

MEGGITT SIGMA  
MOULDED INDUCTORS,  
THIN FILM INDUCTORS FOR  
HIGH FREQUENCY APPLICATIONS,  
POWER CHOKES, FERRITE  
BEADS FOR EMC PROTECTION

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## Moulded Chip Inductor 18:12

TYPE 3613C SERIES

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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.

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### MEGGITT SIGMA KEY FEATURES

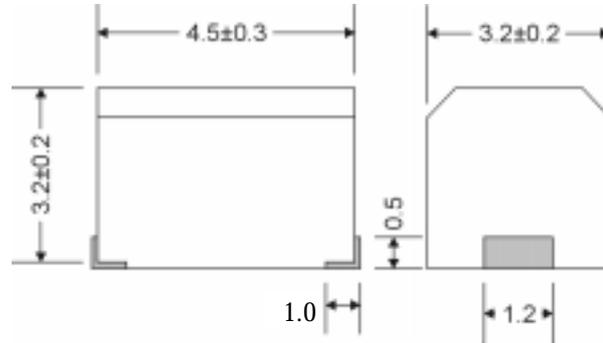
- HIGH RELIABILITY
- TWO VERSATILE TYPES
- SMALL, VERSATILE SIZE - 3.2 x 4.5mm
- TEMPERATURE RANGE -25°C to +100°C
- SUPPLIED IN STANDARD CARRIER TAPE
- SUITABLE FOR DIP AND WAVE SOLDER
- INSULATION 1000M R min
- AVAILABLE FROM STOCK

**3613C Style Operating Characteristics**

Nominal Inductance (mH)	Value Coding Marking	Inductance Tolerance (±%)	Q (min)	Self-resonant Frequency (MHz) (min)	DC Resistance (w 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		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		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	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	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			

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

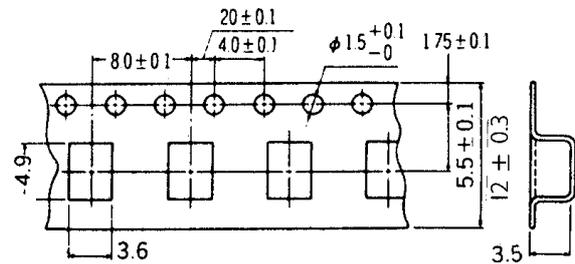
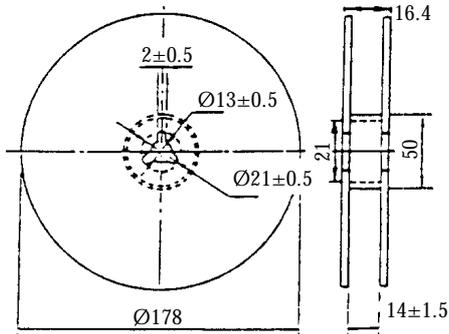
DIMENSIONS



PACKAGING (REEL)

PACKAGING (TAPE)

Reel Qty.  
500 pcs.



ENVIRONMENTAL

TEST NOTES

Insulation: 1000 Meg ohms  
 Temperature Range: -20°C to +100°C  
 D L/L within ± 10%  
 Humidity Load life: D L/L within ± 5%  
 Vibration (see test method):

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 Dip 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
<b>Standard Part</b>	<b>Inductance</b>	<b>Tolerance</b>
3613C - 18:12 Inductor	Value Code (See Table)	J - ±5% K - ±10% M - ±20%

ITEM	STANDARD	TEST METHOD
<b>DC SUPERPOSITION CHARACTERISTICS</b>	D L/L Within -10%	When the allowable current was applied, the inductance was measured with a YHP 4262A and compared with the initial value.
<b>TEMPERATURE RISE</b>	Within 20°C	When the allowable current was applied, the amount of temperature rise was measured by the change in resistance.
<b>TEMPERATURE RISE</b>	D L/L Within $\pm 5\%$	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.
<b>OVERCURRENT TEST</b>	No smoke and no fire	Twice the allowable current was applied for a period of five minutes.
<b>SOLDERING HEAT RESISTANCE TEST</b>	No pronounced abnormality in appearance	Immersion twice for a period of $5 \pm 0.5$ seconds in H63A solder at a temperature $260^\circ\text{C} \pm 5^\circ\text{C}$
<b>SOLDERABILITY</b>	Not less than 90% bonding to electrode surfaces	Immersion for a period of $2 \pm 0.5$ seconds in H63A solder at a temperature of $230 \pm 5^\circ\text{C}$ . Flux used was a rosin-core solution containing approximately 25% methanol.
<b>INSULATION RESISTANCE</b>	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.
<b>TENSILE STRENGTH TEST</b>	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.
<b>STRESS TEST</b>	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
<b>DROP TEST</b>	No pronounced abnormality in appearance	The inductors were dropped 10 times from a height of 1.0 metre onto a concrete floor.
<b>VIBRATION TEST</b>	D L/L Within $\pm 10\%$ 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
<b>HUMIDITY RESISTANCE LOAD TEST</b>	D L/L Within $\pm 10\%$ Q Not less than 30	Measurements were taken after the allowable current was applied while the inductors were stored at $60^\circ\text{C} \pm 2^\circ\text{C}$ in 90 to 95% RH for a period of 500 hours.
<b>LOW TEMPERATURE RESISTANCE TEST</b>	D L/L Within $\pm 10\%$ Q Not less than 30	Measurements were taken after the inductors were stored at $-40^\circ\text{C} \pm 2^\circ\text{C}$ for period 1000 hours.
<b>TEMPERATURE CYCLE TEST</b>	D L/L Within $\pm 10\%$ 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.
<b>HIGH TEMPERATURE RESISTANCE LOAD TEST</b>	D L/L Within $\pm 10\%$ 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.



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