

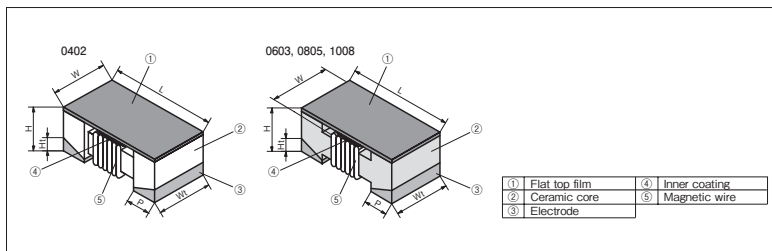
KQ Air-Core Chip Inductors

Chip Inductors



Body color : White (0402)
Black (0603, 0805, 1008)

Construction



Features

- Small chip inductors with air-core and wire wound for frequency equipment.
- High Q and high self-resonant frequency with stable temp. characteristic.
- Precision type ($\pm 2\%$) is available.
- Excellent mechanical strength, mountability, solderability and high reliability in withstanding environment.
- Suitable for high-frequency circuits such as tele-communication equipment and mobile phones.
- Low DC resistance and high allowable DC current.
- Suitable for reflow soldering.
- Products meet EU-RoHS requirements.
- AEC-Q200 qualified.

Applications

High frequency circuits in terminal and base station of mobile wireless equipment.

Dimensions

Type	Dimensions (mm)						Weight (g) (1000pcs)
	L	W	H	Wt	Ht	P	
KQT0402	1.0 \pm 0.1	0.5 \pm 0.1	0.55 \pm 0.1	0.5 \pm 0.1	0.15 \pm 0.10	0.25 \pm 0.1	1
KQ0603	1.6 \pm 0.1	1.0 \pm 0.1	0.9 \pm 0.1	0.85 \pm 0.1	0.25 \pm 0.15	0.35 \pm 0.1	4
KQ0805	2.0 \pm 0.2	1.5 \pm 0.2 (3.3nH~390nH) 1.6 \pm 0.2 (470nH~820nH)	1.3 \pm 0.2	1.35 \pm 0.1	0.40 \pm 0.15	0.45 \pm 0.1	12
KQ1008	2.5 \pm 0.2	2.2 \pm 0.2	1.8 \pm 0.2	2.0 \pm 0.1	0.45 \pm 0.15	0.45 \pm 0.1	30

Type Designation

Example

KQ	1008	T	TE	10N	J
Product Code	Style	Terminal Surface Material	Taping	Nominal Inductance	Tolerance
KQT KQ	0402: 1.0 \times 0.5mm 0603: 1.6 \times 1.0mm 0805: 2.0 \times 1.5mm 1008: 2.5 \times 2.2mm	T: Sn	TP: 2mm pitch paper (0402) TD: 4mm pitch paper (0402) TE: 4mm pitch plastic embossed (0603~1008) BK: Bulk	3 digits	B: ± 0.1 nH C: ± 0.2 nH G: $\pm 2\%$ H: $\pm 3\%$ J: $\pm 5\%$ K: $\pm 10\%$ M: $\pm 20\%$

Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.

For further information on taping, please refer to APPENDIX C on the back pages.

Performance

Test Items	Performance Requirements Maximum $\Delta L/L$ Maximum $\Delta Q/Q$		Test Methods
	Limit	Typical	
Resistance to soldering heat	$\Delta L/L: \pm 5\%$, $\Delta Q/Q: \pm 10\%$ No significant abnormality in appearance.	$\Delta L/L: \pm 2.7\%$ $\Delta Q/Q: \pm 6.6\%$	260 $^{\circ}$ C $\pm 5^{\circ}$ C, 10s ± 1 s
Rapid change of temperature	$\Delta L/L: \pm 5\%$, $\Delta Q/Q: \pm 10\%$ No significant abnormality in appearance.	$\Delta L/L: \pm 2.1\%$ $\Delta Q/Q: \pm 5.3\%$	-40 $^{\circ}$ C (30min.) / +125 $^{\circ}$ C (30min.) 100 cycles
Low temperature exposure	$\Delta L/L: \pm 5\%$, $\Delta Q/Q: \pm 10\%$ No significant abnormality in appearance.	$\Delta L/L: \pm 1.8\%$ $\Delta Q/Q: \pm 2.8\%$	-40 $^{\circ}$ C $\pm 2^{\circ}$ C, 1000h
High temperature exposure	$\Delta L/L: \pm 5\%$, $\Delta Q/Q: \pm 10\%$ No significant abnormality in appearance.	$\Delta L/L: \pm 1.8\%$ $\Delta Q/Q: \pm 5.3\%$	125 $^{\circ}$ C $\pm 2^{\circ}$ C, 1000h
Moisture endurance	$\Delta L/L: \pm 5\%$, $\Delta Q/Q: \pm 10\%$ No significant abnormality in appearance.	$\Delta L/L: \pm 0.9\%$ $\Delta Q/Q: \pm 6.9\%$	40 $^{\circ}$ C $\pm 2^{\circ}$ C, 90%~95%RH, 1000h
Resistance to solvent	No damage and marking shall remain legible.	—	Accordance with MIL-STD 202F Method 215

Precautions for Use

- The pattern size of pad may affect Q values, so confirm the characteristics beforehand by actual machines.

Ratings

Operating temperature range : -40°C~+125°C (Self-heating is included.)

※That the operating temperature upper limit temperature of the coil winding portions (ambient temperature+self-heating) is (+125°C) or less.

Taping code and Q'ty/Reel : 0402 : TP (10,000pcs) · TD (2,000pcs), 0603 : TE (2,000pcs)

Type	Marking	Nominal Inductance (nH)	L Measuring Frequency (MHz)	Inductance Tolerance	Quality Factor Min.	Q Measuring Frequency (MHz)	Self Resonant Frequency (MHz) Min.	DC Resistance (Ω) Max.	Allowable DC Current (mA) Max.			
KQT0402T:1N0		1.0	250	B : ±0.1nH C : ±0.2nH	16	250	11,000	0.045	1360			
KQT0402T:1N9		1.9			19		9,600	0.070	1040			
KQT0402T:2N0		2.2			18		8,000	0.068	960			
KQT0402T:2N4		2.4			17							
KQT0402T:2N7		2.7			19		7,200	0.066	840			
KQT0402T:3N3		3.3										
KQT0402T:3N6		3.6			18		6,000	0.091	800			
KQT0402T:3N9		3.9										
KQT0402T:4N3		4.3			20		5,800	0.083	760			
KQT0402T:4N7		4.7										
KQT0402T:5N1		5.1			22		4,800	0.086	680			
KQT0402T:5N6		5.6										
KQT0402T:6N2		6.2			20		4,200	0.150	650			
KQT0402T:6N8		6.8										
KQT0402T:7N5		7.5			22		5,800	0.104	680			
KQT0402T:8N2		8.2										
KQT0402T:8N7		8.7			20		4,200	0.150	650			
KQT0402T:9N0		9.0										
KQT0402T:9N5		9.5			22		4,160	0.104	680			
KQT0402T:10N		10										
KQT0402T:11N		11			20		4,000	0.150	650			
KQT0402T:12N		12										
KQT0402T:13N		13			21		3,900	0.195	480			
KQT0402T:15N		15										
KQT0402T:16N		16			24		3,680	0.120	640			
KQT0402T:18N		18										
KQT0402T:19N		19			24		3,600	0.120	640			
KQT0402T:20N		20										
KQT0402T:22N		22			25		3,450	0.180	560			
KQT0402T:23N		23										
KQT0402T:24N		24			25		3,280	0.172	560			
KQT0402T:27N		27										
KQT0402T:30N		30			25		3,100	0.200	500			
KQT0402T:33N		33										
KQT0402T:34N		34			24		3,040	0.202	480			
KQT0402T:36N		36										
KQT0402T:39N		39			25		3,000	0.250	450			
KQT0402T:40N		40										
KQT0402T:43N		43			24		2,800	0.323	400			
KQT0402T:47N		47										
KQT0402T:51N		51			20		2,720	0.214	400			
KQT0402T:56N		56										
KQT0402T:68N		68			25		2,700	0.322	400			
KQT0402T:82N		82										
KQT0402T:R10		100			24		2,480	0.298	400			
KQT0402T:R12		120										
KQ0603 TTE 1N6	C	1.6			250		J : ±5% K : ±10%	24	250	12,500	0.030	700
KQ0603 TTE 1N8	O	1.8						16			0.045	
KQ0603 TTE 3N3	X	3.3	22	6,900		0.055		600				
KQ0603 TTE 3N6	E	3.6										
KQ0603 TTE 3N9	1	3.9	20	5,900		0.063		600				
KQ0603 TTE 4N3	F	4.3										
KQ0603 TTE 4N7	G	4.7	27	5,800		0.080		600				
KQ0603 TTE 5N1	Y	5.1										
KQ0603 TTE 6N8	2	6.8	28	4,800		0.116		600				
KQ0603 TTE 7N5	H	7.5										
KQ0603 TTE 8N2	A	8.2	31	4,600		0.109		600				
KQ0603 TTE 8N7	J	8.7										
KQ0603 TTE 9N1	B	9.5	33	4,800		0.125		600				
KQ0603 TTE 10N	3	10										
KQ0603 TTE 11N	K	11	35	4,000		0.086		600				
KQ0603 TTE 12N	4	12										
KQ0603 TTE 15N	5	15	34	3,300		0.104		600				
KQ0603 TTE 16N	L	16										
KQ0603 TTE 18N	6	18	35	3,100		0.170		600				
KQ0603 TTE 22N	7	22										
KQ0603 TTE 23N	S	23	38	3,000		0.190		600				
KQ0603 TTE 24N	M	24										
KQ0603 TTE 27N	8	27	37	2,700		0.150		600				
KQ0603 TTE 30N	N	30										
KQ0603 TTE 33N	9	33	40	2,650		0.135		600				
KQ0603 TTE 36N	P	36										
KQ0603 TTE 39N	O	39	40	2,800		0.220		600				
KQ0603 TTE 43N	Q	43										
KQ0603 TTE 47N	1	47	39	2,200		0.250		600				
KQ0603 TTE 51N	T	51										
KQ0603 TTE 56N	2	56	38	2,000		0.280		600				
KQ0603 TTE 68N	3	68										
KQ0603 TTE 72N	4	72	37	1,900		0.300		600				
KQ0603 TTE 82N	5	82										
KQ0603 TTE R10	6	100	34	1,700		0.490		400				
KQ0603 TTE R11	7	110										
KQ0603 TTE R12	8	120	32	1,400		0.580		400				
KQ0603 TTE R15	9	150										
KQ0603 TTE R18	O	180	25	1,350		0.610		400				
KQ0603 TTE R20	U	200										
KQ0603 TTE R21	V	210	32	1,300		0.650		400				
KQ0603 TTE R22	1	220										
KQ0603 TTE R25	W	250	25	1,400		1.400		160				
KQ0603 TTE R27	2	270										
KQ0603 TTE R30	X	300	24	1,300		2.200		140				
KQ0603 TTE R33	3	330										
KQ0603 TTE R39	4	390	30	1,200		2.300		130				
KQ0603 TTE R47	5	470										
KQ0603 TTE R51	V	510	30	1,000	2.500	120						
KQ0603 TTE R56	6	560										
KQ0603 TTE R62	W	620	24	900	2.400	120						
KQ0603 TTE R68	7	680										
KQ0603 TTE R75	X	750	30	840	3.170	110						
KQ0603 TTE R82	8	820										
KQ0603 TTE R91	Y	910	30	800	3.000	100						
KQ0603 TTE R1R0	9	1,000										
KQ0603 TTE R1R2	O	1,200	30	700	3.700	80						
			50	640	1.210	190						
			50	610	1.260	170						
			50	560	2.090	130						
			50	590	1.890	150						
			50	540	1.970	140						
			50	530	2.040	130						
			50	490	3.090	110						
			50	480	2.950	120						
			50	440	5.130	90						
			50	400	5.450	80						

The codes for taping enter [□]. Please refer to the column of type designation.

The code for inductance tolerance (B, C, G, H, J, K) enters [□].

AIR CORE INDUCTORS

KQ Air-Core Chip Inductors

■ Ratings (Continued)

Operating temperature range : -40°C ~ +125°C

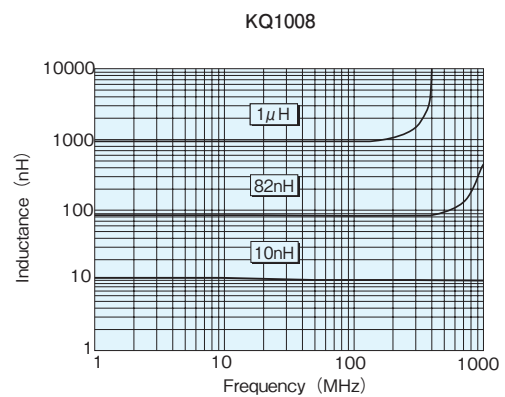
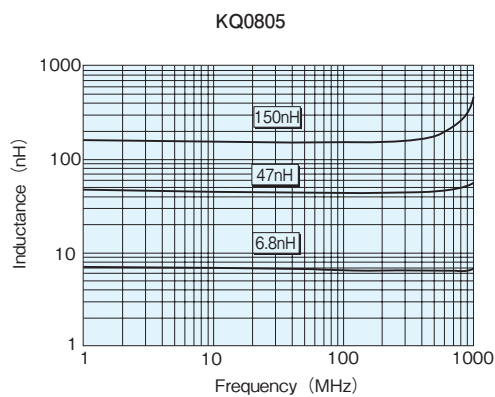
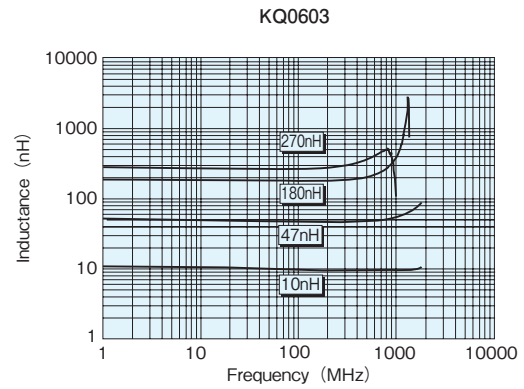
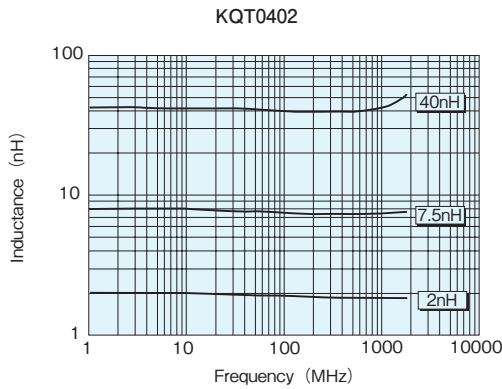
Taping code and Q'ty/Reel : 0805, 1008: TE (2,000pcs)

Type	Marking	Nominal Inductance (nH)	L Measuring Frequency (MHz)	Inductance Tolerance	Quality Factor Min.	Q Measuring Frequency (MHz)	Self Resonant Frequency (MHz) Min.	DC Resistance (Ω) Max.	Allowable DC Current (mA) Max.		
KQ0805 TTE 3N3	0	3.3	250	J : ±5% K : ±10%	50	1,500	6,000	0.080	600		
KQ0805 TTE 6N8	1	6.8				1,000	5,500	0.110			
KQ0805 TTE 8N2	2	8.2					4,700	0.120			
KQ0805 TTE 12N	3	12					4,000	0.150			
KQ0805 TTE 15N	4	15					3,400	0.170			
KQ0805 TTE 18N	5	18					3,300	0.200			
KQ0805 TTE 20N	Y	20				55	2,600	0.220			
KQ0805 TTE 22N	6	22					2,500	0.250			
KQ0805 TTE 27N	7	27				60	2,050	0.270			
KQ0805 TTE 33N	8	33					2,000	0.290			
KQ0805 TTE 39N	9	39	1,650	0.340							
KQ0805 TTE 43N	4	43	200	G : ±2% J : ±5% K : ±10%	65	1,550	0.340	500			
KQ0805 TTE 47N	0	47				1,450	0.380				
KQ0805 TTE 56N	1	56				1,300	0.420				
KQ0805 TTE 68N	2	68				1,200	0.460				
KQ0805 TTE 82N	3	82				1,100	0.510				
KQ0805 TTE R10	4	100				920	0.560				
KQ0805 TTE R12	5	120				50	870		0.640		
KQ0805 TTE R15	6	150					250		850	0.700	
KQ0805 TTE R16	H	160							48	650	1.000
KQ0805 TTE R17	J	170								600	560
KQ0805 TTE R18	7	180	310	1.500							
KQ0805 TTE R19	D	190	290	1.760							
KQ0805 TTE R20	E	200	250	1.900							
KQ0805 TTE R21	F	210	230	2.200							
KQ0805 TTE R22	8	220	190	2.300							
KQ0805 TTE R23	K	230	180	2.350							
KQ0805 TTE R24	L	240	50	J : ±5% K : ±10%	23	50		600			1.400
KQ0805 TTE R25	G	250					560	1.500			
KQ0805 TTE R27	9	270					340	1.900			
KQ0805 TTE R33	0	330					188	2.200			
KQ0805 TTE R39	1	390					200	2.300			
KQ0805 TTE R47	2	470					215	2.350			
KQ0805 TTE R56	3	560					1,000	0.56			
KQ0805 TTE R68	4	680					950	0.63			
KQ0805 TTE R72	A	720					850	0.70			
KQ0805 TTE R82	5	820					750	0.77			
KQ1008 TTE 10N	10N	10	50	J : ±5% K : ±10% M : ±20%	50	500	4,100	0.08	650		
KQ1008 TTE 12N	12N	12					3,300	0.09			
KQ1008 TTE 15N	15N	15					3,000	0.10			
KQ1008 TTE 18N	18N	18					2,500	0.11			
KQ1008 TTE 22N	22N	22					2,400	0.12			
KQ1008 TTE 27N	27N	27					1,600	0.13			
KQ1008 TTE 33N	33N	33					1,500	0.14			
KQ1008 TTE 39N	39N	39					1,500	0.15			
KQ1008 TTE 47N	47N	47					1,300	0.16			
KQ1008 TTE 56N	56N	56					1,300	0.18			
KQ1008 TTE 68N	68N	68	1,000	0.20							
KQ1008 TTE 82N	82N	82	600	0.22							
KQ1008 TTE R10	R10	100	25	G : ±2% J : ±5% K : ±10%	45	100	950	0.56	500		
KQ1008 TTE R12	R12	120					850	0.70			
KQ1008 TTE R15	R15	150					750	0.77			
KQ1008 TTE R18	R18	180					700	0.84			
KQ1008 TTE R22	R22	220					600	0.91			
KQ1008 TTE R27	R27	270					570	1.05			
KQ1008 TTE R33	R33	330					500	1.12			
KQ1008 TTE R39	R39	390					450	1.19			
KQ1008 TTE R47	R47	470					415	1.33			
KQ1008 TTE R56	R56	560					375	1.40			
KQ1008 TTE R62	R62	620	360	1.47							
KQ1008 TTE R68	R68	680	350	1.54							
KQ1008 TTE R75	R75	750	320	1.68							
KQ1008 TTE R82	R82	820	290	1.75							
KQ1008 TTE R91	R91	910	250	1.6							
KQ1008 TTE 1R0	1R0	1,000	7.9	G : ±2% J : ±5% K : ±10%	28	50	200	1.7	250		
KQ1008 TTE 1R2	1R2	1,200					160	1.9			
KQ1008 TTE 1R5	1R5	1,500					140	2.2			
KQ1008 TTE 1R8	1R8	1,800					110	2.3			
KQ1008 TTE 2R2	2R2	2,200					100	2.7			
KQ1008 TTE 2R7	2R7	2,700					90	2.8			
KQ1008 TTE 3R3	3R3	3,300					80	3.1			
KQ1008 TTE 3R9	3R9	3,900					70	3.1			
KQ1008 TTE 4R7	4R7	4,700					65	3.4			
KQ1008 TTE 5R6	5R6	5,600					60	3.4			
KQ1008 TTE 6R8	6R8	6,800									
KQ1008 TTE 8R2	8R2	8,200									
KQ1008 TTE 100	100	10,000									

The code for inductance tolerance (G, J, K, M) enters □.

Characteristics

Test equipment : HP4291A Impedance analyzer
L—Frequency Characteristics



Q—Frequency Characteristics

