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MCAP105422025A-400MU

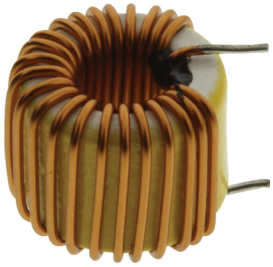
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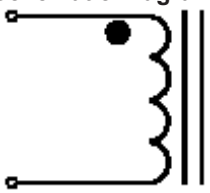
# Inductor

multicomp PRO

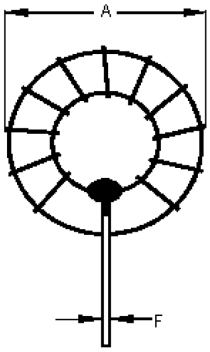


RoHS Compliant

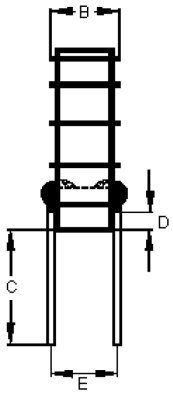
**Schematic Diagram**



## Configurations and Dimensions




Front View




Side View

| | |
|---|---|
| A | 16mm (Max.) |
| B | 12mm (Max.) |
| C | $2.2mm^{+0.7}_{-0.0}$ |
| D | 1mm (Min.) |
| E | 11 ±2mm |
| F | Ø0.65mm (Ref.) |

**Note:**
1. Wire UEFN/U (155°C) Ø0.65mm
2. 25TS (Reference) C.W

## Test Data for Mechanical

| Test Item | A mm | B mm | C mm | D mm | E mm | F mm |
|---|---|---|---|---|---|---|
| Specification | **16 (Max.)** | **12 (Max.)** | **2.2** | **1 (Min.)** | **11 ±2** | **Ø0.65 (Ref.)** |
| 1 | 15.18 | 11.2 | 2.57 | 1.58 | 11.07 | 0.63 |
| 2 | 15.22 | 11.18 | 2.65 | 1.69 | 11.23 | |
| 3 | 15.17 | 11.15 | 2.78 | 1.75 | 10.89 | 0.64 |
| 4 | 15.25 | 11.24 | 2.64 | 1.65 | 10.95 | |
| 5 | 15.21 | 11.17 | 2.56 | 1.85 | 11.14 | 0.63 |
| **Average** | **15.21** | **11.19** | **2.64** | **1.7** | **11.06** | **0.63** |

## Electrical Characteristics

| Test Condition | | |
|---|---|---|
| 10kHz / 0.25V | L | 40μH ±20% |
| $T_A$ = 25°C | DCR | 60mΩ (Max.) |
| 1kHz / 0.25V Irms = 2A | ΔT | Temperature rise 40°C (Max.) |

Operating temperature : -55°C to +130°C

## Reliability Test

| Test Item | Specifications | Test Method and Remarks |
|---|---|---|
| Operating temperature range | -55°C to +130°C | Including temperature rise due to self-generated heat. |
| Storage condition | Ambient temperature : 0°C to 40°C<br>Humidity : Below 70% RH | To maintain the solderability of terminal electrodes, care must be taken to control temperature and humidity in the storage area. |
| Moisture sensitivity | Appearance : No abnormality<br>No damage<br>DCR change : Within ±5%<br>Inductance change : Within ±5% | According to J-STD-020B level 3<br>Test condition : 60°C 60% RH<br>Test duration : 40 hrs<br>Recovery : 1 to 2 hours of recovery under the standard condition after the removal from the test chamber. |
| Solderability | All termination shall exhibit a continuous solder coating free from defects for a minimum of 95% of the surface area of any individual lead. | According to J-STD-002B<br>Steam aging category : 97°C 98% RH<br>Steam aging duration : 8 hrs<br>Solder : Lead-free solder<br>Solder temperature : 260 ±5°C<br>Dip time : 5 +0 / -0.5s |

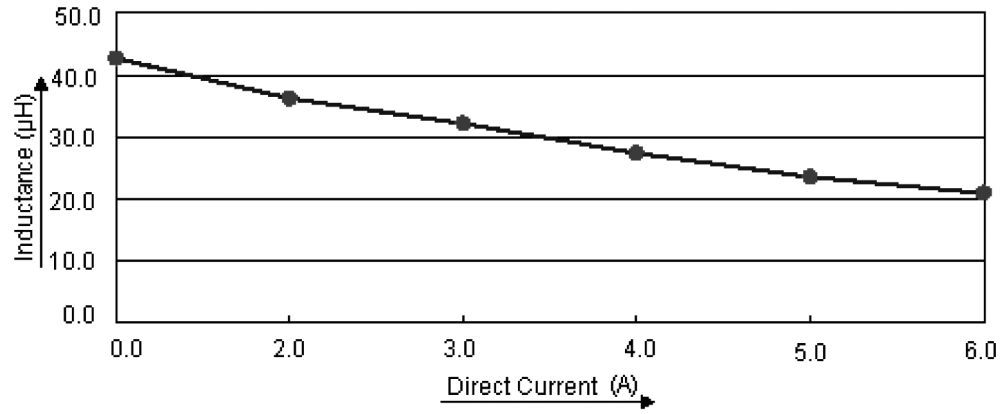
## Material List

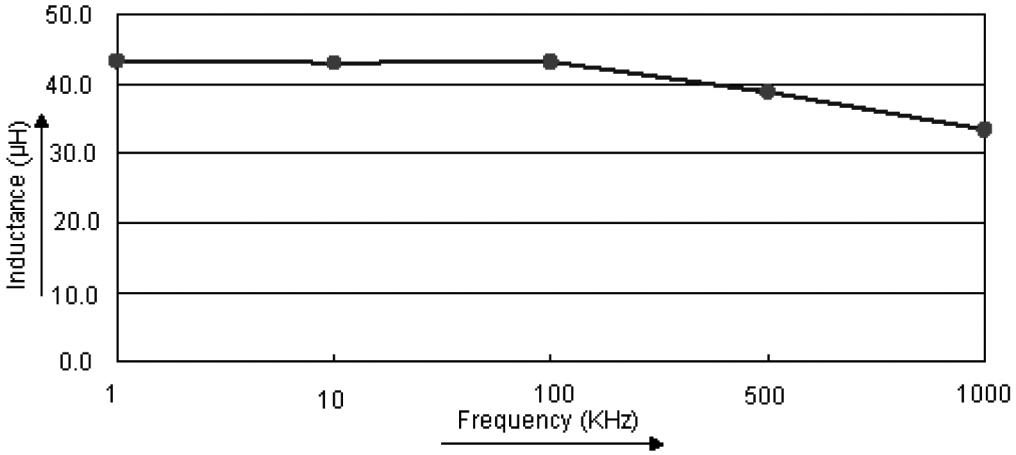
| No. | Item | Material Description |
|---|---|---|
| 1 | Core | T50D-75-TAF200 (Red / White) |
| 2 | Wire | Ø0.65mm UEFN/U (155°C) |
| 3 | Solder (Lead-free) | Sn99.3% / Cu0.7% |
| 4 | Glue | TH100A / TH100B |

## Test Data for Electrical

| Test Item | L µH | DCR mΩ | ΔT |
|---|---|---|---|
| Condition | 1kHz / 25V | $T_A$ = 25°C | 1kHz / 0.25V<br>Irms = 2A |
| Specification | 40 ±20% | 60 (Max.) | Temperature rise 40°C (Max.) |
| 1 | 43.93 | 37.53 | OK |
| 2 | 42.77 | 36.89 | |
| 3 | 44.31 | 37.48 | |
| 4 | 42.71 | 37.06 | |
| 5 | 43.37 | 37.18 | |
| **Average** | **43.42** | **37.23** | **OK** |

## Electric Characteristics




## Part Number Table

| Description | Part Number |
|---|---|
| Inductor, 40µH, 20%, 2 Pins | MCAP105422025A-400MU |

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