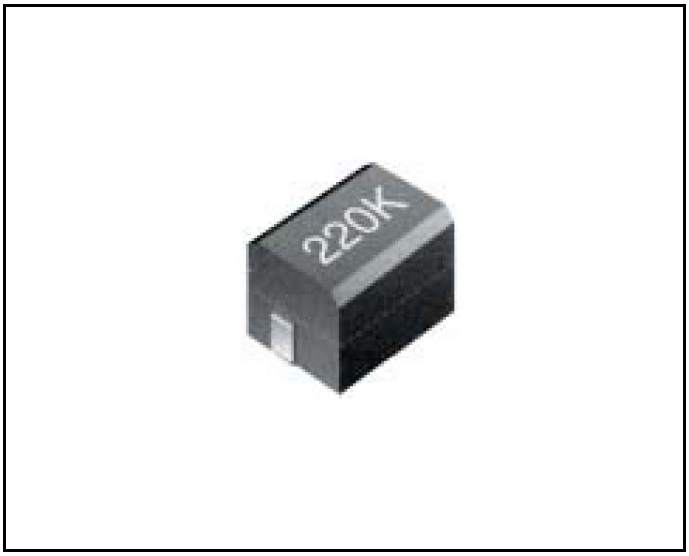
tyco Electronics SIGMA INDUCTORS

TYPE 3613C SERIES

1st April 2003
ISSUE 5

Moulded Chip Inductor 18:12



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Specially developed for automatic mounting applications, this exciting range of chip inductors are ferrite based and sealed in a thermoset plastic body. They employ solder coated copper terminations with barrier layer. Customers can therefore expect consistent quality, performance and reliability. Its smooth top surface makes it particularly well suited to pick and place equipments.

Truly the last word in 1812 chip inductors.

KEY FEATURES

- High Reliability
- Two Versatile Types
- Small Versatile Size - 3.2 x 4.5 mm
- Temperature Range -25°C to +100°C
- Supplied in Standard Carrier Tape
- Suitable for Dip and Wave Solder
- Insulation 1000M R min
- Available from Stock

STOCKISTS:

This product is available from Farnell.

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3613C Style Operating Characteristics

Nominal Inductance (µH)	Value Coding Marking	Inductance Tolerance (±%)	Q (min)	Self-resonant Frequency (MHz) (min)	DC Resistance (ohms max)	Allowance DC (mA)	Measuring Frequency (MHz)
0.10	R10M	±20%	35	300	0.18	800	25.2
0.12	R12M			280	0.20	770	
0.15	R15M			250	0.22	730	
0.18	R18M			220	0.24	700	
0.22	R22M		40	200	0.25	665	
0.27	R27M			180	0.26	635	
0.33	R33M			165	0.28	605	
0.39	R39M			150	0.30	575	
0.47	R47M			145	0.32	545	
0.56	R56M			140	0.36	520	
0.68	R68M			135	0.40	500	
0.82	R82M			130	0.45	475	
1.0	1R0K	±10%	50	100	0.50	450	7.96
1.2	1R2K			80	0.55	430	
1.5	1R5K			70	0.60	410	
1.8	1R8K			60	0.65	390	
2.2	2R2K			55	0.70	380	
2.7	2R7K			50	0.75	370	
3.3	3R3K			45	0.80	355	
3.9	3R9K			40	0.90	330	
4.7	4R7K			35	1.00	315	
5.6	5R6K			33	1.10	300	
6.8	6R8K			27	1.20	285	
8.2	8R2K			25	1.40	270	
10.0	100K			20	1.60	250	2.52
12.0	120K			18	2.00	225	
15.0	150K			17	2.50	200	
18.0	180K			15	2.80	190	
22.0	220K			13	3.20	180	
27.0	270K			12	3.60	170	
33.0	330K			11	4.00	160	
39.0	390K			10	4.50	150	
47.0	470K			10	5.00	140	
56.0	560K			9.0	5.50	135	
68.0	680K			9.0	6.00	130	
82.0	820K			8.0	7.00	120	
100	101K		40	8.0	8.00	110	0.796
120	121K			6.0	8.00	110	
150	151K			5.0	9.00	105	
180	181K			5.0	9.50	102	
220	221K			4.0	10.0	100	
270	271K			4.0	12.0	92	
330	331K			3.5	14.0	85	
390	391K			3.0	18.0	80	
470	471K			3.0	26.0	62	
560	561K		30	3.0	30.0	50	
680	681K			3.0	30.0	50	
820	821K			2.5	35.0	30	
1000	102K			2.5	40.0	30	0.252

5% Tolerance available on selected value ranges. Please enquire.

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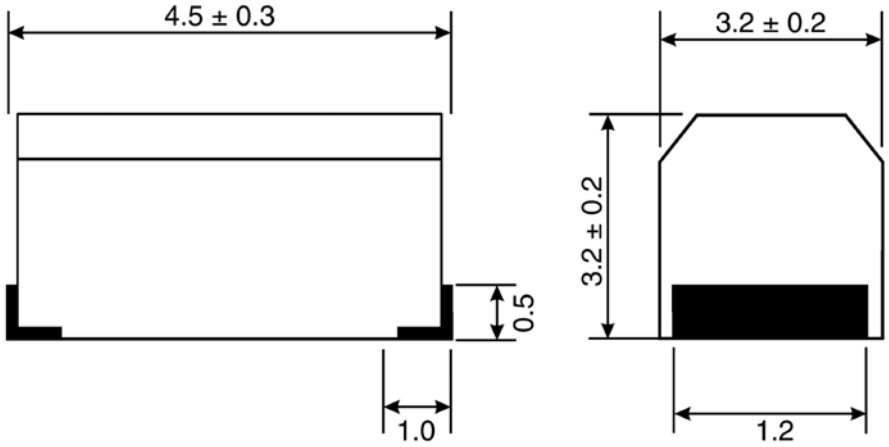
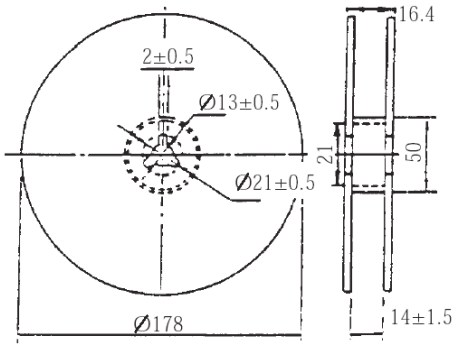
DIMENSIONS

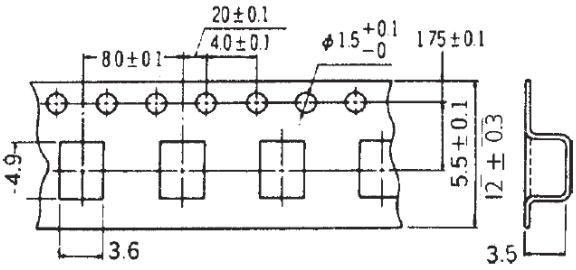


PACKAGING (REEL)

Reel Qty.
500 pcs.



PACKAGING (TAPE)



ENVIRONMENTAL

Insulation:	1000 M ohms
Temperature Range:	-25°C to +85°C
	ΔL/L within ± 10%
Humidity Load life:	ΔL/L within ± 5%
Vibration (see test method):	

TEST NOTES

The measuring method for the test data given overpage are as follows:
Inductance: Direct reading from Q-meter (equivalent to YHP 4342A, jig used)
Q: Direct reading from Q-meter (equivalent to YHP 4342A, jig used)
Self resonant frequency: Grid Dipo Meter (equivalent to Measurement M159)
DC resistance: Wheatstone bridge (equivalent to YEW 2755)
Unless otherwise specified, the temperature is 20°C ± 5°C and the humidity is 65% ± 20%

HOW TO ORDER

3613C	1R5	K
Standard Part	Inductance	Tolerance
3613C - 18:12 Inductor	Value Code (See Table)	J - ±5% K - ±10% M - ±20%

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TEST METHODS

ITEM	STANDARD	TEST METHOD
DC SUPERPOSITION CHARACTERISTICS	ΔL/L Within -10%	When the allowable current was applied, the inductance was measured with a YHP 4262A and compared with the initial value.
TEMPERATURE RISE	Within 20°C	When the allowable current was applied, the amount of temperature rise was measured by the change in resistance.
TEMPERATURE RISE	ΔL/L Within ± 5%	Measurements were taken in a temperature range of -25°C to 85°C and the value at +20°C was used as the standard value.
OVERCURRENT TEST	No smoke and no fire	Twice the allowable current was applied for a period of five minutes.
SOLDERING HEAT RESISTANCE TEST	No pronounced abnormality in appearance	Immersion twice for a period of 5 ± 0.5 seconds in H63A solder at a temperature 260°C ± 5°C
SOLDERABILITY	Not less than 90% bonding to electrode surfaces	Immersion for a period of 2 ± 0.5 seconds in H63A solder at a temperature of 230 ± 5°C. Flux used was a rosin-core solution containing approximately 25% methanol.
INSULATION RESISTANCE	Not less than 1000 M	0.3mm diameter copper wires were wound around the coils three times and measurements were taken after 250VDC was applied between the wire and the terminals for a period of 1 minute.
TENSILE STRENGTH TEST	No separation from substrate	After the inductors were soldered to substrates, a force of 1.0kg was applied in both the x and y directions for a period of 5 seconds.
STRESS TEST	No breakage	After the inductors were mounted on substrates, 1-mins. 10-55-10 cycle per seconds sweeps 1.5mm stroke vibrations were applied for 2 hrs. each in the X, Y and Z directions
DROP TEST	No pronounced abnormality in appearance	The inductors were dropped 10 times from a height of 1.0 metre onto a concrete floor.
VIBRATION TEST	ΔL/L Within ± 10% Q Not less than 30	After the inductors were mounted on substrates, 1-mins. 10-55-10 cycle per seconds sweeps 1.5mm stroke vibrations were applied for 2 hours each in the X, Y and Z directions
HUMIDITY RESISTANCE LOAD TEST	ΔL/L Within ± 10% Q Not less than 30	Measurements were taken after the allowable current was applied while the inductors were stored at 60°C ± 2°C in 90 to 95% RH for a period of 500 hours.
LOW TEMPERATURE RESISTANCE TEST	ΔL/L Within ± 10% Q Not less than 30	Measurements were taken after the inductors were stored at -40°C ± 2°C for period 1000 hours
TEMPERATURE CYCLE TEST	ΔL/L Within ± 10% Q Not less than 30	Measurements were taken after the inductors were stored for 30 minutes, during which they were subjected to 20 temperature cycles of between -25°C and +85°C.
HIGH TEMPERATURE RESISTANCE LOAD TEST	ΔL/L Within ± 10% Q Not less than 30	Measurements were taken after the allowable was applied while the inductors were stored at 85°C for a period of 1000 hours.