

Features

- 0603 size
- Monolithic construction offering high reliability
- Magnetically shielded construction providing low radiation
- Low profile
- High frequency
- RoHS compliant*

Applications

- RF and wireless communication
- Noise filters
- Low voltage power supply modules
- Radio transmitters
- RF amplifiers
- Various mobile electronic devices
- Radar

Sustainability

- Small size reduces material use
- ISO 14001, low-impact energy
- Responsibly sourced and produced
- Meets EU 94/62/EC standards

Product Overview

Bourns® CE0603G Series Multilayer Chip Inductors feature a monolithic structure achieved through advanced multilayer technology, offering high reliability and low DC resistance in a compact form factor with a profile of 0.3 mm.

The CE0603G Series features high SRF values of up to 18,000 MHz with inductance ranges from 0.3 to 39 nH and tight tolerances. With a DCR

specification ranging from 0.07 to 2.40 Ω, rated current values from 120 to 850 mA, and an operating temperature range from -55 °C to +125 °C, these chip inductors are well-suited for use in RF amplifiers, low-voltage power supply modules, radio transmitters, radar, wireless communication, and various mobile electronic devices.

Electrical Specifications (@ T_A = 25 °C Unless Otherwise Noted)

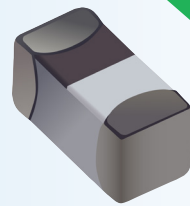
| Bourns Part Number | Inductance | | Q Min. | Test Frequency (MHz) | SRF (MHz) Min. | DCR (Ω) Max. | Rated Current (mA) Max. |
|--------------------|------------|---------------------|--------|----------------------|----------------|--------------|-------------------------|
| | L (nH) | Tolerance | | | | | |
| CE0603G-0N3_ | 0.3 | ±0.1 nH, ±0.2 nH | 11 | 500 | 18,000 | 0.07 | 850 |
| CE0603G-0N4_ | 0.4 | | | | 18,000 | 0.07 | 850 |
| CE0603G-0N5_ | 0.5 | | | | 18,000 | 0.08 | 850 |
| CE0603G-0N6_ | 0.6 | | | | 18,000 | 0.08 | 850 |
| CE0603G-0N7_ | 0.7 | | | | 18,000 | 0.09 | 750 |
| CE0603G-0N8_ | 0.8 | | | | 18,000 | 0.10 | 750 |
| CE0603G-0N9_ | 0.9 | | 18,000 | | 0.12 | 700 | |
| CE0603G-1N0_ | 1.0 | | 17,000 | | 0.14 | 600 | |
| CE0603G-1N1_ | 1.1 | | 17,000 | | 0.14 | 600 | |
| CE0603G-1N2_ | 1.2 | | 15,000 | | 0.14 | 600 | |
| CE0603G-1N3_ | 1.3 | | 15,000 | | 0.15 | 600 | |
| CE0603G-1N4_ | 1.4 | | 14,000 | | 0.15 | 600 | |
| CE0603G-1N5_ | 1.5 | | 13,500 | | 0.15 | 600 | |
| CE0603G-1N6_ | 1.6 | | 13,000 | | 0.15 | 600 | |
| CE0603G-1N7_ | 1.7 | | 12,500 | | 0.19 | 500 | |
| CE0603G-1N8_ | 1.8 | | 12,500 | | 0.20 | 500 | |
| CE0603G-1N9_ | 1.9 | | 12,500 | | 0.20 | 450 | |
| CE0603G-2N0_ | 2.0 | | 12,500 | | 0.20 | 450 | |

Note: Underscore indicates Inductance Tolerance Code:
 P = ±0.1 nH, C = ±0.2 nH, D = ±0.3 nH
 G = ±2 %, H = ±3 %, J = ±5 %

Continued on page 2

* RoHS Directive 2015/863, Mar 31, 2015 and Annex. Specifications are subject to change without notice. Users should verify actual device performance in their specific applications.

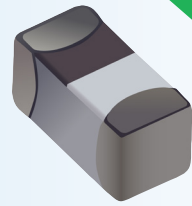
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Electrical Specifications (@ T_A = 25 °C Unless Otherwise Noted) - Continued

| Bourns Part Number | Inductance | | Q Min. | Test Frequency (MHz) | SRF (MHz) Min. | DCR (Ω) Max. | Rated Current (mA) Max. |
|--------------------|------------|---------------------|--------|----------------------|----------------|--------------|-------------------------|
| | L (nH) | Tolerance** (%) | | | | | |
| CE0603G-2N1_ | 2.1 | ±0.1 nH, ±0.2 nH | 12 | 500 | 12,000 | 0.22 | 450 |
| CE0603G-2N2_ | 2.2 | | | | 12,000 | 0.22 | 450 |
| CE0603G-2N3_ | 2.3 | | | | 11,500 | 0.24 | 450 |
| CE0603G-2N4_ | 2.4 | | | | 11,000 | 0.25 | 450 |
| CE0603G-2N5_ | 2.5 | | | | 11,000 | 0.25 | 450 |
| CE0603G-2N6_ | 2.6 | | | | 11,000 | 0.25 | 450 |
| CE0603G-2N7_ | 2.7 | | | | 11,000 | 0.25 | 450 |
| CE0603G-2N8_ | 2.8 | | | | 9,500 | 0.25 | 450 |
| CE0603G-2N9_ | 2.9 | | | | 9,500 | 0.25 | 450 |
| CE0603G-3N0_ | 3.0 | | | | 9,500 | 0.25 | 450 |
| CE0603G-3N1_ | 3.1 | | | | 9,500 | 0.30 | 450 |
| CE0603G-3N2_ | 3.2 | | | | 9,500 | 0.30 | 450 |
| CE0603G-3N3_ | 3.3 | | | | 9,500 | 0.30 | 400 |
| CE0603G-3N4_ | 3.4 | | | | 8,000 | 0.30 | 400 |
| CE0603G-3N5_ | 3.5 | | | | 8,000 | 0.30 | 400 |
| CE0603G-3N6_ | 3.6 | | | | 8,000 | 0.30 | 400 |
| CE0603G-3N7_ | 3.7 | | | | 7,000 | 0.30 | 400 |
| CE0603G-3N8_ | 3.8 | | | | 7,000 | 0.35 | 350 |
| CE0603G-3N9_ | 3.9 | | | | 6,500 | 0.35 | 350 |
| CE0603G-4N3_ | 4.3 | ±3 %, ±5 % | 11 | 300 | 6,500 | 0.40 | 350 |
| CE0603G-4N7_ | 4.7 | | | | 6,500 | 0.40 | 350 |
| CE0603G-5N1_ | 5.1 | | | | 6,500 | 0.40 | 350 |
| CE0603G-5N6_ | 5.6 | | | | 6,000 | 0.44 | 300 |
| CE0603G-6N2_ | 6.2 | | | | 6,000 | 0.50 | 300 |
| CE0603G-6N8_ | 6.8 | | | | 5,400 | 0.53 | 300 |
| CE0603G-7N5_ | 7.5 | | | | 4,800 | 0.55 | 250 |
| CE0603G-8N2_ | 8.2 | | | | 4,800 | 0.62 | 250 |
| CE0603G-9N1_ | 9.1 | | | | 4,500 | 0.65 | 250 |
| CE0603G-10N_ | 10 | | | | 4,000 | 0.70 | 250 |
| CE0603G-12N_ | 12 | 3,700 | 0.75 | 250 | | | |
| CE0603G-15N_ | 15 | 3,100 | 0.85 | 250 | | | |
| CE0603G-18N_ | 18 | 2,800 | 1.00 | 200 | | | |
| CE0603G-22N_ | 22 | 2,500 | 1.20 | 150 | | | |
| CE0603G-27N_ | 27 | 1,800 | 1.80 | 140 | | | |
| CE0603G-33N_ | 33 | 1,700 | 2.10 | 120 | | | |
| CE0603G-39N_ | 39 | 1,500 | 2.40 | 120 | | | |

Note: Underscore indicates Inductance Tolerance Code:
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 G = ±2 %, H = ±3 %, J = ±5 %



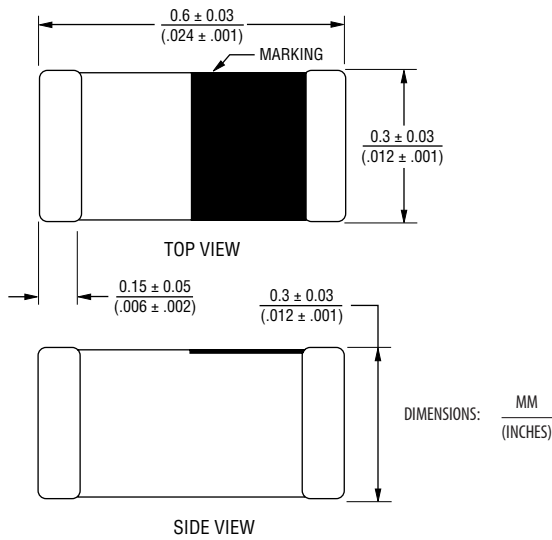
General Specifications

Operating Temperature -55 °C to +125 °C
 Moisture Sensitivity Level 1
 ESD Classification (HBM) N/A

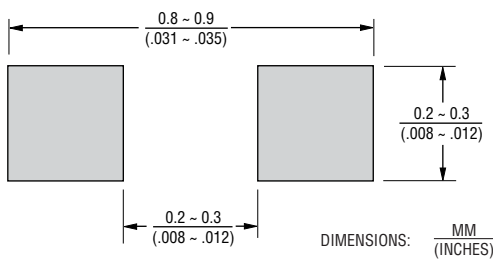
Materials

Base Material Ceramic
 Terminal Ag/Ni/Sn
 Packaging 15,000 pcs. per reel

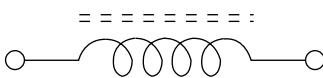
Product Dimensions



Recommended Layout



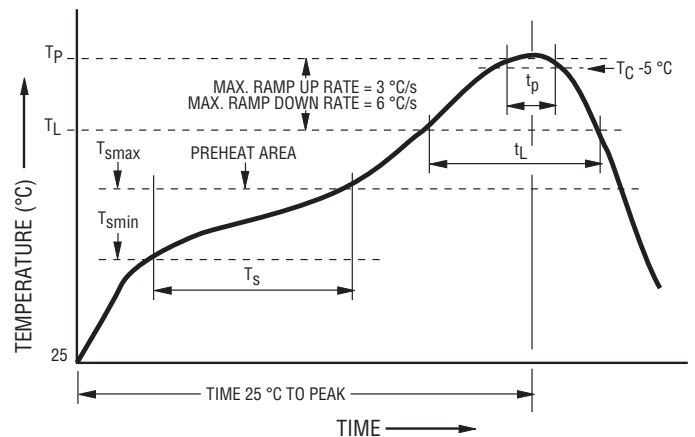
Electrical Schematic



How to Order

Series CE0603G - 1N2 P
 Value Code _____
 Tolerance _____
 P = ±0.1 nH G = ±2 %
 C = ±0.2 nH H = ±3 %
 D = ±0.3 nH J = ±5 %

Soldering Profile

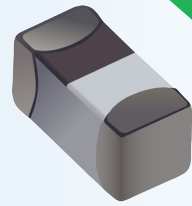


| Profile Feature | Pb-Free Assembly |
|---|--------------------------------------|
| Preheat / Soak: Temperature Min. (T_{smin}) Temperature Max. (T_{smax}) Time (t_s) from (T_{smin} to T_{smax}) | 150 °C 200 °C 60~120 seconds |
| Ramp Up Rate (T_L to T_p) | 3 °C / second max. |
| Liquidous Temperature (T_L) Time (t_L) maintained above T_L | 217 °C 60~150 seconds |
| Peak Package Body Temperature (T_p) | 255~260 °C |
| Classification Temperature (T_c) | 260 °C |
| Time (t_p) within 5 °C of the specified classification temperature (T_c) | < 30 seconds |
| Ramp Down Rate (T_p to T_L) Time 25 °C to Peak Temperature | 6 °C / second max. 8 minutes max. |

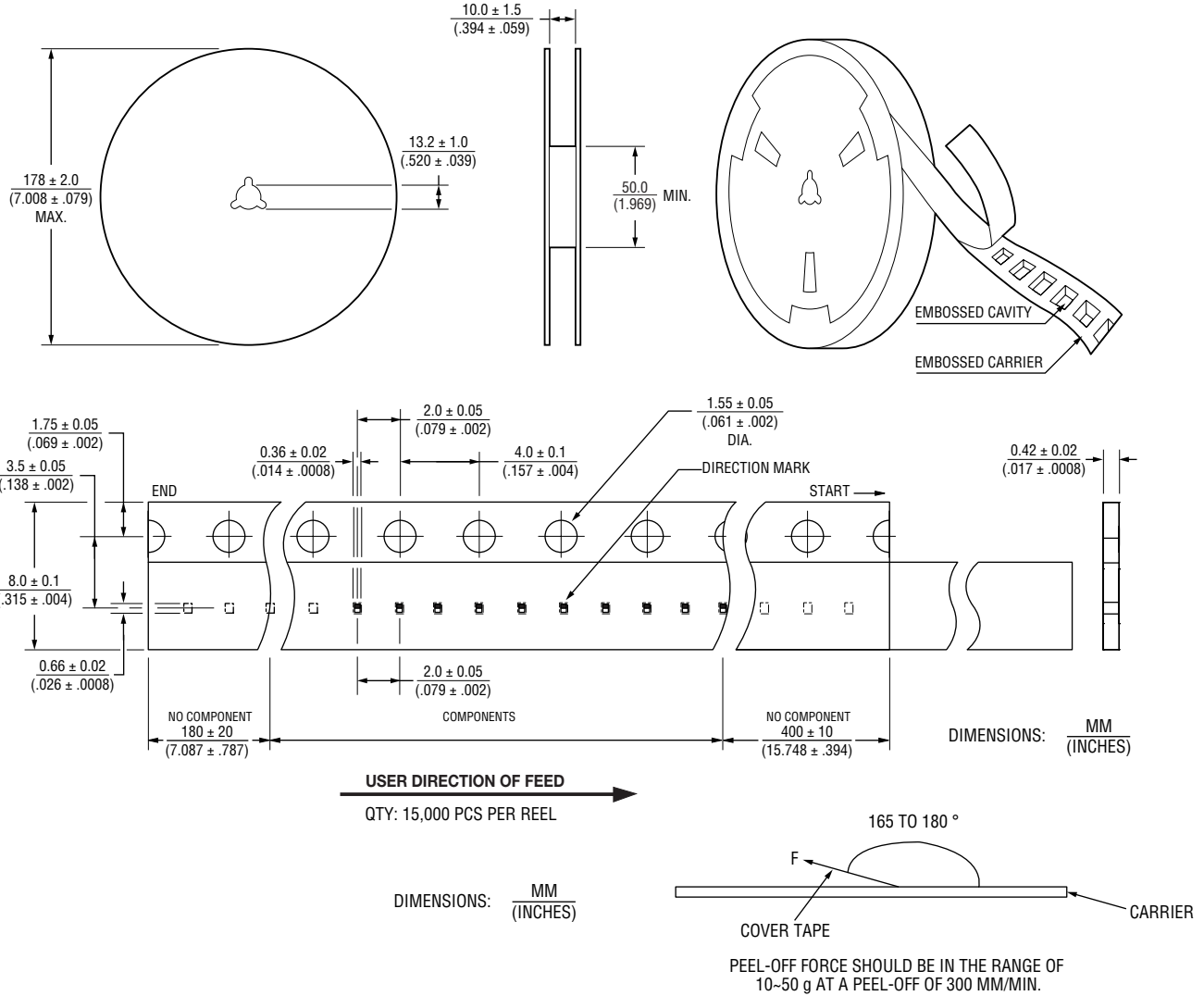
NOTE: The product has been tested under this reflow condition. Deviations from this, especially higher temperatures or longer durations, could impact performance.

Specifications are subject to change without notice.
 Users should verify actual device performance in their specific applications.

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Packaging Specifications



Contact Information

| www.bourns.com | Phone | Email |
|--|------------------|--|
| Asia-Pacific | +886-2 2562-4117 | asiacus@bourns.com |
| Europe | +36 88 885 877 | eurocus@bourns.com |
| Mexico | +52 614 478 0400 | mexicus@bourns.com |
| The Americas | +1-951 781-5500 | americus@bourns.com |

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