



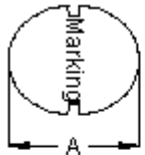
PART NO.

**MCSDC0805-221KU**

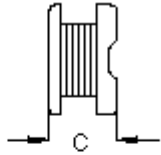
**REVISIONS**

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

**Configurations and Dimensions**

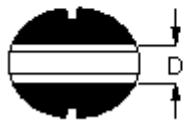


Top View

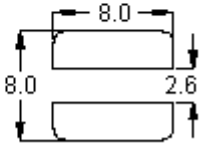


Side View

|   |        |        |
|---|--------|--------|
| A | 7.8 mm | (Max.) |
| C | 5.3 mm |        |
| D | 2.6 mm | (Ref.) |



Bottom View



Suggest PCB Layout

Dimensions : Millimetres

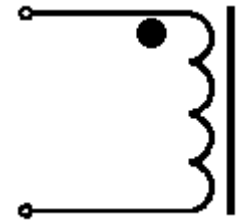
Marking : 221

**Electrical Characteristics (at 25°C)**

| Test Condition               |                |                              |
|------------------------------|----------------|------------------------------|
| 1 KHz 1 V                    | L              | 220 $\mu$ H $\pm$ 10%        |
| at 25°C                      | DCR            | 0.96 m $\Omega$ (Max.)       |
| 1 KHz 1 V $I_{sat} = 0.8$ A  | L at $I_{sat}$ | L drops 35% (Max.)           |
| 1 KHz 1 V $I_{rms} = 0.49$ A | $\Delta$ T     | Temperature rise 40°C (Max.) |

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

**Schematic Diagram**



Note:

1. Wire  $\varnothing$ 0.18mm  $\times$  1P 2UEWF 155°C
2. 75.5TS (Reference)

**Test Data for Mechanical**

| Test Item      | A mm              | C mm              | D mm              |
|----------------|-------------------|-------------------|-------------------|
| Specification  | <b>7.8 (Max.)</b> | <b>5.3 (Max.)</b> | <b>2.6 (Ref.)</b> |
| 1              | 7.5               | 5.01              | 2.52              |
| 2              | 7.52              | 5.03              | 2.49              |
| 3              | 7.48              | 5.04              | 2.43              |
| 4              | 7.5               | 5.05              | 2.55              |
| 5              | 7.49              | 5.03              | 2.47              |
| <b>Average</b> | <b>7.5</b>        | <b>5.03</b>       | <b>2.49</b>       |

**Important Notice** : This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2011.

**TOLERANCES:**

**UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE FOR REFERENCE PURPOSES ONLY.**

|                     |              |
|---------------------|--------------|
| <b>DRAWN BY:</b>    | <b>DATE:</b> |
| ASK                 | 20/4/11      |
| <b>CHECKED BY:</b>  | <b>DATE:</b> |
| ASH                 | 20/4/11      |
| <b>APPROVED BY:</b> | <b>DATE:</b> |
|                     | 04/5/11      |

**DRAWING TITLE:**

**Inductor**

|                   |                   |                        |            |
|-------------------|-------------------|------------------------|------------|
| <b>SIZE</b>       | <b>DWG NO.</b>    | <b>ELECTRONIC FILE</b> | <b>REV</b> |
| A                 | M10003471         | MCSDC0805-221KU        | A          |
| <b>SCALE:</b> NTS | <b>U.O.M.:</b> mm | <b>SHEET:</b> 1 OF 3   |            |



PART NO.

MCSDC0805-221KU

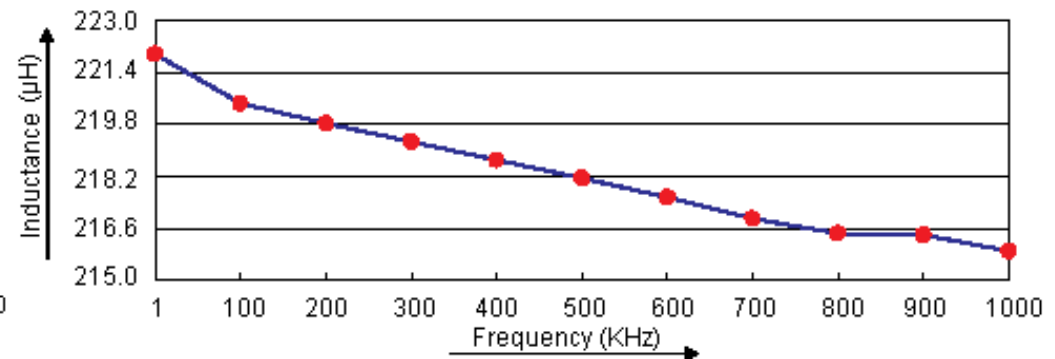
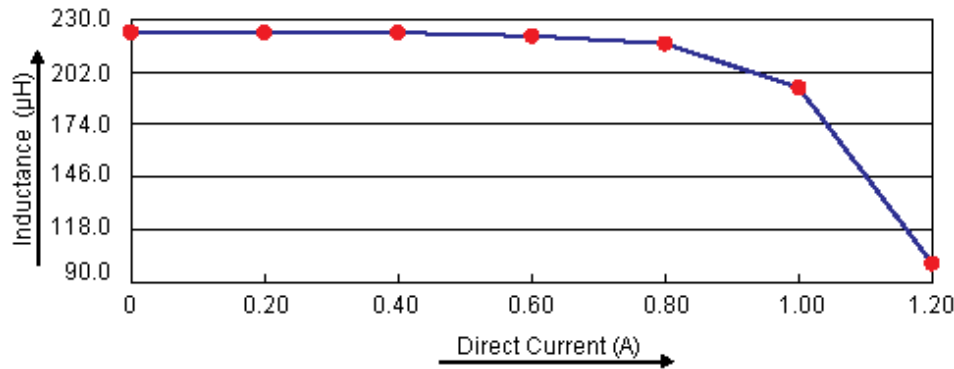
REVISIONS

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

Test Data for Electrical

| Test Item     | L<br>μH   | DCR<br>Ω       | L at I <sub>sat</sub><br>μH           | ΔT                                     |
|---------------|-----------|----------------|---------------------------------------|--|
| Condition     | 1 KHz 1 V | at 25°C        | 1 KHz 1 V<br>I <sub>sat</sub> = 0.8 A | 1 KHz 1 V<br>I <sub>rms</sub> = 0.49 A |
| Specification | 220 ±10%  | 0.96<br>(Max.) | L drops 35%<br>(Max.)                 | Temperature rise 40°C<br>(Max.)        |
| 1             | 222.9     | 0.84           | 215.72                                | OK                                     |
| 2             | 221.95    |                | 213.64                                |  |
| 3             | 220.85    | 0.85           | 214.6                                 |  |
| 4             | 221.7     | 0.84           | 213.45                                |  |
| 5             | 220.45    | 0.86           | 214                                   |  |
| Average       | 221.57    | 0.85           | 214.28                                | OK                                     |

Electric Characteristics



**Important Notice :** This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2011.

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

|              |         |
|--------------|---------|
| DRAWN BY:    | DATE:   |
| ASK          | 20/4/11 |
| CHECKED BY:  | DATE:   |
| ASH          | 20/4/11 |
| APPROVED BY: | DATE:   |
|              | 04/5/11 |

DRAWING TITLE:

**Inductor**

|                  |                             |                                    |                 |
|------------------|-----------------------------|------------------------------------|-----------------|
| SIZE<br><b>A</b> | DWG NO.<br><b>M10003471</b> | ELECTRONIC FILE<br>MCSDC0805-221KU | REV<br><b>A</b> |
| SCALE: NTS       |                             | U.O.M.: mm                         | SHEET: 2 OF 3   |



PART NO.

MCSDC0805-221KU

REVISIONS

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

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 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 90% 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               | R5A CDR7.5 × 5 (ST) B3.4 F2.5 |
| 2   | Wire               | Ø0.18 mm × 1P 2UEWF (155°C)   |
| 3   | Solder (Lead-free) | Sn99.3% / Cu0.7%              |

Part Number Table

| Description               | Part Number     |
|---------------------------|-----------------|
| Inductor, 220µH, 10%, SMD | MCSDC0805-221KU |

<http://www.element14.com>

<http://www.farnell.com>

<http://www.newark.com>

**Important Notice :** This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2011.

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

|                     |              |
|---------------------|--------------|
| <b>DRAWN BY:</b>    | <b>DATE:</b> |
| ASK                 | 20/4/11      |
| <b>CHECKED BY:</b>  | <b>DATE:</b> |
| ASH                 | 20/4/11      |
| <b>APPROVED BY:</b> | <b>DATE:</b> |
|                     | 04/5/11      |

**DRAWING TITLE:**

**Inductor**

|                   |                             |   |                      |
|-------------------|-----------------------------|---|----------------------|
| <b>SIZE</b><br>A  | <b>DWG NO.</b><br>M10003471 | <b>ELECTRONIC FILE</b><br>MCSDC0805-221KU | <b>REV</b><br>A      |
| <b>SCALE: NTS</b> |                             | <b>U.O.M.: mm</b>                         | <b>SHEET: 3 OF 3</b> |