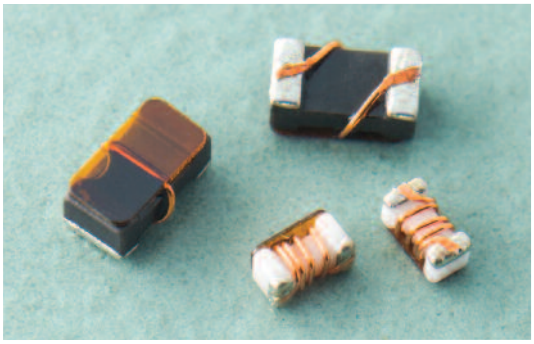
KOA SPEER ELECTRONICS, INC.

NOT RECOMMENDED FOR NEW DESIGN

KQC

high current inductor

EU RoHS COMPLIANT

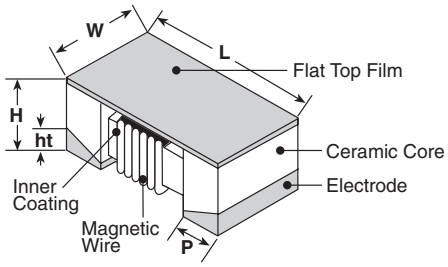


features

- Low DC resistance and high allowable DC current
- Low profile style 0.027 inches (0.7mm) typical
- Suitable for reflow soldering
- Products with lead-free terminations meet EU RoHS requirements

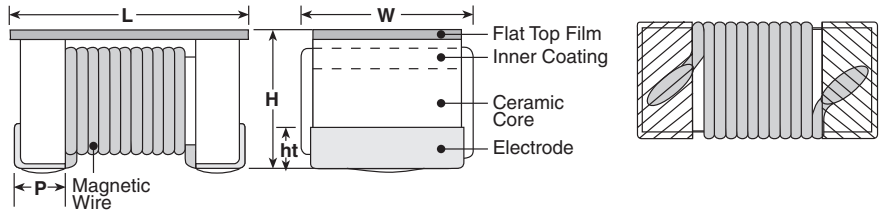
dimensions and construction

0402, 0603

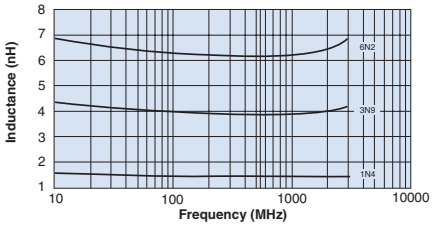


Size Code	Dimensions inches (mm)				
	L	W	H	Ht	P
0402	.039±.004 (1.0±0.1)	.020±.004 (0.5±0.1)	.022±.004 (0.55±0.1)	.006±.004 (0.15±0.1)	.008±.004 (0.2±0.1)
0603	.063±.004 (1.6±0.1)	.041±.008 (1.05±0.2)	.028±.004 (0.7±0.1)	.008±.006 (0.2±0.15)	.015±.004 (0.37±0.1)

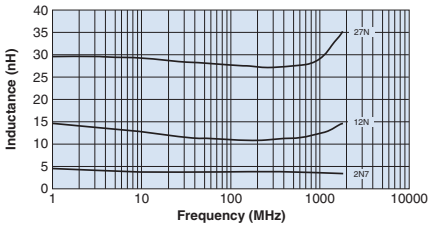
0603



L-Frequency Characteristics - 0402

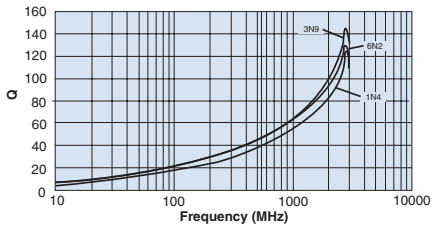


L-Frequency Characteristics - 0603

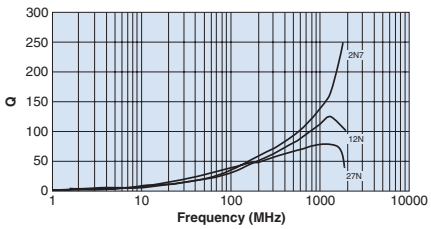


Test equipment:
Agilent 4991 A Impedance analyzer (KQC0402)
Agilent 4291 A Impedance analyzer (KQC0603)

Q-Frequency Characteristics - 0402



Q-Frequency Characteristics - 0603



ordering information

KQC	0603	T	TE	12N	J
Type	Size Code	Termination Material	Packaging	Nominal Inductance	Tolerance
	0402 0603	T: Sn	TP: 2mm pitch paper (0402: 10,000 pieces/reel) TE: 4mm pitch embossed plastic (0603: 2,000 pieces/reel) TD: 4mm pitch paper (0402: 2,000 pieces/reel)	3 digits 10N: 10nH 1N2: 1.2nH	B: ±0.1nH C: ±0.2nH G: ±2% J: ±5%

For further information on packaging, please refer to Appendix A.

1/31/22

applications and ratings

Part Designation	Nominal Inductance (nH)	L Measuring Frequency	Inductance Tolerance	Q Quality Factor Minimum	Q Measuring Frequency (MHz)	Self Resonant Frequency Minimum (GHz)	DC Resistance Maximum (Ω)	Allowable DC Current Maximum (A)
KQC0402T**1N4*	1.4	250	B: ±0.1nH	25	250	11.0	0.019	1.40
KQC0402T**1N5*	1.5							
KQC0402T**1N6*	1.6					10.0		
KQC0402T**1N7*	1.7					9.6		
KQC0402T**2N5*	2.5		C: ±0.2nH	27		8.5	0.028	1.20
KQC0402T**2N7*	2.7					8.0		
KQC0402T**3N0*	3.0			29		7.2		
KQC0402T**3N3*	3.3					6.6		
KQC0402T**3N9*	3.9					7.3	0.036	1.00
KQC0402T**4N3*	4.3			30		7.0		
KQC0402T**4N7*	4.7					6.6		
KQC0402T**6N2*	6.2					5.6	0.045	0.90
KQC0603TTE1N2*	1.2	250	J: ±5%	18	250	6.0	0.020	2.25
KQC0603TTE2N7*	2.7			35			0.025	2.00
KQC0603TTE4N7*	4.7						0.035	1.80
KQC0603TTE5N6*	5.6					5.5		
KQC0603TTE7N5*	7.5						0.045	1.50
KQC0603TTE8N2*	8.2					4.0		
KQC0603TTE10N*	10		G: ±2% J: ±5%			3.0	0.065	1.25
KQC0603TTE12N*	12						0.055	1.40
KQC0603TTE15N*	15						0.065	1.25
KQC0603TTE18N*	18					2.5	0.090	1.20
KQC0603TTE22N*	22						0.100	1.10
KQC0603TTE27N*	27						0.120	1.00

* Add tolerance character (B, C, J, G) ** Add packaging character (TD, TP)

Operating Temperature Range: -40°C ~ +125°C

The operating temperature range of the coil (ambient temperature + self heating) must remain at +125°C or less

environmental applications

Performance Characteristics

Parameter	Requirements Maximum ΔL/L Limit	ΔQ/Q Typical	Test Method
Resistance to Soldering Heat	No significant abnormality in appearance Δ L/L: ±5%, Δ Q/Q: ±10%	Δ L/L: ±1.2% Δ Q/Q: ±2.7%	260°C ± 5°C, 10s ± 1s
Rapid Change of Temperature	No significant abnormality in appearance Δ L/L: ±5%, Δ Q/Q: ±10%	Δ L/L: ±1.9% Δ Q/Q: ±3.9%	-40°C (30min.)/ +125°C (30min.) 100 cycles
Low Temperature Exposure	No significant abnormality in appearance Δ L/L: ±5%, Δ Q/Q: ±10%	Δ L/L: ±2.0% Δ Q/Q: ±4.1%	-40°C ± 2°C, 1000h
High Temperature Exposure	No significant abnormality in appearance Δ L/L: ±5%, Δ Q/Q: ±10%	Δ L/L: ±1.8% Δ Q/Q: ±3.3%	125°C ± 2°C, 1000h
Moisture Exposure	No significant abnormality in appearance Δ L/L: ±5%, Δ Q/Q: ±10%	Δ L/L: ±1.7% Δ Q/Q: ±3.3%	40°C ± 2°C, 90%~95%RH, 1000h
Resistance to Solvent	No damage and marking shall remain legible	—	Accordance with MIL-STD 202F Method 215