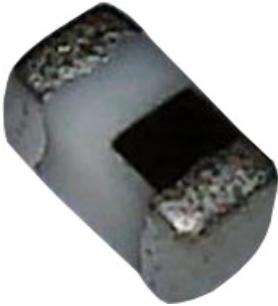


**RoHS
Compliant**



Features

- A ceramic material construction for high frequency application up to 10GHz
- Tight tolerance physical dimensions($\pm 0.05\text{mm}$)
- Tight inductance tolerance and excellent Q value

Applications

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

Environmental Characteristics

Test Items	Test Condition	Requirements
Inductance	a. Temperature: $25 \pm 1^\circ\text{C}$ 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: $25 \pm 1^\circ\text{C}$ 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: $25 \pm 1^\circ\text{C}$ 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 $+85^\circ\text{C}$ Reference temperature: 25°C	Within specified tolerance.

Mechanical Characteristics

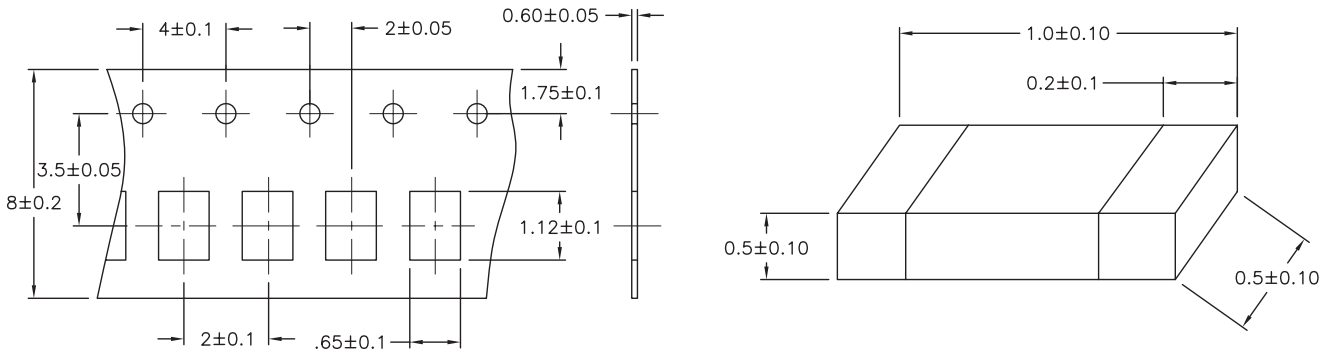
Item	Test Condition	Requirements
Appearance	Inductors shall be visually inspected for visible evidence of defect.	In accordance with specification.
Dimension	Dimension shall be measured with calliper or micrometer	In accordance with dimension specification.

Item	Test Condition	Requirements
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 resin, 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	<p>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.</p>	No mechanical damage shall be observed.

Reliability

Item	Test Condition	Requirements
Thermal Shock	<p>Solder a test sample to printed circuit board, and conduct 100 cycles of test under the conditions shown as below.</p> <p>Cycle:</p>	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 to 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.	
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 to 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.	
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.	
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.	

Tape Dimension



Dimensions : Millimetres

Specification Table

Part Number	Package	Q Factor	Test Frequency
MCFT000030	0402	Q Factor : 11	100MHz
MCFT000031		Q Factor : 11	
MCFT000034		Q Factor : 11	
MCFT000029		Q Factor : 11	
MCFT000036		Q Factor : 10	
MCFT000027		Q Factor : 11	
MCFT000028		Q Factor : 12	

Part Number	Inductance	Inductance Tolerance	DC Resistance Max	DC Current Rating	Self Resonant Frequency
MCFT000030	10nH	+5%	0.42Ω	300mA	3.2GHz
MCFT000031	15nH	+5%	0.55Ω	300mA	2.3GHz
MCFT000034	47nH	+5%	1.3Ω	150mA	0.9GHz
MCFT000029	6.8nH	+5%	0.32Ω	300mA	3.9GHz
MCFT000036	100nH	+5%	2.5Ω	100mA	0.6GHz
MCFT000027	3.3nH	±0.3nH	0.19Ω	300mA	6GHz
MCFT000028	4.7nH	±0.3nH	0.22Ω	300mA	4GHz

Part Number Table

Description	Part Number
Inductor, 0402, 3.3nH	MCFT000027
Inductor, 0402, 4.7nH	MCFT000028
Inductor, 0402, 6.8nH	MCFT000029
Inductor, 0402, 10nH	MCFT000030
Inductor, 0402, 15nH	MCFT000031
Inductor, 0402, 47nH	MCFT000034
Inductor, 0402, 100nH	MCFT000036

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