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SPC-F005.DWG

REVISIONS

DOC. NO. SPC-F005 \* Effective: 7/8/02 \* DCP No: 1398

DCP #	REV	DESCRIPTION	DRAWN	DATE	CHECKD	DATE	APPRVD	DATE
2048	A	RELEASED	JN	05/21/09	JWM	05/21/09	JWM	05/21/09

**Features**

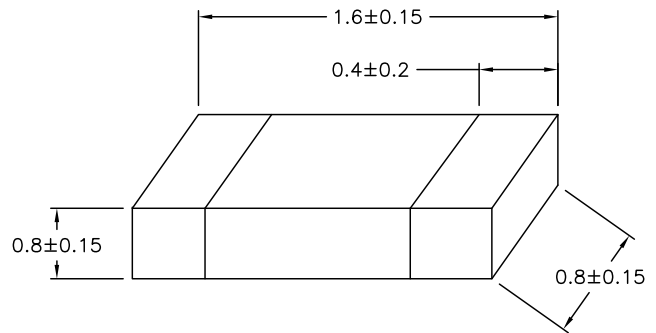
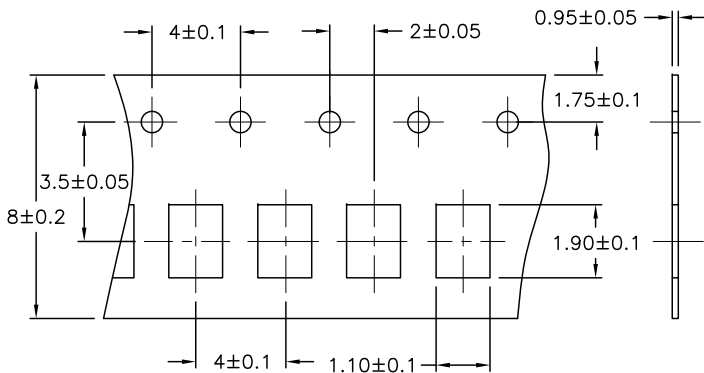
- A ceramic material construction for high frequency application up to 10GHz
- Tight tolerance physical dimensions(+/-0.05mm)
- Tight inductance tolerance and excellent Q value

**Application**

- High Frequency Application
- Cellular Phone, Pager
- EMI countermeasure in High Frequency Circuits and computer Communication.
- WLAN and RF module



**Tape Dimension**



DISCLAIMER:  
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TOLERANCES:  
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY.

DRAWN BY:	DATE:
Jason Nash	05/21/09
CHECKED BY:	DATE:
JWM	05/21/09
APPROVED BY:	DATE:
JWM	05/21/09

DRAWING TITLE: Multilayer Chip Inductor - Case size 0603			
SIZE	DWG. NO.	ELECTRONIC FILE	REV
A	Ta-1125	Ta-1125.DWG	A
SCALE: NTS	U.O.M.: Millimeters	SHEET: 1 OF 2	

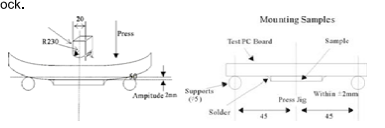
## Parts & Electrical Specification Table

Mfr PN	Inductance	Inductance Tolerance	DC Resistance Max	DC Current Rating	Self Resonant Frequency	Package	Q Factor	Test Frequency
MCFT000043	10nH	± 5%	0.3ohm	300mA	3GHz	603	Q Factor:16	100MHz
MCFT000044	15nH	± 5%	0.4ohm	300mA	2.3GHz	603	Q Factor:16	100MHz
MCFT000045	22nH	± 5%	0.5ohm	300mA	1.6GHz	603	Q Factor:18	100MHz
MCFT000046	33nH	± 5%	0.6ohm	300mA	1.2GHz	603	Q Factor:17	100MHz
MCFT000047	47nH	± 5%	0.7ohm	300mA	0.9GHz	603	Q Factor:17	100MHz
MCFT000048	68nH	± 5%	0.85ohm	300mA	0.7GHz	603	Q Factor:18	100MHz
MCFT000042	8.8nH	± 5%	0.25ohm	500mA	3.75GHz	603	Q Factor:15	100MHz
MCFT000049	100nH	± 5%	1.2ohm	300mA	0.6GHz	603	Q Factor:18	100MHz
MCFT000037	1nH	±0.3nH	0.1ohm	500mA	6GHz	603	Q Factor:15	100MHz
MCFT000038	1.5nH	±0.3nH	0.1ohm	500mA	6GHz	603	Q Factor:14	100MHz
MCFT000039	2.2nH	±0.3nH	0.1ohm	500mA	6GHz	603	Q Factor:15	100MHz
MCFT000040	3.3nH	±0.3nH	0.13ohm	500mA	6GHz	603	Q Factor:16	100MHz
MCFT000041	4.7nH	±0.3nH	0.2ohm	500mA	4GHz	603	Q Factor:14	100MHz


## Environmental Characteristics

Test Items	Test Condition	Requirements
Inductance	a. Temperature: 25±1°C b. Relative Humidity: 45 to 85%RH c. Atmospheric Pressure: 86 to 106kpa d. Measuring equipment and fixture: 2012(0805) HP 4291+16197A 1608(0603) HP 4291+16192A 1005(0402) HP 4291+16193A	Within specified tolerance.
Q Value	a. Temperature: 25±1°C b. Relative Humidity: 45 to 85%RH c. Atmospheric Pressure: 86 to 106kpa d. Measuring equipment and fixture: 2012(0805) HP 4291+16197A 1608(0603) HP 4291+16192A 1005(0402) HP 4291+16193A	In accordance with electrical specification.
DC Resistance	a. Temperature: 25±1°C b. Relative Humidity: 45 to 85%RH c. Atmospheric Pressure: 86 to 106kpa Measuring equipment: HP 4338	In accordance with electrical specification.
Temperature Characteristics	a. Temperature range: -30 to 85°C Reference temperature: 25°C	Within specified tolerance.

## Mechanical Performance

Test Items	Test Conditions	Requirement
Appearance	Inductors shall be visually inspected for visible evidence of defect.	In accordance with specification.
Dimension	Dimension shall be measured with caliper or micrometer	In accordance with dimension specification.
Solderability	Immerse a test sample into a methanol solution containing rosin, preheat it at 150 to 180°C for 3 to 5 seconds and immerse into molten solder of 245±5°C for 3±1 seconds.	More than 75% of the terminal electrode part shall be covered with fresh solder.
Resistance to Soldering Heat	Immerse a test sample into a methanol solution containing rosin, preheat it at 150 to 180°C for 2 to 3 minutes and immerse into molten solder of 260±5°C for 10±0.5 seconds so that both terminal electrodes are completely submerged.	No visible damage
Bending Strength	Solder the chip to test jig then apply a force in the direction shown in below. The soldering shall be done with the reflow method and shall be conducted with care so that the soldering is uniform and free of defects such as heat shock. 	No mechanical damage shall be observed.

## Reliability

Item	Test Condition	Requirements
Thermal Shock	Solder a test sample to printed circuit board, and conduct 100 cycles of test under the conditions shown as below. Cycle: 	No visible damage Inductance variation within 10% Q variation within 20%
High Humidity State Life Test	Keep a test sample in an atmosphere with a temperature of 70±2°C, 90-95%RH for 500±12 hours. After the test, keep the test sample at a normal temperature for 1 to 2 hours, and then carry out measurement.	No visible damage. Inductance variation within 10%. Q variation within 20%.
High Humidity Load Life Test	Solder a test sample to printed circuit board then keep the test sample in an atmosphere with a temperature of 70±2°C, 90-95%RH for 500±12 hours while supplying the rated current. After the test, keep the test sample at a normal temperature for 1 to 2 hours, and then carry out measurement.	No visible damage. Inductance variation within 10%. Q variation within 20%.
High Temperature State Life Test	Keep a test sample in an atmosphere with a temperature of 85±2°C for 500±12 hours. After the test, keep the test sample at a normal temperature for 1 to 2 hours, and then carry out measurement.	No visible damage. Inductance variation within 10%. Q variation within 20%.
High Temperature Load	Solder a test sample to printed circuit board then keep the test sample in an atmosphere with a temperature of 85±2°C for 500±12 hours while supplying the rated current. After the test, keep the test sample at a normal temperature for 1 to 2 hours, and then carry out measurement.	No visible damage. Inductance variation within 10%. Q variation within 20%.

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SIZE DWG. NO.

A

Ta-1125

ELECTRONIC FILE

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REV

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SCALE: NTS

U.O.M.: INCHES [mm]

SHEET: 2 OF 2