



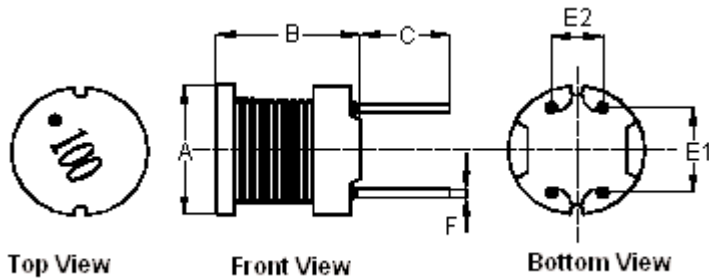
PART NO.

MCSCH110-100MU

REVISIONS

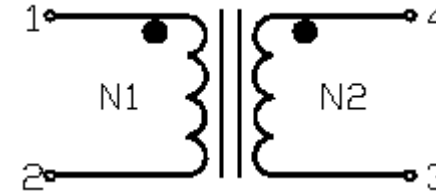
| ECN # | REV | DESCRIPTION | DRAWN | DATE    | CHECKD | DATE    | APPRVD | DATE    |
|-------|-----|-------------|-------|---------|--------|---------|--------|---------|
| -     | A   | RELEASED    | VEE   | 20/4/11 | SHA    | 20/4/11 |        | 04/5/11 |

Configurations and Dimensions



|    |             |        |
|----|-------------|--------|
| A  | 10 ±0.5 mm  | -      |
| B  |             | -      |
| C  | 3.5 ±0.5 mm | -      |
| E1 | 5 ±0.5 mm   | -      |
| E2 | 4 ±0.5 mm   | -      |
| F  | Ø0.7 mm     | (Ref.) |

Schematic Diagram



Note:

1. Wire UEFN/U (155°C) Ø0.5mm × 2
2. N1 = N2 = 14.5TS (Reference) C.W



Note : White dot of marking indicates the start terminal of winding

Electrical Characteristics

| Test Condition                        |     |                              |
|---------------------------------------|-----|------------------------------|
| 10 KHz 0.1 V                          | L   | 10 µH ±20%                   |
| T <sub>a</sub> = 25°C                 | DCR | 22 mΩ (Max.)                 |
| 10 KHz 0.1 V I <sub>rms</sub> = 5.3 A | ΔT  | Temperature rise 40°C (Max.) |

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

Test Data for Mechanical

| Test Item     | A mm    | B mm    | C mm     | E1 mm  | E2 mm  | F mm        |
|---------------|---------|---------|----------|--------|--------|-------------|
| Specification | 10 ±0.5 | 10 ±0.5 | 3.5 ±0.5 | 5 ±0.5 | 4 ±0.5 | Ø0.7 (Ref.) |
| 1             | 10.2    | 9.82    | 3.69     | 5.12   | 3.98   | 0.68        |
| 2             | 10.26   | 9.85    | 3.49     | 4.92   | 4.14   | 0.67        |
| 3             | 10.19   | 9.87    | 3.42     | 5.17   | 4.18   | 0.68        |
| 4             | 10.21   | 9.91    | 3.77     | 5.01   | 4.08   | 0.68        |
| 5             | 10.2    | 9.81    | 3.65     | 4.98   | 3.91   | 0.67        |
| Average       | 10.21   | 9.85    | 3.6      | 5.04   | 4.06   | 0.68        |

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| DRAWN BY:    | DATE:    |
| VEE          | 20/04/11 |
| CHECKED BY:  | DATE:    |
| SHA          | 20/04/11 |
| APPROVED BY: | DATE:    |
|              | 04/05/11 |

DRAWING TITLE:

**Inductor - Radial Leaded**

|                  |                             |                                   |                 |
|------------------|-----------------------------|-----------------------------------|-----------------|
| SIZE<br><b>A</b> | DWG NO.<br><b>M10002613</b> | ELECTRONIC FILE<br>MCSCH110-100MU | REV<br><b>A</b> |
| SCALE: NTS       |                             | U.O.M.: mm                        | SHEET: 1 OF 3   |



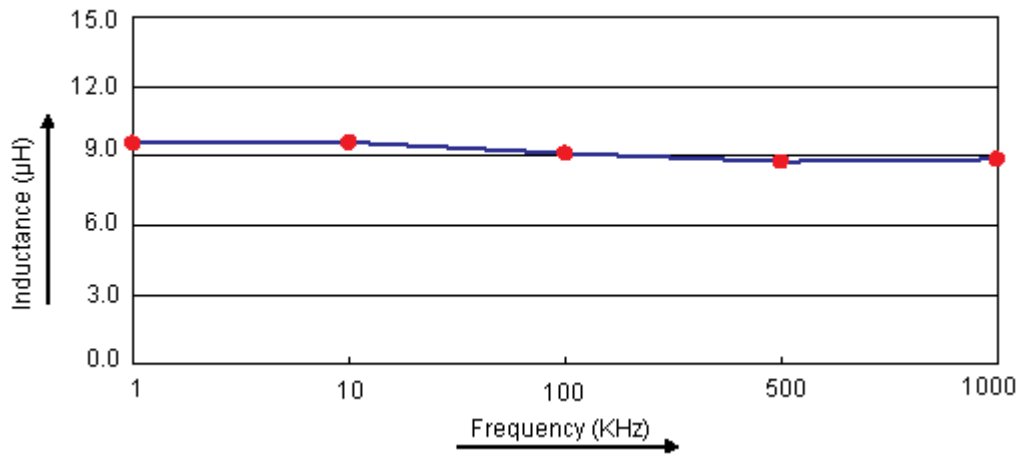
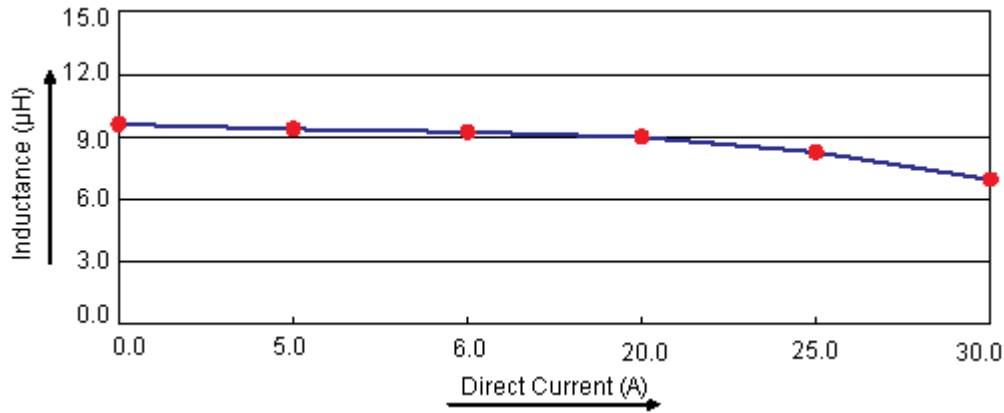
PART NO.

MCSCH110-100MU

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|-------|-----|-------------|-------|---------|--------|---------|--------|---------|
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Electric Characteristics



Test Data for Electrical

| Test Item      | L<br>µH      | DCR<br>mΩ    | ΔT                                       |
|----------------|--------------|--------------|--|
| Condition      | 10 KHz 0.1 V | at 25°C      | 10 KHz 0.1 V<br>I <sub>rms</sub> = 5.3 A |
| Specification  | 10 ±20%      | 22<br>(Max.) | Temperature rise 40°C<br>(Max.)          |
| 1              | 9.58         | 13.96        | OK                                       |
| 2              | 9.55         | 14.42        |  |
| 3              | 9.57         | 14.44        |  |
| 4              | 9.62         | 14.11        |  |
| 5              | 9.56         | 14.21        |  |
| <b>Average</b> | <b>9.58</b>  | <b>14.23</b> | <b>OK</b>                                |

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DRAWING TITLE:

**Inductor - Radial Leaded**

|                  |                             |                                   |                 |
|------------------|-----------------------------|-----------------------------------|-----------------|
| SIZE<br><b>A</b> | DWG NO.<br><b>M10002613</b> | ELECTRONIC FILE<br>MCSCH110-100MU | REV<br><b>A</b> |
| SCALE: NTS       |                             | U.O.M.: mm                        | SHEET: 2 OF 3   |



PART NO.

MCSCH110-100MU

REVISIONS

| ECN # | REV | DESCRIPTION | DRAWN | DATE    | CHECKD | DATE    | APPRVD | DATE    |
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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 / -0.5 s                |

Material List

| No. | Item               | Material Description       |
|-----|--------------------|----------------------------|
| 1   | Core               | M4SDR4W10 × 10 D31M C4.4   |
| 2   | Wire               | Ø0.5 mm × 2 UEFN/U (155°C) |
| 3   | Solder (Lead-free) | Sn99.3% / Cu0.7%           |

Part Number Table

| Description                        | Part Number    |
|------------------------------------|----------------|
| Inductor, 10µH, 20%, Radial Leaded | MCSCH110-100MU |

<http://www.element14.com>

<http://www.farnell.com>

<http://www.newark.com>

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DRAWING TITLE:

**Inductor - Radial Leaded**

SIZE  
**A**

DWG NO.

**M10002613**

ELECTRONIC FILE  
MCSCH110-100MU

REV  
**A**

SCALE: NTS

U.O.M.: mm

SHEET: 3 OF 3