Murata Power Solutions

# 2400 Series

Bobbin Wound Surface Mount Inductors

## FEATURES

- RoHS compliant
- Up to 3.1A $I_{DC}$
- 2.7µH to 220µH
- Optional integral EMI shield
- Low $R_{DC}$
- Surface mount
- Compact size
- Tape and reel packaging
- J-STD-020C reflow
- Backward compatible with Sn/Pb soldering systems

## DESCRIPTION

The 2400 series is a range of bobbin-wound, surface-mount inductors designed for use in switching power supply, and power line filter circuits. The parts are suitable for any application requiring a high saturation current in a miniature surface-mount footprint. Where EMI is a critical factor, the devices are available with an integral ferrite EMI shield.

## SELECTION GUIDE (UNSHIELDED TYPES)

| Order Code | Inductance (1kHz, 100mVAC) | Inductance Range (1kHz, 100mVAC) | DC Current[1] | DC Resistance | SRF (100mVrms) |
|---|---|---|---|---|---|
| | Nom. | Min. - Max. | Max. | Max. | Nom. |
| | µH | µH | A | mΩ | MHz |
| **242R7C** | 2.7 | 2.04 - 3.78 | 2.60 | 39 | 57.0 |
| **243R3C** | 3.3 | 2.44 - 4.54 | 2.40 | 42 | 53.0 |
| **244R7C** | 4.7 | 3.37 - 6.25 | 2.10 | 50 | 45.0 |
| **246R8C** | 6.8 | 5.03 - 9.34 | 1.75 | 61 | 37.0 |
| **24100C** | 10 | 8.00 - 12.0 | 1.44 | 100 | 27.8 |
| **24120C** | 12 | 8.54 - 15.9 | 1.36 | 100 | 26.0 |
| **24150C** | 15 | 12.0 - 18.0 | 1.30 | 120 | 22.0 |
| **24180C** | 18 | 13.0 - 24.1 | 1.26 | 150 | 20.0 |
| **24220C** | 22 | 17.6 - 26.4 | 1.11 | 180 | 16.5 |
| **24330C** | 33 | 28.1 - 34.7 | 0.88 | 230 | 13.1 |
| **24470C** | 47 | 40.8 - 54.1 | 0.72 | 370 | 10.9 |
| **24680C** | 68 | 61.2 - 74.8 | 0.61 | 460 | 9.38 |
| **24101C** | 100 | 90.0 - 110 | 0.52 | 700 | 7.03 |
| **24151C** | 150 | 135 - 165 | 0.40 | 1100 | 5.13 |
| **24221C** | 220 | 198 - 242 | 0.35 | 1570 | 4.24 |

## SELECTION GUIDE (SHIELDED TYPES)

| Order Code | Inductance (1kHz, 100mVAC) | Inductance Range (1kHz, 100mVAC) | DC Current[1] | DC Resistance | SRF (100mVrms) |
|---|---|---|---|---|---|
| | Nom. | Min. - Max. | Max. | Max. | Nom. |
| | µH | µH | A | mΩ | MHz |
| **24S2R7C** | 2.7 | 1.78 - 3.52 | 3.10 | 28 | 79.0 |
| **24S3R3C** | 3.3 | 2.07 - 4.68 | 2.80 | 32 | 63.0 |
| **24S4R7C** | 4.7 | 2.82 - 6.01 | 2.39 | 37 | 52.0 |
| **24S6R8C** | 6.8 | 4.40 - 9.17 | 2.00 | 45 | 39.0 |
| **24S100C** | 10 | 8.50 - 12.5 | 1.64 | 70 | 25.6 |
| **24S120C** | 12 | 7.65 - 15.2 | 1.50 | 74 | 29.0 |
| **24S150C** | 15 | 12.8 - 18.8 | 1.34 | 90 | 19.7 |
| **24S180C** | 18 | 11.1 - 22.7 | 1.22 | 91 | 23.0 |
| **24S220C** | 22 | 18.7 - 27.5 | 1.10 | 120 | 15.7 |
| **24S330C** | 33 | 28.1 - 41.3 | 0.90 | 190 | 11.2 |
| **24S470C** | 47 | 40.0 - 58.8 | 0.75 | 240 | 10.2 |
| **24S680C** | 68 | 57.8 - 85.0 | 0.63 | 370 | 8.09 |
| **24S101C** | 100 | 85.0 - 120 | 0.52 | 540 | 6.2 |
| **24S151C** | 150 | 128 - 180 | 0.42 | 860 | 4.88 |
| **24S221C** | 220 | 187 - 264 | 0.35 | 1310 | 3.58 |

## ABSOLUTE MAXIMUM RATINGS

| | |
|---|---|
| Operating free air temperature range | -40°C to 85°C |
| Storage temperature range | -40°C to 125°C |

## SOLDERING INFORMATION[2]

| | |
|---|---|
| Peak reflow temperature | 250˚C |
| Pin finish | Hot dipped tin |

Specifications typical at $T_A = 25°C$

1 The maximum DC current is the value at which the inductance falls to 80% of its nominal value or when its temperature rise reaches 40°C, whichever is sooner.

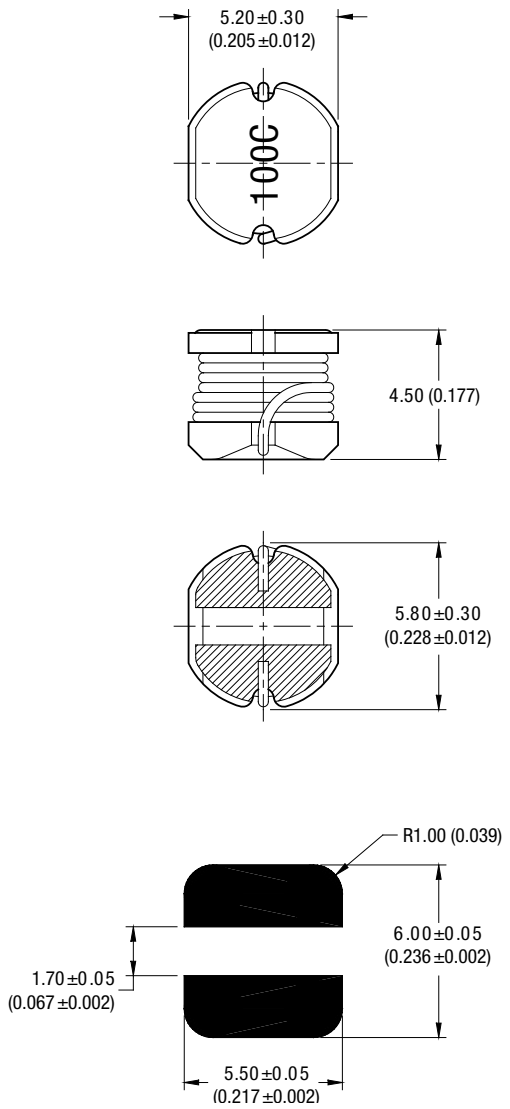
2 For further information, please visit www.murata-ps.com/rohs

RoHS COMPLIANT 2002/95/EC

For full details go to www.murata-ps.com/rohs

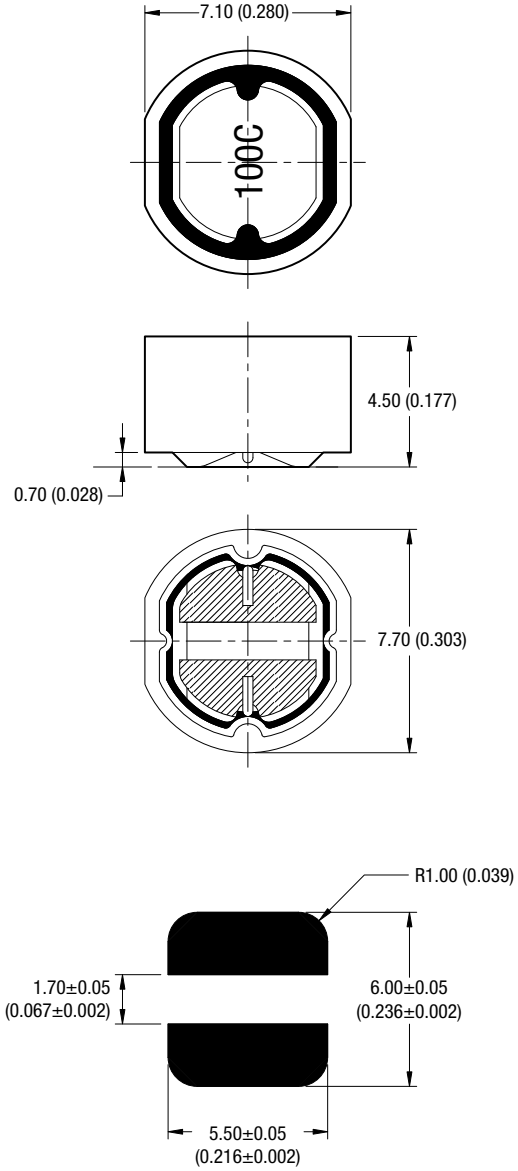
## MECHANICAL DIMENSIONS

### UNSHIELDED TYPES




Unless otherwise stated all dimensions in mm (inches) ±0.25 (0.01). Package Weight 0.43g Typ.

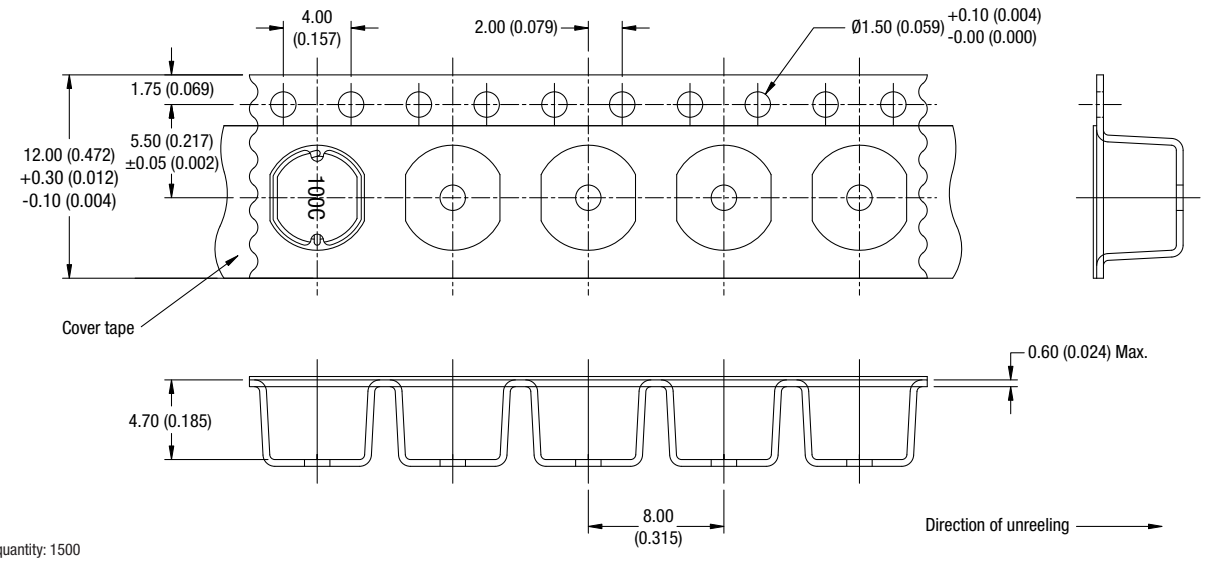
### SHIELDED TYPES




Unless otherwise stated all dimensions in mm (inches) ±0.25 (0.01). Package Weight 0.72g Typ.

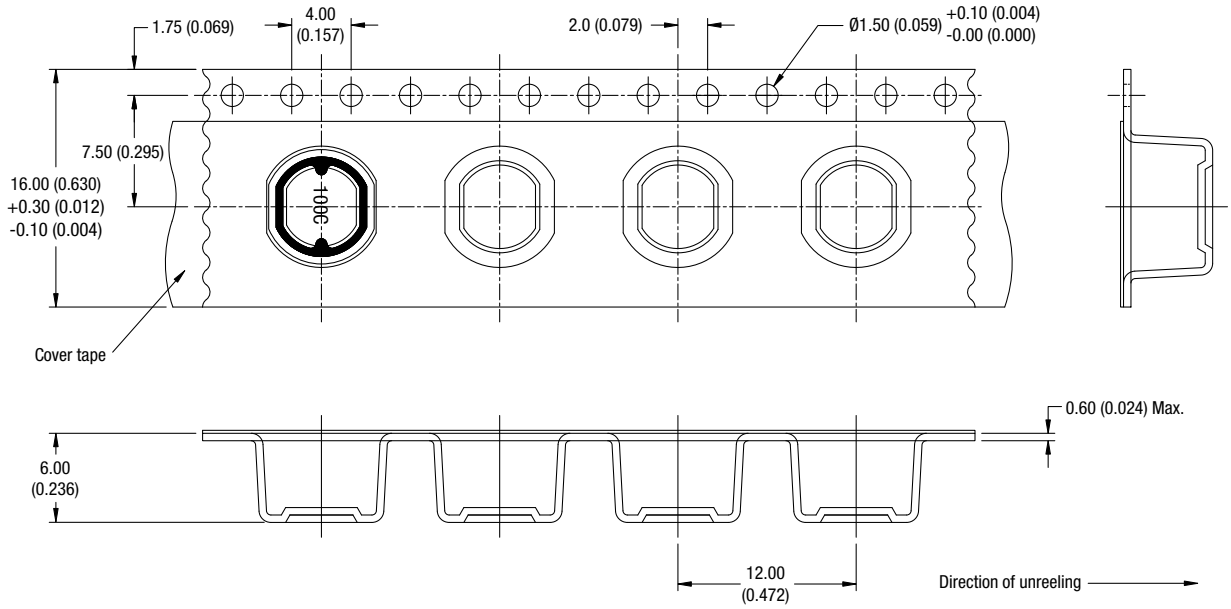
## TAPE & REEL SPECIFICATIONS

### TAPE OUTLINE DIMENSIONS - UNSHIELDED PARTS




Reel quantity: 1500
All dimensions in mm (inches)

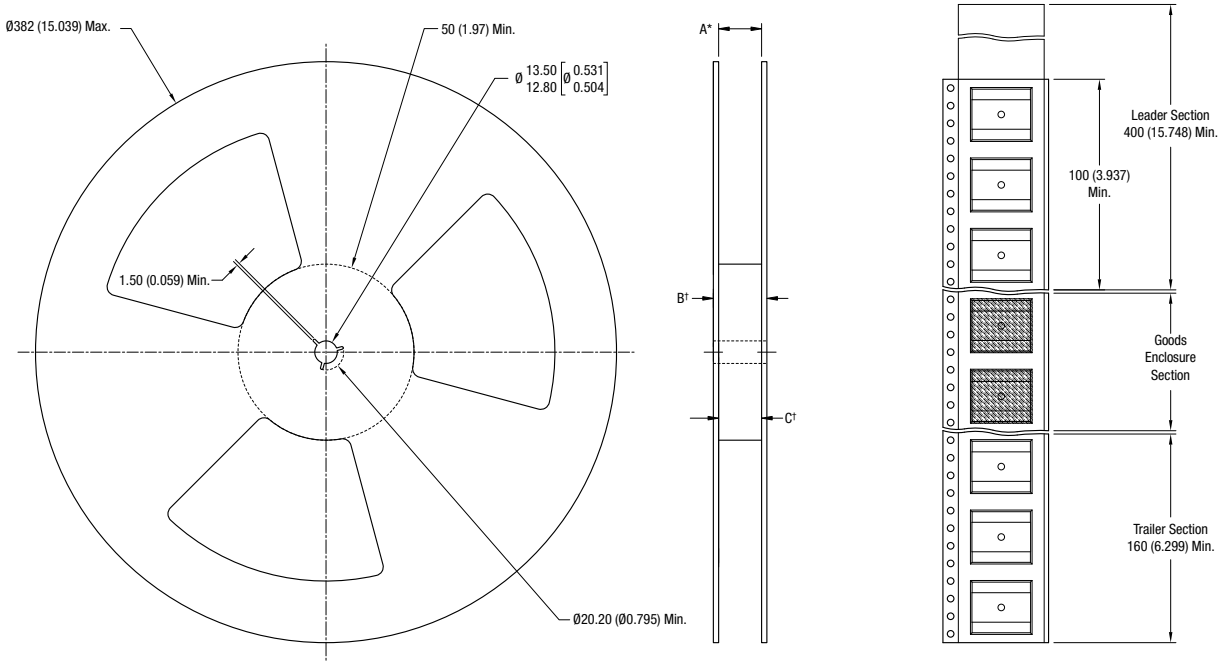
### TAPE OUTLINE DIMENSIONS - SHIELDED PARTS




Reel quantity: 1000
All dimensions in mm (inches)

## TAPE & REEL SPECIFICATIONS

### REEL OUTLINE DIMENSIONS




All dimension in mm [inches]
* Includes flange distortion at outer edge
† Measured at hub

| | A | B (Max.) | C |
|---|---|---|---|
| Unshielded Types | 11.9-15.4 (0.469-0.606) | 18.4 (0.724) | 12.4-12.6 (0.488-0.496) |
| Shielded Types | 15.9-19.4 (0.626-0.764) | 22.4 (0.882) | 16.4-16.6 (0.646-0.654) |

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