withstanding voltage	250 rated voltage
Test voltage	$1 \pm 0.2 \text{ Vrms}$
Test frequency	$\text{CR} > 1000\text{pF}$ , $1 \text{ KHZ} \pm 10 \%$ For values $> 1000\text{pF}$ : $1 \text{ KHZ} \pm 10\%$

Typical Characteristics curves





### Capacitance Range VS. Chip Size

Size	25V	50V	100V
0402	0.2pF ~ 470pF	0.2pF ~ 1.0nF	
0603	0.2pF ~ 2.2nF	0.2pF ~ 1.5nF	0.2pF ~ 1.0nF
0805	0.5pF ~ 10nF	0.5pF ~ 2.2nF	0.5pF ~ 1.25F
1206	0.5pF ~ 10nF	0.5pF ~ 4.7nF	0.5pF ~ 2.2nF