



## FEATURES

- RoHS compliant
- Up to 2.1A I<sub>DC</sub>
- 2.2μH to 220μH
- Optional integral EMI shield
- Low R<sub>DC</sub>
- Surface mount
- Compact size
- Tape and reel packaging
- J-STD-020C reflow
- Backward compatible with Sn/Pb soldering systems

## DESCRIPTION

The 2300 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<br>(1kHz, 100mV <sub>AC</sub> ) | Inductance Range<br>(1kHz, 100mV <sub>AC</sub> ) | DC Current <sup>1</sup> | DC Resistance |
|---------------|--|--|-------------------------|---------------|
|               | Nom.                                       | Min. - Max.                                      | Max.                    | Max.          |
|               | μH   | μH   | A                       | Ω             |
| <b>232R2C</b> | 2.2  | 1.7 - 2.8  | 2.10                    | 0.040         |
| <b>233R3C</b> | 3.3  | 2.3 - 3.9  | 1.80                    | 0.058         |
| <b>234R7C</b> | 4.7  | 3.6 - 6.0  | 1.48                    | 0.068         |
| <b>236R8C</b> | 6.8  | 5.1 - 8.6  | 1.22                    | 0.102         |
| <b>23100C</b> | 10   | 7.6 - 12.7                                       | 1.02                    | 0.138         |
| <b>23150C</b> | 15   | 11.3 - 18.9                                      | 0.86                    | 0.210         |
| <b>23220C</b> | 22   | 16.8 - 28.1                                      | 0.74                    | 0.361         |
| <b>23330C</b> | 33   | 24.6 - 41.0                                      | 0.64                    | 0.497         |
| <b>23470C</b> | 47   | 34.6 - 57.6                                      | 0.55                    | 0.683         |
| <b>23680C</b> | 68   | 51.0 - 85.0                                      | 0.49                    | 1.051         |
| <b>23101C</b> | 100  | 74.2 - 124                                       | 0.43                    | 1.281         |

## SELECTION GUIDE (SHIELDED TYPES)

| Order Code     | Inductance<br>(1kHz, 100mV <sub>AC</sub> ) | Inductance Range<br>(1kHz, 100mV <sub>AC</sub> ) | DC Current <sup>1</sup> | DC Resistance |
|----------------|--|--|-------------------------|---------------|
|                | Nom.                                       | Min. - Max.                                      | Max.                    | Max.          |
|                | μH   | μH   | A                       | Ω             |
| <b>23S2R2C</b> | 2.2  | 1.8 - 3.0  | 2.10                    | 0.025         |
| <b>23S3R3C</b> | 3.3  | 2.7 - 4.5  | 1.80                    | 0.031         |
| <b>23S4R7C</b> | 4.7  | 3.8 - 6.4  | 1.60                    | 0.044         |
| <b>23S6R8C</b> | 6.8  | 5.2 - 8.6  | 1.40                    | 0.064         |
| <b>23S100C</b> | 10   | 7.5 - 12.6                                       | 1.18                    | 0.087         |
| <b>23S120C</b> | 12   | 9.4 - 15.6                                       | 1.08                    | 0.107         |
| <b>23S150C</b> | 15   | 11.4 - 19.0                                      | 0.96                    | 0.131         |
| <b>23S180C</b> | 18   | 13.6 - 22.6                                      | 0.88                    | 0.143         |
| <b>23S220C</b> | 22   | 16.0 - 26.7                                      | 0.80                    | 0.175         |
| <b>23S270C</b> | 27   | 20.0 - 33.3                                      | 0.72                    | 0.218         |
| <b>23S330C</b> | 33   | 24.4 - 40.7                                      | 0.65                    | 0.241         |
| <b>23S390C</b> | 39   | 29.3 - 48.8                                      | 0.60                    | 0.370         |
| <b>23S470C</b> | 47   | 34.6 - 57.7                                      | 0.54                    | 0.460         |
| <b>23S560C</b> | 56   | 42.4 - 70.6                                      | 0.50                    | 0.509         |
| <b>23S680C</b> | 68   | 50.9 - 84.9                                      | 0.45                    | 0.641         |
| <b>23S101C</b> | 100  | 75.8 - 126                                       | 0.37                    | 0.782         |
| <b>23S151C</b> | 150  | 112 - 187  | 0.30                    | 1.190         |
| <b>23S221C</b> | 220  | 167 - 279  | 0.25                    | 2.280         |

## ABSOLUTE MAXIMUM RATINGS

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

## SOLDERING INFORMATION<sup>2</sup>

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

Specifications typical at T<sub>a</sub> = 25°C

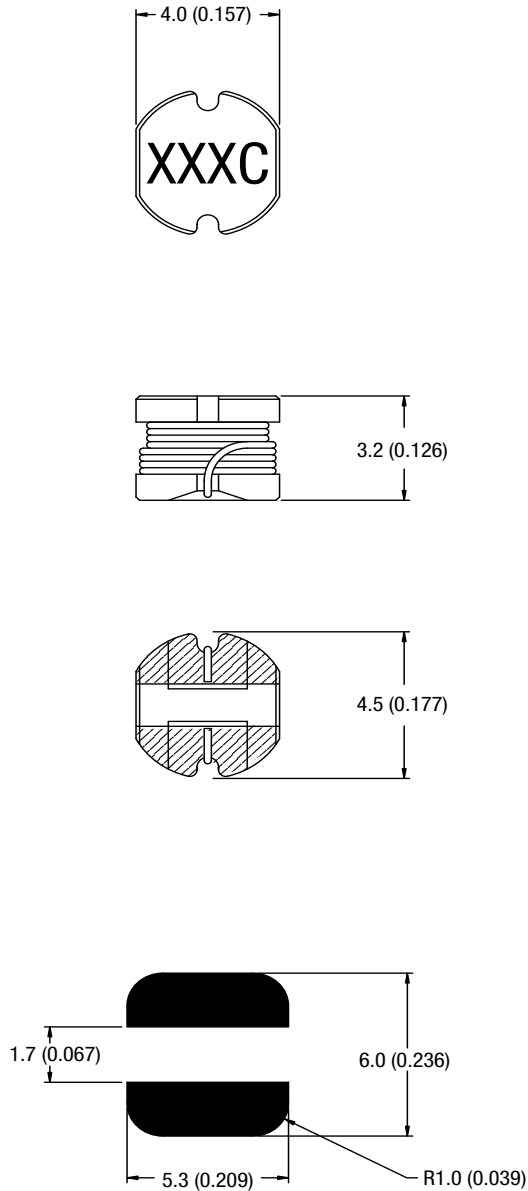
1 The maximum DC current is the value at which the inductance falls to 75% of its nominal value or when its temperature rise reaches 40°C, whichever is sooner.

2 For further information, please visit [www.murata-ps.com/rohs](http://www.murata-ps.com/rohs)



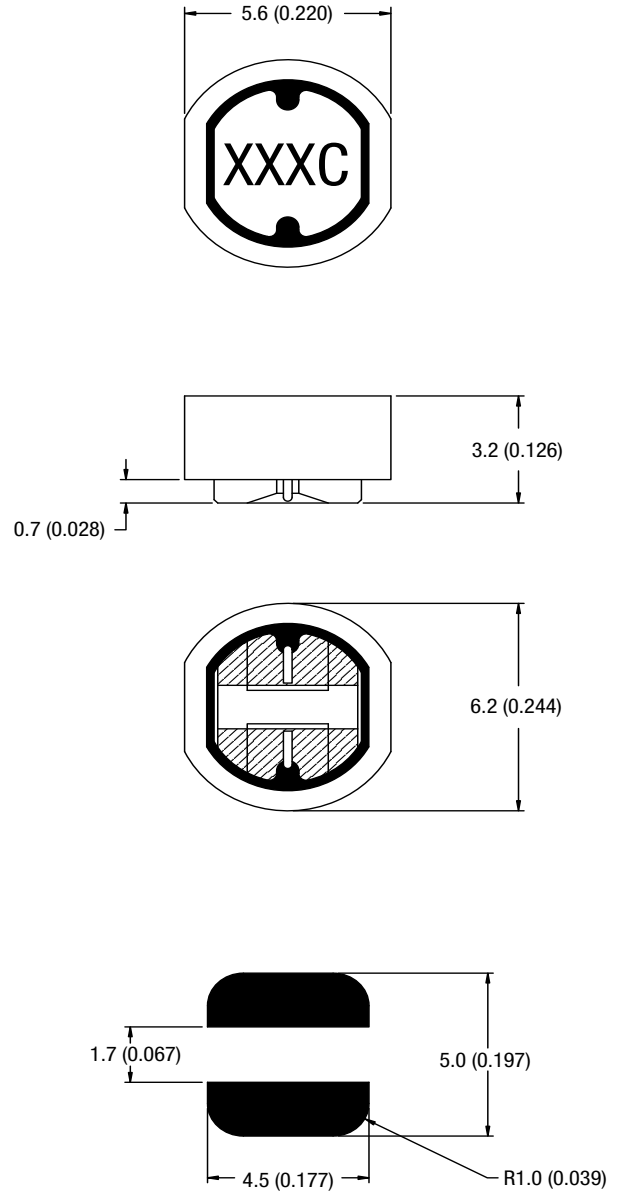
**MECHANICAL DIMENSIONS**

**UNSHIELDED TYPES**



Unless otherwise stated all dimensions in mm (inches)  $\pm 0.25$  (0.01).  
 Package Weight 0.20g Typ.  
 Hatching represents solder pads.

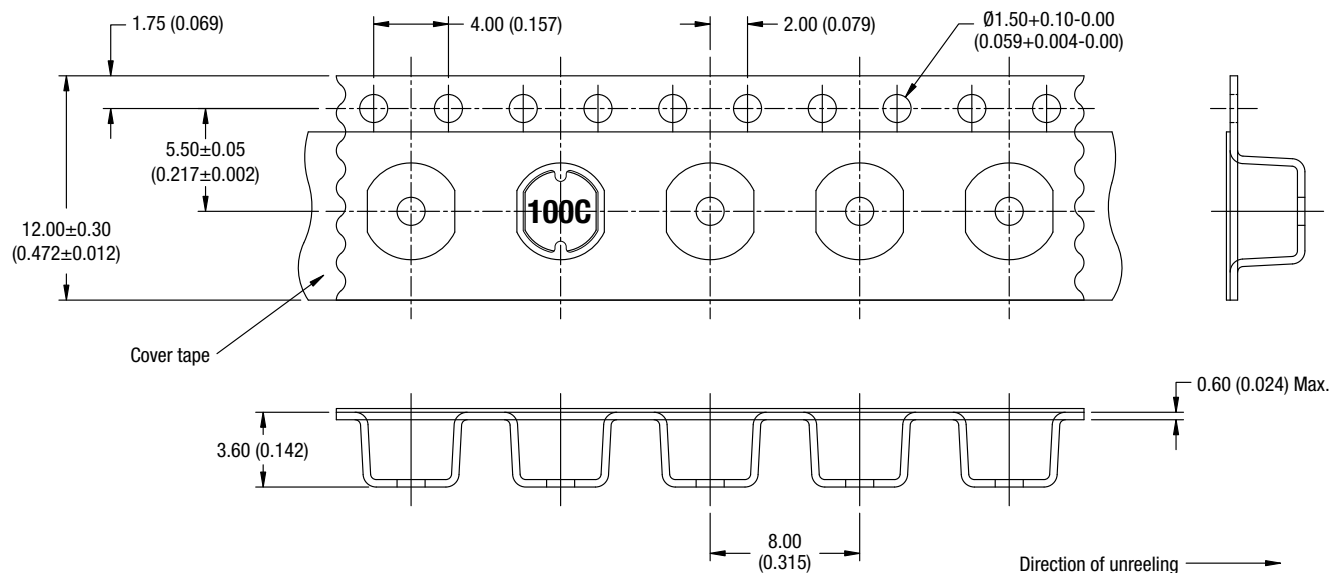
**SHIELDED TYPES**



Unless otherwise stated all dimensions in mm (inches)  $\pm 0.25$  (0.01).  
 Package Weight 0.34g Typ.  
 Hatching represents solder pads.

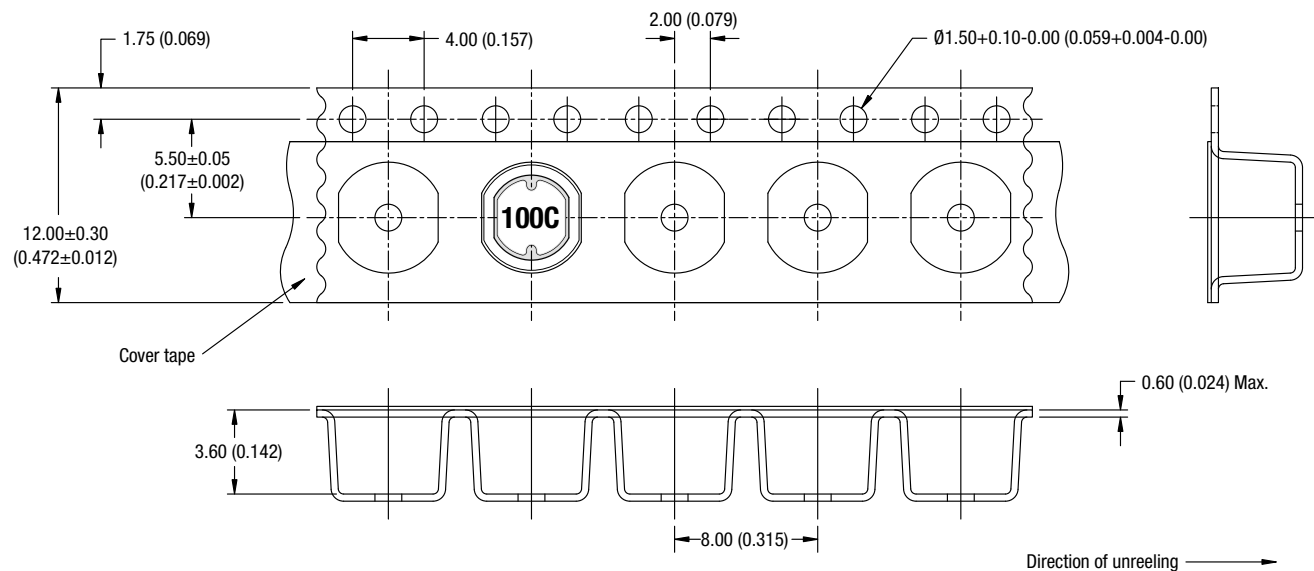
**TAPE & REEL SPECIFICATIONS**

**TAPE OUTLINE DIMENSIONS - UNSHIELDED PARTS**



All dimensions in mm (inches)

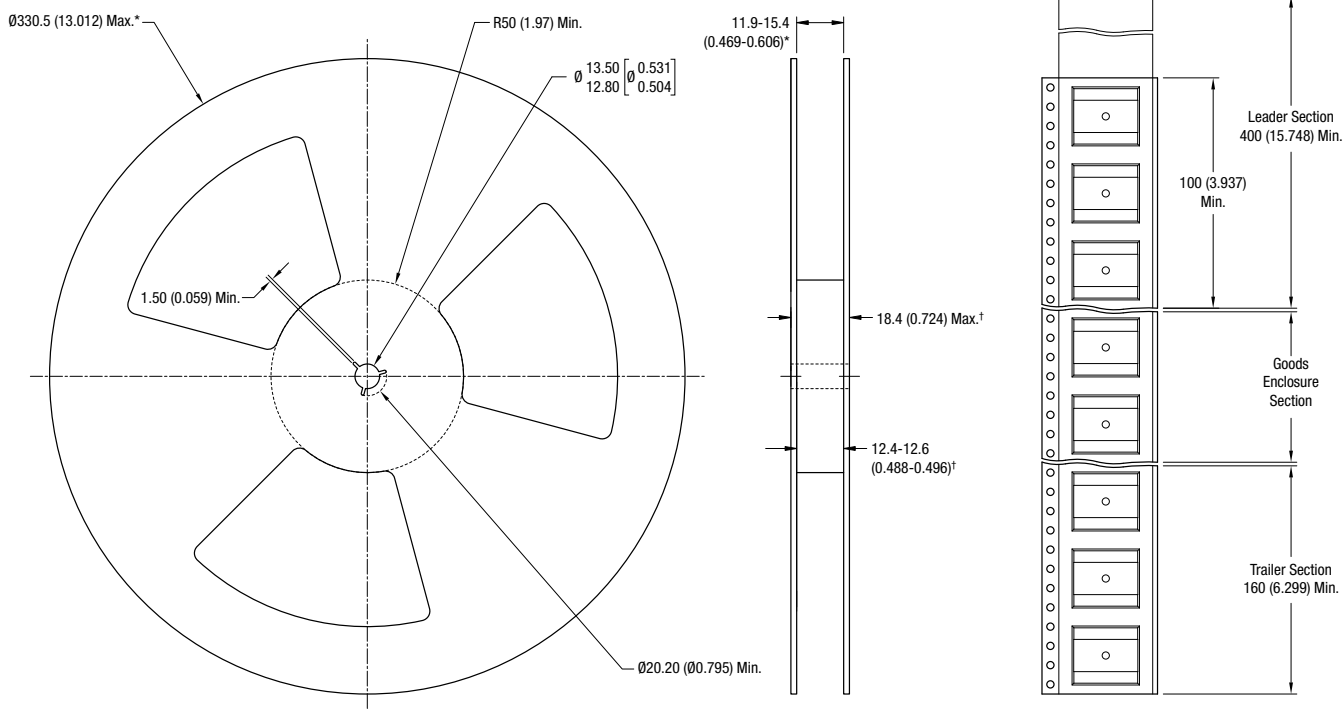
**TAPE OUTLINE DIMENSIONS - SHIELDED PARTS**



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