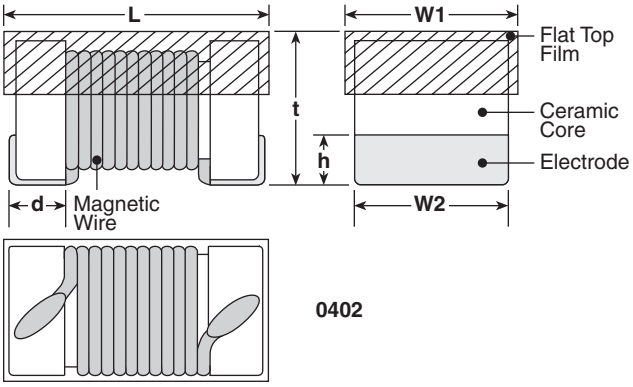
features

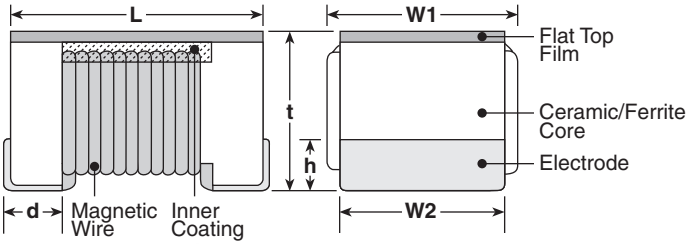
- Surface mount
- Flat top suitable for high speed pick-and-place components
- Excellent high frequency applications
- High Q factors and self-resonant frequency values
- Marking: Black body color with white marking (0603, 0805, 1008)
  White body color with no marking (0402)

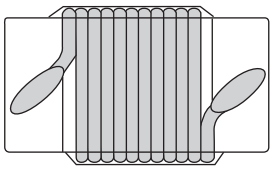
dimensions and construction



0402

Size Code	Dimensions inches (mm)					
	L	W1	W2	t	h	d
KQ0402	.04±.004 (1.1±0.1)	.022±.031 (0.55±0.1)	.02±.004 (0.5±0.1)	.022±.004 (0.55±0.1)	.006±.004 (0.15±0.1)	.01±.004 (0.25±0.1)
KQ0603	.063±.004 (1.6±0.1)	.039±.004 (1.0±0.1)	.033±.004 (0.85±0.1)	.035±.004 (0.9±0.1)	.01±.006 (0.25±0.15)	.014±.004 (0.35±0.1)
KQ0805	.079±.008 (2.0±0.2)	.059±.008 (1.5±0.2)	.053±.004 (1.35±0.1)	.051±.008 (1.3±0.2)	.016±.006 (0.40±0.15)	.018±.004 (0.45±0.1)
KQ1008	.098±.008 (2.5±0.2)	.087±.008 (2.2±0.2)	.079±.004 (2.0±0.1)	.071 $^{+.008}_{-0}$ (1.8 $^{+0.2}_{-0}$)	.018±.006 (0.45±0.15)	.018±.004 (0.45±0.1)
KQT0402	.039±.004 (1.0±0.1)	.02±.004 (0.5±0.1)	.02±.004 (0.5±0.1)	.022±.004 (0.55±0.1)	.006±.004 (0.15±0.1)	.01±.004 (0.25±0.1)





KQT0402, KQ0603, 0805, 1008

ordering information

Old Part #	KQ	1008		TE	10N	J
New Part #	KQ	1008	L	TE	10N	J
	Type	Size Code	Termination Material	Packaging	Nominal Resistance	Tolerance
	KQ KQT	0402 0603 0805 1008	L: SnPb T: Sn	TE: 7" embossed plastic TD: 7" paper tape	10N: 10nH R10: 0.1µH 1R0: 1.0µH	C: 0.2nH G: ±2% H: ±3% J: ±5% K: ±10% M: ±20%

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

applications and ratings

Part Designation	Marking	Nominal Inductance (nH)	L Measuring Frequency	Inductance Tolerance	Q Quality Factor Minimum	Q Measuring Frequency (MHz)	Self Resonant Frequency Minimum (MHz)	DC Resistance Maximum (Ω)	Allowable DC Current Maximum (mA)
KQT0402*TD1N0**	—	1.0	250	C: 0.2nH	16	250	6000	0.045	1360
KQT0402*TD2N0**		2.0						0.070	1040
KQT0402*TD2N2**		2.2			19				960
KQT0402*TD3N3**		3.3						0.066	840
KQT0402*TD3N6**		3.6							
KQT0402*TD3N9**		3.9					5800		
KQT0402*TD5N1**		5.1		H: ±3% J: ±5% K: ±10%	20			0.083	800
KQT0402*TD5N6**		5.6							760
KQT0402*TD6N2**		6.2							
KQT0402*TD7N5**		7.5			22			0.104	680
KQT0402*TD8N2**		8.2					4400		
KQT0402*TD9N0**		9.0					4160		
KQT0402*TD10N**		10			21		3900	0.195	480
KQT0402*TD11N**		11			24		3680	0.120	640
KQT0402*TD12N**		12					3600		
KQT0402*TD15N**		15					3280	0.172	560
KQT0402*TD19N**		19					3040	0.202	480
KQT0402*TD23N**		23					2720	0.214	400
KQT0402*TD27N**		27					2480	0.298	
KQT0402*TD34N**		34					2400	0.550	340
KQT0402*TD36N**		36					2320	0.560	320
KQT0402*TD40N**		40					2240	0.620	
KQT0402*TD47N**		47			20		2100	0.830	150
KQT0402*TD56N**		56			25		2800	1.17	200
KQ0402*TD1N0**	—	1.0	250	J: ±5% K: ±10%	16	250	6000	0.045	1360
KQ0402*TD2N0**		2.0						0.070	1040
KQ0402*TD2N2**		2.2			19				960
KQ0402*TD3N3**		3.3						0.066	840
KQ0402*TD3N6**		3.6							
KQ0402*TD3N9**		3.9					5800		
KQ0402*TD5N1**		5.1			20			0.083	800
KQ0402*TD5N6**		5.6							760
KQ0402*TD6N2**		6.2							
KQ0402*TD7N5**		7.5			22			0.104	680
KQ0402*TD8N2**		8.2					4400		
KQ0402*TD9N0**		9.0					4160		
KQ0402*TD10N**		10			21		3900	0.195	480
KQ0402*TD11N**		11			24		3680	0.120	640
KQ0402*TD12N**		12		G: ±2% J: ±5% K: ±10%			3600		
KQ0402*TD15N**		15					3280	0.172	560
KQ0402*TD19N**		19					3040	0.202	480
KQ0402*TD23N**		23					2720	0.214	400
KQ0402*TD27N**		27					2480	0.298	
KQ0402*TD36N**		36					2320	0.560	320
KQ0402*TD40N**		40					2240	0.620	
KQ0402*TD47N**		47			20		2100	0.830	150
KQ0402*TD56N**		56			25		2800	1.17	200

* Add termination material character (L, T)
** Add tolerance character (C, G, H, J, K, M)

For complete environmental specifications, please refer to pages 211-212.

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use. 11/01/03

applications and ratings (continued)

Part Designation	Marking	Nominal Inductance (nH)	L Measuring Frequency	Inductance Tolerance	Q Quality Factor Minimum	Q Measuring Frequency (MHz)	Self Resonant Frequency Minimum (MHz)	DC Resistance Maximum (Ω)	Allowable DC Current Maximum (mA)
KQ0603*TE1N6**	C	1.6	250	J: ±5% K: ±10%	24	250	12500	0.03	700
KQ0603*TE1N8**	0	1.8			16			0.045	
KQ0603*TE3N6**	E	3.6			22		6900	0.063	
KQ0603*TE3N9**	1	3.9						0.08	
KQ0603*TE4N3**	F	4.3					5900	0.063	
KQ0603*TE4N7**	G	4.7			20		5800	0.116	
KQ0603*TE6N8**	2	6.8		G: ±2% J: ±5%, K: ±10%	27			0.11	
KQ0603*TE7N5**	H	7.5			28		4800	0.106	
KQ0603*TE8N7**	J	8.7		G: ±2% J: ±5%			4600	0.109	
KQ0603*TE10N**	3	10			31		4800	0.13	
KQ0603*TE11N**	K	11			33		4000	0.086	
KQ0603*TE12N**	4	12			35			0.13	
KQ0603*TE15N**	5	15						0.17	
KQ0603*TE16N**	L	16			34		3300	0.104	
KQ0603*TE18N**	6	18			35		3100	0.17	
KQ0603*TE22N**	7	22			38		3000	0.19	
KQ0603*TE24N**	M	24			37		2650	0.135	
KQ0603*TE27N**	8	27			40		2800	0.22	600
KQ0603*TE30N**	N	30			37		2250	0.144	
KQ0603*TE33N**	9	33			40		2300	0.22	
KQ0603*TE36N**	P	36			38		2080	0.25	
KQ0603*TE39N**	0	39			40		2200		
KQ0603*TE43N**	Q	43			39		2000	0.28	
KQ0603*TE47N**	1	47	200		38	200			
KQ0603*TE56N**	2	56					1900	0.31	
KQ0603*TE68N**	3	68			37		1700	0.34	
KQ0603*TE72N**	4	72	150		34	150		0.49	400
KQ0603*TE82N**	5	82						0.54	
KQ0603*TER10**	6	100					1400	0.58	
KQ0603*TER11**	7	110			32		1350	0.61	300
KQ0603*TER12**	8	120					1300	0.65	
KQ0603*TER15**	9	150					1400	0.92	280
KQ0603*TER18**	0	180	100		25	100	1300	2.2	140
KQ0603*TER22**	1	220					1200	2.1	220
KQ0603*TER27**	2	270			24		900	2.3	170
KQ0603*TER33**	3	330			30		800	3.0	100
KQ0603*TER39**	4	390					700	3.7	80

* Add termination material character (L, T)
** Add tolerance character (C, G, H, J, K, M)

For complete environmental specifications, please refer to pages 211-212.

applications and ratings (continued)

Part Designation	Marking	Nominal Inductance (nH)	L Measuring Frequency	Inductance Tolerance	Q Quality Factor Minimum	Q Measuring Frequency (MHz)	Self Resonant Frequency Minimum (MHz)	DC Resistance Maximum (Ω)	Allowable DC Current Maximum (mA)
KQ0805*TE3N3**	0	3.3	250	J: ±5% K: ±10% M: ±20%	50	1500	6000	0.08	600
KQ0805*TE6N8**	1	6.8				1000	5500	0.11	
KQ0805*TE8N2**	2	8.2					4700	0.12	
KQ0805*TE12N**	3	12				500	4000	0.15	
KQ0805*TE15N**	4	15					3400	0.17	
KQ0805*TE18N**	5	18					3300	0.20	
KQ0805*TE22N**	6	22			55		2600	0.22	500
KQ0805*TE27N**	7	27					2500	0.25	
KQ0805*TE33N**	8	33			60		2050	0.27	
KQ0805*TE39N**	9	39					2000	0.29	
KQ0805*TE47N**	0	47	200				1650	0.31	
KQ0805*TE56N**	1	56		G: ±2% J: ±5% K: ±10%			1550	0.34	
KQ0805*TE68N**	2	68					1450	0.38	
KQ0805*TE82N**	3	82	150		65		1300	0.42	400
KQ0805*TER10**	4	100					1200	0.46	
KQ0805*TER12**	5	120			50	250	1100	0.51	
KQ0805*TER15**	6	150	100				920	0.56	
KQ0805*TER18**	7	180					870	0.64	
KQ0805*TER22**	8	220					850	0.70	
KQ0805*TER27**	9	270			48		650	1.0	350
KQ0805*TER33**	0	330					600	1.4	310
KQ0805*TER39**	1	390					560	1.5	290
KQ0805*TER47**	2	470	50	J: ±5% K: ±10%	33	100	375	1.76	250
KQ0805*TER56**	3	560	25		23	50	340	1.9	230
KQ0805*TER68**	4	680					188	2.2	190
KQ0805*TER82**	5	820					215	2.35	180
KQ1008*TE10N**	10N	10	50	J: ±5% K: ±10% M: ±20%	50	500	4100	0.08	1000
KQ1008*TE12N**	12N	12					3300	0.09	
KQ1008*TE15N**	15N	15					3000	0.10	
KQ1008*TE18N**	18N	18				350	2500	0.11	
KQ1008*TE22N**	22N	22			55		2400	0.12	
KQ1008*TE27N**	27N	27					1600	0.13	
KQ1008*TE33N**	33N	33			60			0.14	
KQ1008*TE39N**	39N	39					1500	0.15	
KQ1008*TE47N**	47N	47			65			0.16	
KQ1008*TE56N**	56N	56		G: ±2% J: ±5% K: ±10%			1300	0.18	
KQ1008*TE68N**	68N	68						0.20	
KQ1008*TE82N**	82N	82			60		1000	0.22	
KQ1008*TER10**	R10	100	25					0.56	800
KQ1008*TER12**	R12	120					950	0.63	
KQ1008*TER15**	R15	150			45	100	850	0.70	
KQ1008*TER18**	R18	180					750	0.77	750
KQ1008*TER22**	R22	220					700	0.84	720

* Add termination material character (L, T)
** Add tolerance character (C, G, H, J, K, M)

For complete environmental specifications, please refer to pages 211-212.

applications and ratings (continued)

Part Designation	Marking	Nominal Inductance (nH)	L Measuring Frequency	Inductance Tolerance	Q Quality Factor Minimum	Q Measuring Frequency (MHz)	Self Resonant Frequency Minimum (MHz)	DC Resistance Maximum (Ω)	Allowable DC Current Maximum (mA)
KQ1008*TER27**	R27	270	25	G: ±2% J: ±5% K: ±10%	45	100	600	0.91	690
KQ1008*TER33**	R33	330					570	1.05	660
KQ1008*TER39**	R39	390					500	1.12	630
KQ1008*TER47**	R47	470					450	1.19	600
KQ1008*TER56**	R56	560					415	1.33	580
KQ1008*TER62**	R62	620					375	1.40	560
KQ1008*TER68**	R68	680						1.47	540
KQ1008*TER75**	R75	750					360	1.54	520
KQ1008*TER82**	R82	820					350	1.61	500
KQ1008*TER91**	R91	910			35	50	320	1.68	480
KQ1008*TE1R0**	1R0	1000					290	1.75	460
KQ1008*TE1R2**	1R2	1200	7.9				250	2.0	440
KQ1008*TE1R5**	1R5	1500			28		200	2.3	420
KQ1008*TE1R8**	1R8	1800					160	2.6	400
KQ1008*TE2R2**	2R2	2200						2.8	380
KQ1008*TE2R7**	2R7	2700			22	25	140	3.2	360
KQ1008*TE3R3**	3R3	3300					110	3.4	350
KQ1008*TE3R9**	3R9	3900			20		100	3.6	340
KQ1008*TE4R7**	4R7	4700					90	4.0	330
KQ1008*TE5R6**	5R6	5600			15	7.9	80	2.2	150
KQ1008*TE6R8**	6R8	6800					70	2.5	
KQ1008*TE8R2**	8R2	8200					65	2.8	
KQ1008*TE100**	100	10000					60	3.2	

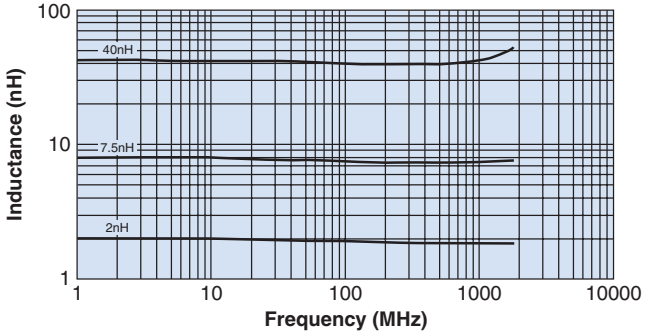
* Add termination material character (L, T)
** Add tolerance character (C, G, H, J, K, M)

For complete environmental specifications, please refer to pages 211-212.

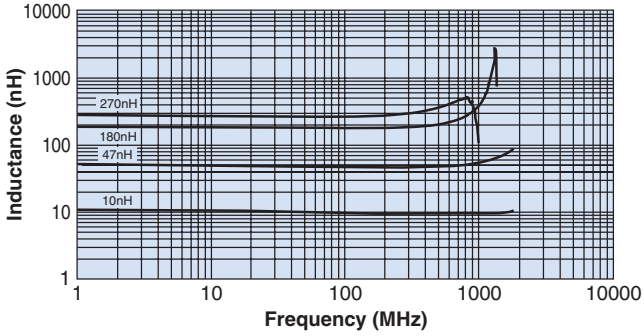
environmental applications

L-Frequency Characteristics

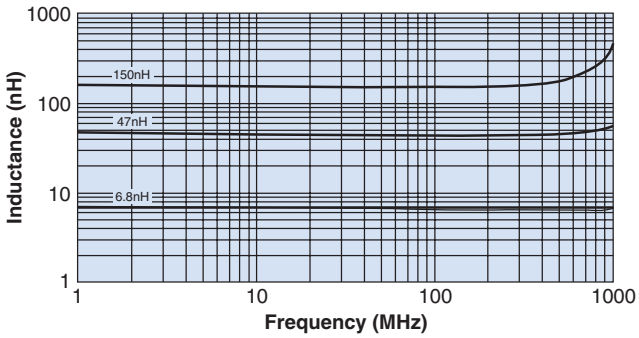
KQ0402



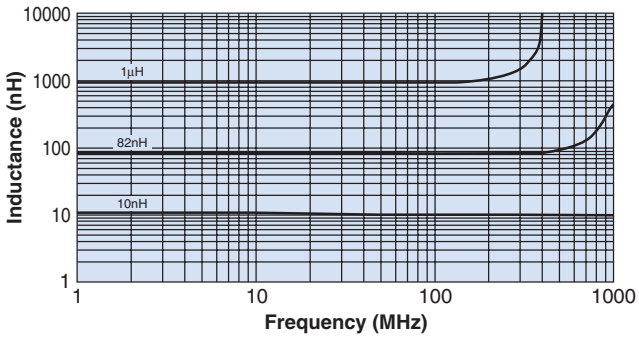
KQ0603



KQ0805

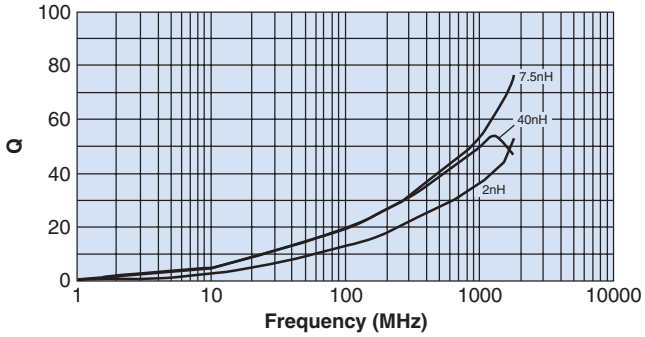


KQ1008

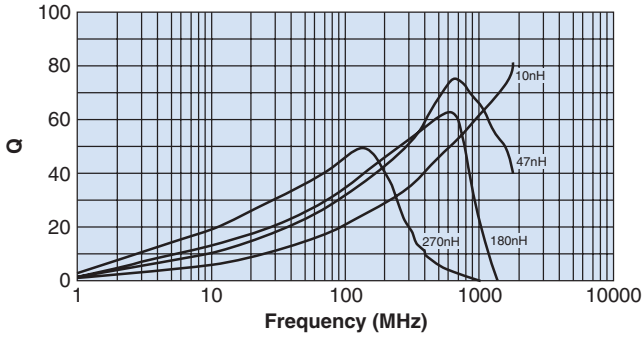


Q-Frequency Characteristics

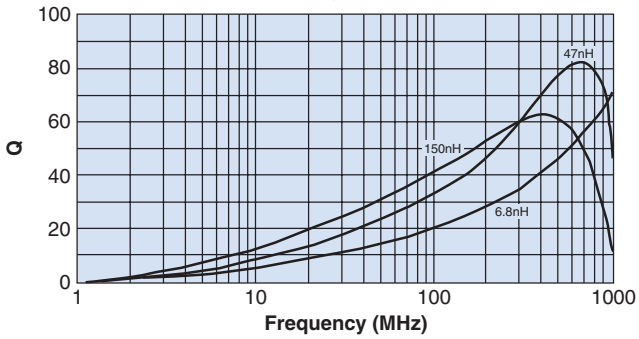
KQ0402



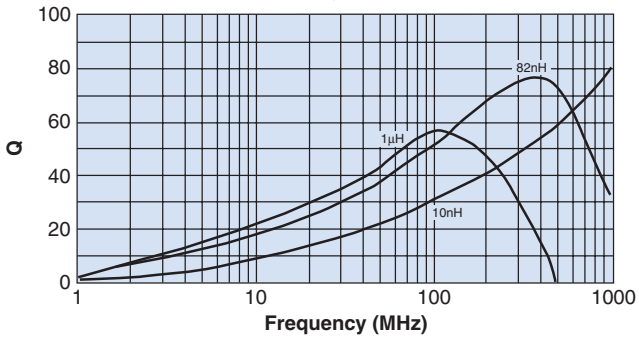
KQ0603



KQ0805



KQ1008



Test equipment: HP4291A impedance analyzer

environmental applications (continued)

Performance Characteristics

Parameter	Maximum Δ L	Test Method
Dielectric Withstanding Voltage	No evidence of flaming, fuming or breakdown	5 seconds @ AC 500V applied between both terminals and film
Insulation Resistance	1000MΩ and over	1 minute @ DC 100V measured between both terminals and film
Flammability	IEC 695-2-2	Withstands needle-flame test
Terminal Pull Strength	No evidence of damage	Terminals shall withstand a pull of 10N in a horizontal direction (KQ0402 and KQ0603 = 5N, KQ0805 and KQ1008 = 10N)
Terminal Bending Strength	No evidence of breakdown	Specimen shall be soldered on bend test board and force applied to the opposite side to cause a 10mm deflection (KQ0603 = 3mm deflection)
Vibration	Δ L/L within ±5% Δ Q/Q within ±10%	2 hours in each direction of X, Y, Z on PCB at a frequency range of 10 - 55 - 10Hz with 1.5mm amplitude
Dropping	No evidence of damage Δ L/L within ±5% Δ Q/Q within ±10%	Dropping 1m on the ground of concrete, 1 time
Resistance to Solder Heat	No evidence of outer damage Δ L/L within ±5% Δ Q/Q within ±10%	Immerse in solder @ 260° ± 5°C for 10 seconds ± 1 second
Solderability	95% of the terminal should be covered with new solder	Immerse in solder @ 230° ± 5°C for 3 seconds ± 0.5 second
Resistance to Solvents	No damage and marking must remain legible	Accordance with MIL-STD-202, Method 215
Low Temperature Storage	No evidence of damage Δ L/L within ±5% Δ Q/Q within ±10%	Store @ -40°C ±2°C for 1000 hours
High Temperature Storage	No evidence of damage Δ L/L within ±5% Δ Q/Q within ±10%	Store @ +125°C ±2°C for 1000 hours
Moisture Endurance	No evidence of damage Δ L/L within ±5% Δ Q/Q within ±10%	40°C ± 2°C, 90 - 95% RH, 1000 hours KQT0402: 60°C ± 2°C, 90 - 95% RH, 1000 hours
Load Life	No evidence of damage Δ L/L within ±5% Δ Q/Q within ±10%	Biased to full rated current @ +125°C, 1000 hours
High Temperature High Humidity	No evidence of damage Δ L/L within ±5% Δ Q/Q within ±10%	Biased to 10% rated current @ +85°C, 85% RH, 1000 hours
Thermal Shock	No evidence of damage Δ L/L within ±5% Δ Q/Q within ±10%	100 cycles between -40°C/hour and +125°C/hour
Temperature Characteristics	Δ L/L within ±5%	Δ L/L to be measured at the temperatures between -40°C and +125°C, reference to the inductance @ 20°C

Unless otherwise specified, measurements shall be performed within 2 hours after leaving test samples for more than one hour at the normal temperature and at the normal humidity.