



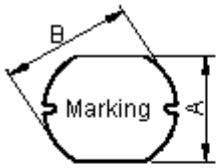
PART NO.

MCSD43-1R8MU

REVISIONS

| ECN # | REV | DESCRIPTION | DRAWN  | DATE    | CHECKD | DATE    | APPRVD  | DATE    |
|-------|-----|-------------|--------|---------|--------|---------|---------|---------|
| -     | A   | RELEASED    | Shashi | 07/2/11 | Jagan  | 07/2/11 | Farnell | 21/2/11 |

Configurations and Dimensions



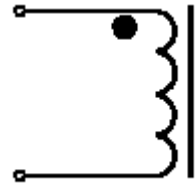
Top View



Side View

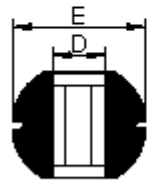
|   |             |             |
|---|-------------|-------------|
| A | 4 ±0.3 mm   | -           |
| B | 4.5 ±0.3 mm | -           |
| C | 3.2 ±0.3 mm | -           |
| D | 1 mm        | (Reference) |
| E | 4.5 ±0.5 mm | -           |

Schematic Diagram

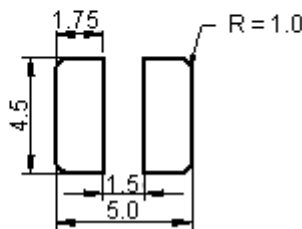


Note:

1. Wire Ø0.29mm x 1P 2UEWF 155°C
2. 7.5TS (Reference)



Bottom View



Suggest PCB Layout

Dimensions : Millimetres

Marking: 1R8

Electrical Characteristics

(at 25°C)

| Test Condition                         |                       |                       |
|--|-----------------------|-----------------------|
| 100KHz 0.25V                           | L                     | 1.8µH ±20%            |
| at 25°C                                | DCR                   | 64mΩ (Maximum)        |
| 100KHz 0.25V I <sub>sat</sub> = 1.95 A | L at I <sub>sat</sub> | L drops 10% (Typical) |

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

Test Data for Mechanical

| Test Item     | A mm   | B mm     | C mm     | D mm          | E mm     |
|---------------|--------|----------|----------|---------------|----------|
| Specification | 4 ±0.3 | 4.5 ±0.3 | 3.2 ±0.3 | 1 (Reference) | 4.5 ±0.5 |
| 1             | 4.08   | 4.52     | 3.29     | 1.21          | 4.36     |
| 2             | 4.07   | 4.53     | 3.32     | 1.31          |          |
| 3             | 4.09   |          | 3.28     | 1.33          |          |
| 4             | 4.05   |          | 3.27     | 1.3           |          |
| 5             |        | 4.55     | 3.28     | 1.35          |          |
| Average       | 4.07   | 4.53     | 3.29     | 1.3           | 4.36     |

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DRAWN BY:

Shashi

DATE:

07/02/11

DRAWING TITLE:

Inductor

CHECKED BY:

Jagan

DATE:

07/02/11

APPROVED BY:

Farnell

DATE:

21/02/11

SIZE  
A

DWG NO.

M10002654

ELECTRONIC FILE

SD43-1R8MU

REV

A

SCALE: NTS

U.O.M.: mm

SHEET: 1 OF 3



PART NO.

MCSD43-1R8MU

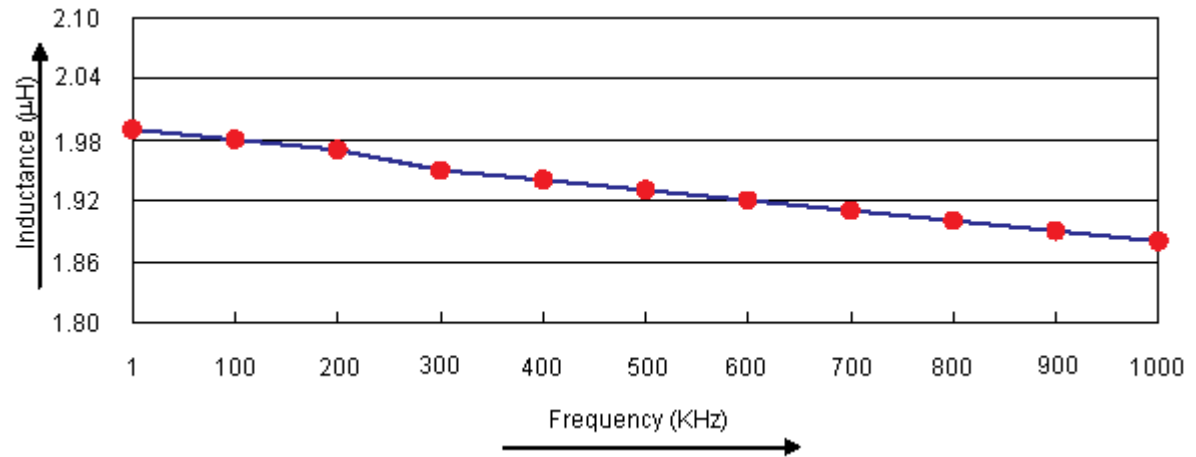
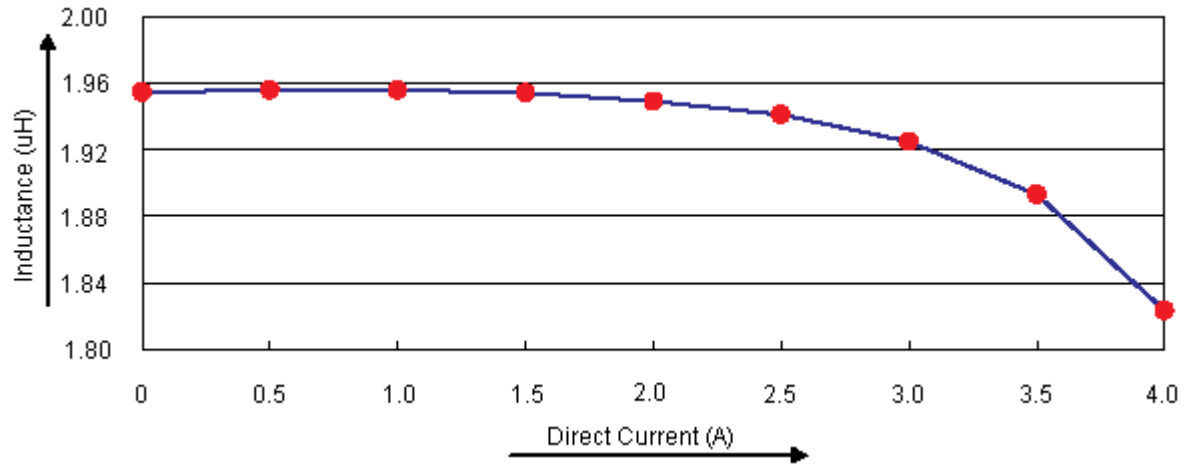
REVISIONS

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| -     | A   | RELEASED    | Shashi | 07/2/11 | Jagan  | 07/2/11 | Farnell | 21/2/11 |

Test Data for Electrical

| Test Item     | L $\mu$ H       | DCR $m\Omega$   | L at $I_{sat}$ $\mu$ H        |
|---------------|-----------------|-----------------|-------------------------------|
| Condition     | 100KHz<br>0.25V | at 25°C         | 100KHz 0.25 $I_{sat}$ = 1.95A |
| Specification | 1.8 $\pm$ 20%   | 64<br>(Maximum) | L drops 10%<br>(Typical)      |
| 1             | 1.95            | 30.86           | 1.94                          |
| 2             |                 | 28.14           |                               |
| 3             | 1.94            | 28.73           | 1.93                          |
| 4             | 1.95            | 29.41           | 1.95                          |
| 5             | 1.9             | 31.95           | 1.89                          |
| Average       | 1.94            | 29.818          | 1.93                          |

Electric Characteristics



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|--------------|----------|
| DRAWN BY:    | DATE:    |
| Shashi       | 07/02/11 |
| CHECKED BY:  | DATE:    |
| Jagan        | 07/02/11 |
| APPROVED BY: | DATE:    |
| Farnell      | 21/02/11 |

DRAWING TITLE:

Inductor

|            |            |                 |     |
|------------|------------|-----------------|-----|
| SIZE       | DWG NO.    | ELECTRONIC FILE | REV |
| A          | M10002654  | SD43-1R8MU      | A   |
| SCALE: NTS | U.O.M.: mm | SHEET: 2 OF 3   |     |



PART NO.

**MCSD43-1R8MU**

**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 ±20%<br>Inductance change : Within ±20%                                      | According to J-STD-020B level 3<br>Test condition : 60°C 60% RH<br>Test duration : 40 hours<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 hours<br>Solder : Lead-free solder<br>Solder temperature : 260 ±5°C<br>Dip time : 5 +0/-0.5 seconds.           |

**Material List**

| No. | Item               | Material Description            |
|-----|--------------------|---------------------------------|
| 1   | Core               | R5A CDR4.5 x 3.2 (ST) B2.0 F1.5 |
| 2   | Wire               | Ø0.29mm*1P 2UEWF 155°C          |
| 3   | Solder (Lead Free) | Sn99.3% / Cu0.7%                |

**Part Number Table**

| Description                | Part Number  |
|----------------------------|--------------|
| Inductor, 1.8µH, 20%, 2.9A | MCSD43-1R8MU |

<http://www.farnell.com>  
<http://www.newark.com>  
<http://www.cpc.co.uk>

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| Shashi              | 07/02/11     |
| <b>CHECKED BY:</b>  | <b>DATE:</b> |
| Jagan               | 07/02/11     |
| <b>APPROVED BY:</b> | <b>DATE:</b> |
| Farnell             | 21/02/11     |

|                       |                  |                        |                      |
|-----------------------|------------------|------------------------|----------------------|
| <b>DRAWING TITLE:</b> |                  |                        |                      |
| <b>Inductor</b>       |                  |                        |                      |
| <b>SIZE</b>           | <b>DWG NO.</b>   | <b>ELECTRONIC FILE</b> | <b>REV</b>           |
| <b>A</b>              | <b>M10002654</b> | <b>SD43-1R8MU</b>      | <b>A</b>             |
| <b>SCALE: NTS</b>     |                  | <b>U.O.M.: mm</b>      | <b>SHEET: 3 OF 3</b> |