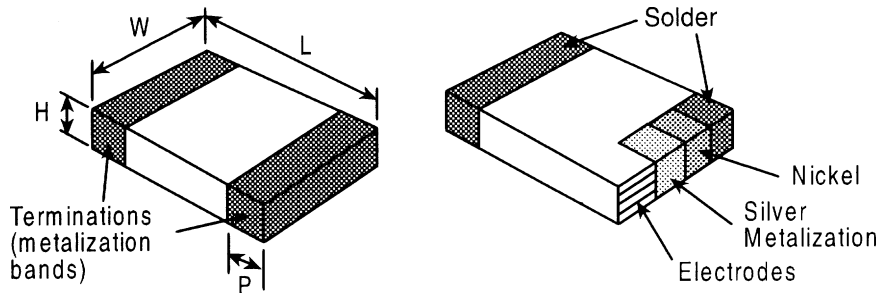


MULTI LAYER FERRITE INDUCTORS

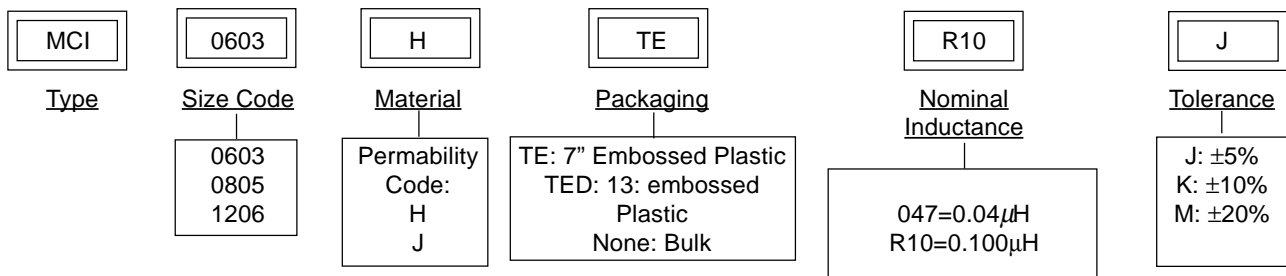
- Monolithic structure for closed magnetic path eliminates crosstalk and provides high reliability in a wide range of temperature and humidity ranges
- Standard EIA Packages: 0603, 0805, 1206
- Nickel Barrier with solder overcoat for excellent solderability
- Magnetically Shielded

TYPE	L	W	H	P
0603	0.063±0.006 (1.600.15)	0.031±0.006 (0.80)0.15)	0.031±0.006 (0.800.15)	0.014±0.006 (0.360.15)
0805	0.079±0.008 (2.00±0.20)	0.049±0.008 (1.25±0.20)	0.035±0.008 (0.90±0.20)	0.020±0.0100 (0.51±0.25)
1206	0.126±0.008 (3.20±0.20)	0.063±0.010 (1.60±0.20)	0.043±0.008 (1.10±0.20)	0.020±0.010 (0.51±0.25)

DIMENSIONS [In (mm)]



ORDERING & SPECIFYING INFORMATION*



*Please Note: KSE's Part Numbers Do Not Contain any Spaces or Hyphens.

STANDARD APPLICATIONS continued

TYPE	Ind. L(μH)	Min Q	LQ Test Frequency (MHz)	S.R.F. Mhz Type	DC. Res (max.)Ω	Allowable DC Current Max. (mA)	Operating Temp
MCI0603HTE047*	0.047	10	50	260	0.30	50	-25°C to 85°C
MCI0603HTE068*	0.068	10	50	250	0.30	50	
MCI0603HTE082*	0.082	10	50	245	0.30	50	
MCI0603HTE10*	0.10	15	25	240	0.50	50	
MCI0603HTE12*	0.12	15	25	205	0.50	50	
MCI0603HTE15*	0.15	15	25	180	0.60	50	
MCI0603HTE18*	0.18	15	25	165	0.60	50	
MCI0603HTE22*	0.22	15	25	150	0.80	50	
MCI0603HTE27*	0.27	15	25	136	0.80	50	
MCI0603HTE33*	0.33	15	25	125	0.85	35	
MCI0603HTE39*	0.39	15	25	110	1.00	35	
MCI0603HTE47*	0.47	15	25	105	1.35	35	
MCI0603HTE56*	0.56	15	25	95	1.55	35	
MCI0603HTE68*	0.68	15	25	90	1.70	35	
MCI0603HTE82*	0.82	15	25	85	2.10	35	
MCI0603JTE1R0*	1.0	45	10	75	0.40	100	
MCI0603JTE1R2*	1.2	45	10	65	0.50	100	
MCI0603JTE1R5*	1.5	45	10	60	0.50	50	
MCI0603JTE1R8*	1.8	45	10	55	0.50	50	
MCI0603JTE2R2*	2.2	45	10	50	0.60	50	
MCI0603JTE2R7*	2.7	45	10	45	0.60	50	
MCI0603JTE3R3*	3.3	45	10	41	0.70	50	
MCI0603JTE3R9*	3.9	45	10	38	0.80	50	
MCI0603JTE4R7*	4.7	45	10	35	0.90	50	
MCI0805HTE047*	0.047	15	50	320	0.20	300	
MCI0805HTE068*	0.068	15	50	280	0.20	300	
MCI0805HTE082*	0.082	15	50	255	0.20	300	
MCI0805HTE10*	0.10	20	25	235	0.30	250	
MCI0805HTE12*	0.12	20	25	220	0.30	250	
MCI0805HTE15*	0.15	20	25	200	0.40	250	
MCI0805HTE18*	0.18	20	25	185	0.40	250	
MCI0805HTE22*	0.22	20	25	170	0.50	250	
MCI0805HTE27*	0.27	20	25	150	0.50	250	
MCI0805HTE33*	0.33	20	25	145	0.56	250	
MCI0805HTE39*	0.39	25	25	135	0.65	200	
MCI0805HTE47*	0.47	25	25	125	0.65	200	
MCI0805HTE56*	0.56	25	25	115	0.75	150	
MCI0805HTE68*	0.68	25	25	105	0.80	150	
MCI0805HTE82*	0.82	25	25	100	1.00	150	
MCI0805JTE1R6*	1.0	45	10	75	0.40	50	
MCI0805JTE1R2*	1.2	45	10	65	0.50	50	
MCI0805JTE1R5*	1.5	45	10	60	0.50	50	
MCI0805JTE1R8*	1.8	45	10	55	0.50	50	
MCI0805JTE2R2*	2.2	45	10	50	0.65	30	
MCI0805JTE2R7*	2.7	45	10	45	0.75	30	
MCI0805JTE3R3*	3.3	45	10	41	0.80	30	
MCI0805JTE3R9*	3.9	45	10	38	0.90	30	
MCI0805JTE4R7*	4.7	45	10	35	1.00	30	
MCI0805JTE10R*	10	50	2	24	1.15	15	
MCI0805JTE12R*	12	50	2	22	1.25	15	
MCI1206HTE047*	0.047	20	50	320	0.15	300	
MCI1206HTE068*	0.068	20	50	280	0.25	300	
MCI1206HTE10*	0.10	20	25	235	0.25	250	

TE: Embossed Plastic *Add Tolerance Character (J,K,M)
Other values available upon request

CHIP
INDUCTORS

STANDARD APPLICATIONS continued

TYPE	Ind. L(μH)	Min Q	LQ Test Frequency (MHz)	S.R.F. Mhz Type	DC. Res (max.)Ω	Allowable DC Current Max. (mA)	Operating Temp
MCI1206HTER12*	0.12	20	25	220	0.30	250	-25°C to 85°C
MCI1206HTER15*	0.15	20	25	200	0.30	250	
MCI1206HTER18*	0.18	20	25	185	0.40	250	
MCI1206HTER22*	0.22	20	25	170	0.40	250	
MCI1206HTER27*	0.27	20	25	150	0.50	250	
MCI1206HTER33*	0.33	20	25	145	0.60	250	
MCI1206HTER39*	0.39	25	25	135	0.50	200	
MCI1206HTER47*	0.47	25	25	125	0.60	200	
MCI1206HTER56*	0.56	25	25	115	0.70	150	
MCI1206HTER68*	0.68	25	25	105	0.80	150	
MCI1206HTER82*	0.82	25	25	100	0.90	150	
MCI1206JTE1R0*	1.0	45	10	75	0.40	100	
MCI1206JTE1R2*	1.2	45	10	65	0.50	100	
MCI1206JTE1R5*	1.5	45	10	60	0.50	50	
MCI1206JTE1R8*	1.8	45	10	55	0.50	50	
MCI1206JTE2R2*	2.2	45	10	50	0.60	50	
MCI1206JTE2R7*	2.7	45	10	45	0.60	50	
MCI1206JTE3R3*	3.3	45	10	41	0.70	50	
MCI1206JTE3R9*	3.9	45	10	38	0.80	50	
MCI1206JTE4R7*	4.7	45	10	35	0.90	50	
MCI1206JTE5R6*	5.6	45	4	32	0.9	25	
MCI1206JTE6R8*	6.8	45	4	29	0.9	25	
MCI1206JTE10R*	10	45	2	24	1.0	25	

TE: Embossed Plastic *Add Tolerance Character (J,K,M)
Other values available upon request

CHIP
INDUCTORS

ENVIRONMENTAL & MECHANICAL CHARACTERISTICS

CHIP
INDUCTORS

PARAMETER	REQUIREMENT	TEST METHOD															
Operating Temperature	-55°C+125°C																
Storage Temperature	40°C @ 70% Humidity.	Sealed plastic bags with desiccant shall be used to reduce the potential of oxidation on the terminations during storage															
Resistance to Solder Heat	Change in Impedance: Relative to value before test ±20%. Appearance: There shall be no cracking Solder Coverage: More than 75% of the terminal electrode shall be covered with solder.	Flux: 5-10 sec dip After Flux: Air dry for 15 sec Preheat: 1 50°C ±1 0°C Preheat Time: 60 sec Solder Temp: 260°C ±5°C Dip Time: 10 ±1 sec															
Solderability	Solder Coverage: More than 95% of the termination shall be covered with solder.	Flux: 5-10 sec dip After Flux: Air dry for 15 sec Solder Temp: 245°C ±5°C Dip Time: 5 ±0.5 sec															
Leach Resistance	Appearance: There shall be no visible signs of physical or mechanical damage (i.e. no cracks). Terminations: Termination must not be leached away for more than 5%.	The bead shall be subjected to the following 5 steps for the period of time shown below. The 5 steps constitute one (1) rotation. 4 rotations shall be carried out. 1) Flux: 5-10 sec 2) After Flux: Air dry for 15 sec 3) Solder Temp: 230°C ±5°C 4) Dip Time: 5 ±0.5 sec 5) Cool: Air cool for 60 seconds															
Insulation Resistance	Insulation Resistance: Mm 1G ohms																
Solvent Resistance	Change in Impedance: Relative to value before test ±10%.	Cleaning by: Washer: Ultrasonic washer (100W) Solvent: Isopropyl alcohol Time: 3 minutes															
Terminal Strength (hanging test)	Appearance: The terminal electrode shall not break off, nor shall there be damage to the body.	<table border="1"> <thead> <tr> <th>Type</th> <th>W(kgf)</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>0402</td> <td></td> <td>NA</td> </tr> <tr> <td>0603</td> <td>0.5</td> <td>30 sec ±2 sec</td> </tr> <tr> <td>0805</td> <td>1.0</td> <td>30 sec ±2 sec</td> </tr> <tr> <td>1206</td> <td>1.5</td> <td>30 sec ±2sec</td> </tr> </tbody> </table>	Type	W(kgf)	Time	0402		NA	0603	0.5	30 sec ±2 sec	0805	1.0	30 sec ±2 sec	1206	1.5	30 sec ±2sec
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0603	0.5	30 sec ±2 sec															
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1206	1.5	30 sec ±2sec															
Terminal Strength (push test)	Appearance: There shall be no evidence of mechanical degradations to terminals or body.	<table border="1"> <thead> <tr> <th>Type</th> <th>W(kgf)</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>0402</td> <td></td> <td>NA</td> </tr> <tr> <td>0603</td> <td>1.4</td> <td>60 sec</td> </tr> <tr> <td>0805</td> <td>1.8</td> <td>60 sec</td> </tr> <tr> <td>1206</td> <td>2.3</td> <td>60 sec</td> </tr> </tbody> </table>	Type	W(kgf)	Time	0402		NA	0603	1.4	60 sec	0805	1.8	60 sec	1206	2.3	60 sec
Type	W(kgf)	Time															
0402		NA															
0603	1.4	60 sec															
0805	1.8	60 sec															
1206	2.3	60 sec															

ENVIRONMENTAL & MECHANICAL CHARACTERISTICS

CHIP
INDUCTORS

Item	Requirement	Conditions																		
Bending Strength	<p>Appearance: There shall be no physical or mechanical damage.</p> <p>Impedance: Relative to initial value before test $\pm 10\%$</p>	<p>Board: 90x40x1 .6mm</p> <p>Bend: 1mm</p> <p>Time: 5 sec</p>																		
Mechanical Shock	<p>Appearance: There shall be no physical or mechanical damage.</p> <p>Impedance: Relative to initial value before test $\pm 10\%$</p>	<p>Force: 50C</p> <p>Time: 11 msec</p> <p>There shall be 3 shocks in each of - 6 directions (18 shocks total).me</p>																		
Vibration	<p>Impedance: Relative to initial value $\pm 10\%$.</p>	<p>Only endurance conditioning by sweeping shall be made. The entire frequency range from 10-2,000Hz return to 10Hz in 20 minutes (this shall constitute one cycle).</p> <p>Amplitude: 1.5mm</p> <p>The test shall have a 1 SC peak and Shall be applied for a period of 4 hours (12 cycles) in each of 3 mutually perpendicular directions (a total of 36 cycles within a total of 12 hours).</p>																		
Thermal Shock	<p>Appearance: There shall be no physical or mechanical damage.</p> <p>Impedance: Relative to initial value $\pm 20\%$.</p> <p>DCR: The DCR shall not exceed initial specified value.</p> <p>Testing of the parts will be made at 0 hours, 250 hours and 500 hours. Before testing, the parts shall be allowed to cool to room temperature for 24 hours.</p>	<table border="1"> <thead> <tr> <th>Step</th> <th>Temperature</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>1-start</td> <td>-40°C ± 200</td> <td>—</td> </tr> <tr> <td>2-hold</td> <td>-40°C ± 200</td> <td>30 mm ± 5 mm</td> </tr> <tr> <td>3-transfer</td> <td>—</td> <td>0.5 mm max.</td> </tr> <tr> <td>4-hold</td> <td>+1050° ± 200</td> <td>30 mm ± 5 mm</td> </tr> <tr> <td>5-transfer</td> <td>—</td> <td>0.5 mm max.</td> </tr> </tbody> </table> <p>Steps 1 thru 5 constitute one complete cycle and the test shall consist of a total of 500 cycles.</p>	Step	Temperature	Time	1-start	-40°C ± 200	—	2-hold	-40°C ± 200	30 mm ± 5 mm	3-transfer	—	0.5 mm max.	4-hold	+1050° ± 200	30 mm ± 5 mm	5-transfer	—	0.5 mm max.
Step	Temperature	Time																		
1-start	-40°C ± 200	—																		
2-hold	-40°C ± 200	30 mm ± 5 mm																		
3-transfer	—	0.5 mm max.																		
4-hold	+1050° ± 200	30 mm ± 5 mm																		
5-transfer	—	0.5 mm max.																		
Load Humidity	<p>Appearance: There shall be no physical or mechanical damage.</p> <p>Impedance: Relative to initial value $\pm 15\%$.</p> <p>Measurements shall be taken at 0 hours, 250 hours, 500 hours and 1,000 hours and shall meet the conditions stated above.</p>	<p>Temperature: 85°C ± 200</p> <p>Relative Humidity: 85%</p> <p>Time: 1,000 hours total</p> <p>Apply: 100% rated current</p>																		
Life Test	<p>Appearance: There shall be no physical or mechanical damage</p> <p>Impedance: Relative to initial value $\pm 15\%$</p> <p>Measurements shall be taken at 0 hours, 250 hours, 500 hours and 1,000 hours and shall meet the conditions stated above.</p>	<p>Temperature: 85°C $\pm 2^\circ\text{C}$</p> <p>Time: 1,000 hours total</p> <p>Apply: 100% rated current</p>																		