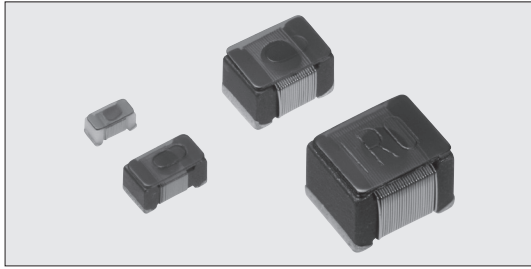
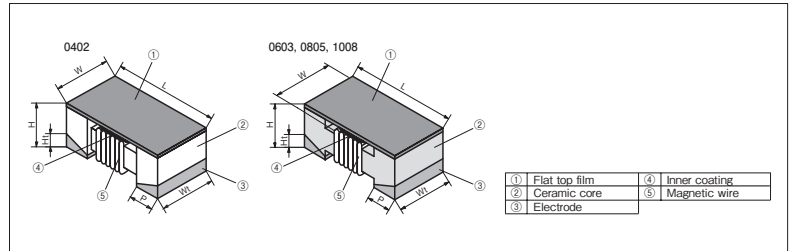


KQ Air-Core Chip Inductors



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 Tested.

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 ± 0.1	0.5 ± 0.1	0.55 ± 0.1	0.5 ± 0.1	0.15 ± 0.10	0.25 ± 0.1	1
KQ0603	1.6 ± 0.1	1.0 ± 0.1	0.9 ± 0.1	0.85 ± 0.1	0.25 ± 0.15	0.35 ± 0.1	4
KQ0805	2.0 ± 0.2	1.5 ± 0.2 (3.3nH~390nH) 1.6 ± 0.2 (470nH~820nH)	1.3 ± 0.2	1.35 ± 0.1	0.40 ± 0.15	0.45 ± 0.1	12
KQ1008	2.5 ± 0.2	2.2 ± 0.2	1.8 ± 0.2	2.0 ± 0.1	0.45 ± 0.15	0.45 ± 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: 1.0×0.5mm 0603: 1.6×1.0mm 0805: 2.0×1.5mm 1008: 2.5×2.2mm	T: Sn	TP: 2mm pitch paper (0402) TD: 4mm pitch paper (0402) TE: 4mm pitch plastic embossed (0603~1008) BK: Bulk	3 digits	B: $\pm 0.1\text{nH}$ C: $\pm 0.2\text{nH}$ 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.	$\Delta L/L: \pm 2.7\%$ $\Delta Q/Q: \pm 6.6\%$	$260^\circ\text{C} \pm 5^\circ\text{C}$, 10s $\pm$ 1s
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°C (30min.) / $+125^\circ\text{C}$ (30min.) 100 cycles
Low temperature exposure	$\Delta L/L: \pm 5\%$, $\Delta Q/Q: \pm 10\%$ No significant abnormality in appearance.	$\Delta L/L: \pm 1.8\%$ $\Delta Q/Q: \pm 2.8\%$	$-40^\circ\text{C} \pm 2^\circ\text{C}$, 1000h
High temperature exposure	$\Delta L/L: \pm 5\%$, $\Delta Q/Q: \pm 10\%$ No significant abnormality in appearance.	$\Delta L/L: \pm 1.8\%$ $\Delta Q/Q: \pm 5.3\%$	$125^\circ\text{C} \pm 2^\circ\text{C}$, 1000h
Moisture endurance	$\Delta L/L: \pm 5\%$, $\Delta Q/Q: \pm 10\%$ No significant abnormality in appearance.	$\Delta L/L: \pm 0.9\%$ $\Delta Q/Q: \pm 6.9\%$	$40^\circ\text{C} \pm 2^\circ\text{C}$, 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 : $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$ (Self-heating is included.)

※ That the operating temperature upper limit temperature of the coil winding portions (ambient temperature+self-heating) is $(+125^{\circ}\text{C})$ 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		2.0			18		8,000	0.068	960			
KQT0402T-2N2		2.2								17	0.120	700
KQT0402T-2N4		2.4										
KQT0402T-2N7		2.7			19		7,200	0.066	840			
KQT0402T-3N3		3.3										
KQT0402T-3N6		3.6										
KQT0402T-3N9		3.9										
KQT0402T-4N3		4.3										
KQT0402T-4N7		4.7			18		6,000	0.091	800			
KQT0402T-5N1		5.1										
KQT0402T-5N6		5.6										
KQT0402T-6N2		6.2			20		5,800	0.083	760			
KQT0402T-6N8		6.8										
KQT0402T-7N5		7.5										
KQT0402T-8N2		8.2			22	4,800	0.086	680				
KQT0402T-8N7		8.7										
KQT0402T-9N0		9.0										
KQT0402T-9N5		9.5			20	4,000	0.150	650				
KQT0402T-10N		10										
KQT0402T-11N		11										
KQT0402T-12N		12			21	3,900	0.195	480				
KQT0402T-13N		13										
KQT0402T-15N		15										
KQT0402T-16N		16		24	3,680	0.120	640					
KQT0402T-18N		18										
KQT0402T-19N		19										
KQT0402T-20N		20		24	3,450	0.180	560					
KQT0402T-22N		22										
KQT0402T-23N		23										
KQT0402T-24N		24		25	3,280	0.172	500					
KQT0402T-27N		27										
KQT0402T-30N		30										
KQT0402T-33N		33		25	3,100	0.200	450					
KQT0402T-34N		34										
KQT0402T-36N		36										
KQT0402T-39N		39		24	3,040	0.202	480					
KQT0402T-40N		40										
KQT0402T-43N		43										
KQT0402T-47N		47		25	3,000	0.250	400					
KQT0402T-51N		51										
KQT0402T-56N		56										
KQT0402T-68N		68		24	2,800	0.323	340					
KQT0402T-82N		82										
KQT0402T-R10		100										
KQT0402T-R12		120		25	2,720	0.214	320					
KQ0603 TTE 1N6	C	1.6										
KQ0603 TTE 1N8	O	1.8										
KQ0603 TTE 3N3	X	3.3	22	6,900	0.063	700						
KQ0603 TTE 3N6	E	3.6										
KQ0603 TTE 3N9	1	3.9										
KQ0603 TTE 4N3	F	4.3	20	5,900	0.063	600						
KQ0603 TTE 4N7	G	4.7										
KQ0603 TTE 5N1	Y	5.1										
KQ0603 TTE 6N8	2	6.8	27	5,800	0.115	400						
KQ0603 TTE 7N5	H	7.5										
KQ0603 TTE 8N2	A	8.2										
KQ0603 TTE 8N7	J	8.7	28	4,800	0.120	300						
KQ0603 TTE 9N5	B	9.5										
KQ0603 TTE 10N	3	10										
KQ0603 TTE 11N	K	11	31	4,600	0.109	200						
KQ0603 TTE 12N	4	12										
KQ0603 TTE 15N	5	15										
KQ0603 TTE 16N	L	16	33	4,000	0.130	140						
KQ0603 TTE 18N	6	18										
KQ0603 TTE 22N	7	22										
KQ0603 TTE 23N	S	23	35	3,300	0.104	160						
KQ0603 TTE 24N	M	24										
KQ0603 TTE 27N	8	27										
KQ0603 TTE 30N	N	30	37	3,000	0.190	130						
KQ0603 TTE 33N	9	33										
KQ0603 TTE 36N	P	36										
KQ0603 TTE 39N	O	39	40	2,700	0.150	120						
KQ0603 TTE 43N	Q	43										
KQ0603 TTE 47N	1	47										
KQ0603 TTE 51N	T	51	38	2,650	0.135	110						
KQ0603 TTE 56N	2	56										
KQ0603 TTE 68N	3	68										
KQ0603 TTE 72N	4	72	37	2,800	0.220	80						
KQ0603 TTE 82N	5	82										
KQ0603 TTE R10	6	100										
KQ0603 TTE R11	7	110	34	2,250	0.144	100						
KQ0603 TTE R12	8	120										
KQ0603 TTE R15	9	150										
KQ0603 TTE R18	O	180	32	2,080	0.250	140						
KQ0603 TTE R20	U	200										
KQ0603 TTE R21	V	210										
KQ0603 TTE R22	1	220	25	2,200	2.200	130						
KQ0603 TTE R25	W	250										
KQ0603 TTE R27	2	270										
KQ0603 TTE R30	X	300	24	1,200	2.300	120						
KQ0603 TTE R33	3	330										
KQ0603 TTE R39	4	390										
KQ0603 TTE R47	5	470	30	100	2.500	170						
KQ0603 TTE R51	V	510										
KQ0603 TTE R56	6	560										
KQ0603 TTE R62	W	620	30	50	2.400	130						
KQ0603 TTE R68	7	680										
KQ0603 TTE R72	C	720										
KQ0603 TTE R75	X	750	30	50	2.040	120						
KQ0603 TTE R82	8	820										
KQ0603 TTE R91	Y	910										
KQ0603 TTE 1R0	9	1,000	30	50	3.090	110						
KQ0603 TTE 1R2	O	1,200										

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 [□].

KQ Air-Core Chip Inductors

■ Ratings (Continued)

Operating temperature range : $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$

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

Chip Inductors

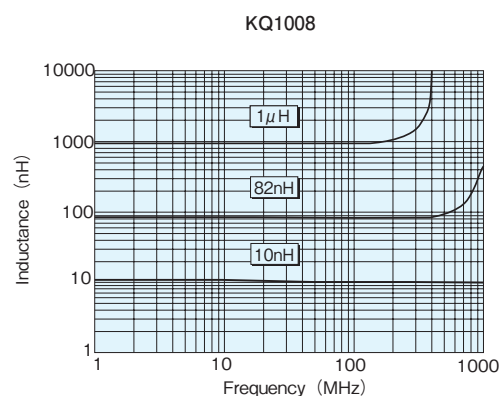
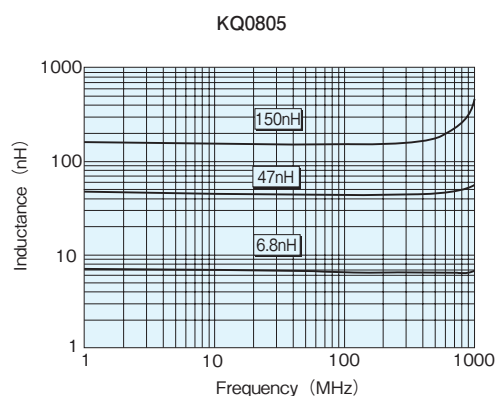
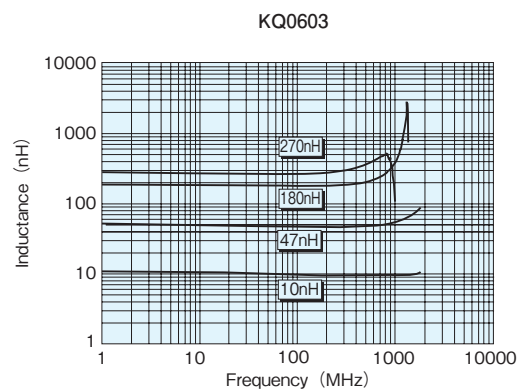
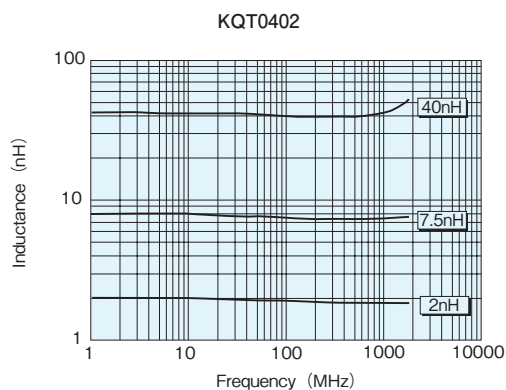
Type	Marking	Nominal Inductance (nH)	L Measuring Frequency (MHz)	Inductance Tolerance	Quality Factor Min.	Q Measuring Frequency (MHz)	Self Resonant Frequency (MHz) Min.	DC Resistance (Ω) Max.	Allowable DC Current (mA) Max.	
KQ0805 TTE 3N3	0	3.3	250	J : ±5% K : ±10%	50	1,500	6,000	0.080	600	
KQ0805 TTE 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					500	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				60		2,500	0.250	
KQ0805 TTE 27N	7	27					2,050	0.270		
KQ0805 TTE 33N	8	33					2,000	0.290		
KQ0805 TTE 39N	9	39					65	1,650	0.340	
KQ0805 TTE 43N	4	43	200	1,550	0.340					
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		250	870	0.640				
KQ0805 TTE R15	6	150			50	850	0.700			
KQ0805 TTE R16	H	160				48	650	1.000		
KQ0805 TTE R17	J	170					33	600	1.400	
KQ0805 TTE R18	7	180						560	1.500	
KQ0805 TTE R19	D	190						375	1.760	
KQ0805 TTE R20	E	200			340			1.900		
KQ0805 TTE R21	F	210	23		188	2.200				
KQ0805 TTE R22	8	220			200	2.300				
KQ0805 TTE R23	K	230			215	2.350				
KQ0805 TTE R24	L	240			100	4,100	0.08			
KQ0805 TTE R25	G	250				3,300	0.09			
KQ0805 TTE R27	9	270	3,000			0.10				
KQ0805 TTE R33	0	330	55			2,500	0.11			
KQ0805 TTE R39	1	390				2,400	0.12			
KQ0805 TTE R47	2	470			60	1,600	0.13			
KQ0805 TTE R56	3	560		350		1,500	0.14			
KQ0805 TTE R68	4	680				1,300	0.15			
KQ0805 TTE R72	A	720	1,000			0.16				
KQ0805 TTE R82	5	820	950			0.18				
KQ1008 TTE 10N	10N	10	50		J : ±5% K : ±10% M : ±20%	50	500	560	0.20	
KQ1008 TTE 12N	12N	12		450				0.22		
KQ1008 TTE 15N	15N	15		320				0.56		
KQ1008 TTE 18N	18N	18		60				290	0.63	
KQ1008 TTE 22N	22N	22				25		850	0.70	
KQ1008 TTE 27N	27N	27					750	0.77		
KQ1008 TTE 33N	33N	33					700	0.84		
KQ1008 TTE 39N	39N	39					600	0.91		
KQ1008 TTE 47N	47N	47		570			1.05			
KQ1008 TTE 56N	56N	56		45			500	1.12		
KQ1008 TTE 68N	68N	68					450	1.19		
KQ1008 TTE 82N	82N	82					415	1.33		
KQ1008 TTE R10	R10	100					375	1.40		
KQ1008 TTE R12	R12	120	35		360		1.47			
KQ1008 TTE R15	R15	150		350	1.54					
KQ1008 TTE R18	R18	180		320	1.61					
KQ1008 TTE R22	R22	220		290	1.68					
KQ1008 TTE R27	R27	270		250	1.75					
KQ1008 TTE R33	R33	330	28	50	200		1.7			
KQ1008 TTE R39	R39	390			160		1.9			
KQ1008 TTE R47	R47	470			22	140	2.2			
KQ1008 TTE R56	R56	560				20	110	2.3		
KQ1008 TTE R62	R62	620					15	100	2.7	
KQ1008 TTE R68	R68	680	90	2.8						
KQ1008 TTE R75	R75	750	80	3.1						
KQ1008 TTE R82	R82	820	70	3.4						
KQ1008 TTE R91	R91	910	7.9	25	65	3.0				
KQ1008 TTE 1R0	1R0	1,000			60	3.4				
KQ1008 TTE 1R2	1R2	1,200			60	3.4				
KQ1008 TTE 1R5	1R5	1,500			60	3.4				
KQ1008 TTE 1R8	1R8	1,800			60	3.4				
KQ1008 TTE 2R2	2R2	2,200	7.9	25	60	3.4				
KQ1008 TTE 2R7	2R7	2,700			60	3.4				
KQ1008 TTE 3R3	3R3	3,300			60	3.4				
KQ1008 TTE 3R9	3R9	3,900			60	3.4				
KQ1008 TTE 4R7	4R7	4,700			60	3.4				
KQ1008 TTE 5R6	5R6	5,600	7.9	25	60	3.4				
KQ1008 TTE 6R8	6R8	6,800			60	3.4				
KQ1008 TTE 8R2	8R2	8,200			60	3.4				
KQ1008 TTE 100	100	10,000			60	3.4				
KQ1008 TTE 100	100	10,000			60	3.4				

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

■ Characteristics

Test equipment : HP4291A Impedance analyzer

L—Frequency Characteristics



Q—Frequency Characteristics

