

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)

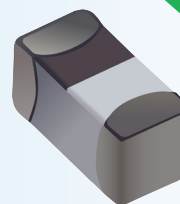
Bourns Part Number	Inductance		Q Min.	Test Frequency (MHz)	SRF (MHz) Min.	DCR (Ω) Max.	Rated Current (mA) Max.
	L (nH)	Tolerance					
CE0603G-0N3_	0.3	± 0.1 nH, ± 0.2 nH	11	500	18,000	0.07	850
CE0603G-0N4_	0.4				18,000	0.07	850
CE0603G-0N5_	0.5				18,000	0.08	850
CE0603G-0N6_	0.6				18,000	0.08	850
CE0603G-0N7_	0.7				18,000	0.09	750
CE0603G-0N8_	0.8		12		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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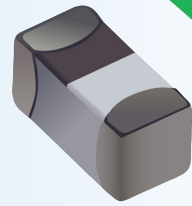
Electrical Specifications (@ T_A = 25 °C Unless Otherwise Noted) - Continued

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 %		500
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	11	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	9	2,500	1.20		150	
CE0603G-27N_	27		1,800	1.80		140	
CE0603G-33N_	33	±5 %	7	300		1,700	
CE0603G-39N_	39				1,500	2.40	120

Note: Underscore indicates Inductance Tolerance Code:

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G = ±2 %, H = ±3 %, J = ±5 %



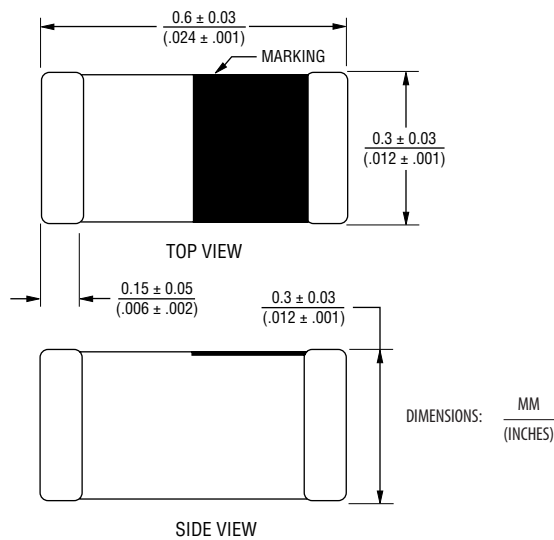
General Specifications

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

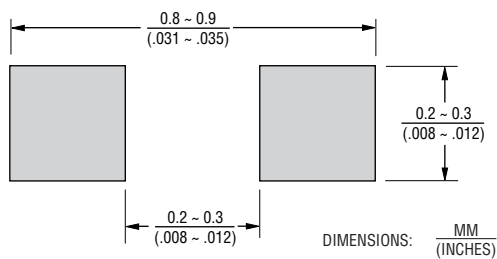
Materials

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

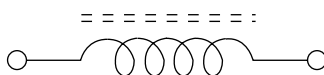
Product Dimensions



Recommended Layout



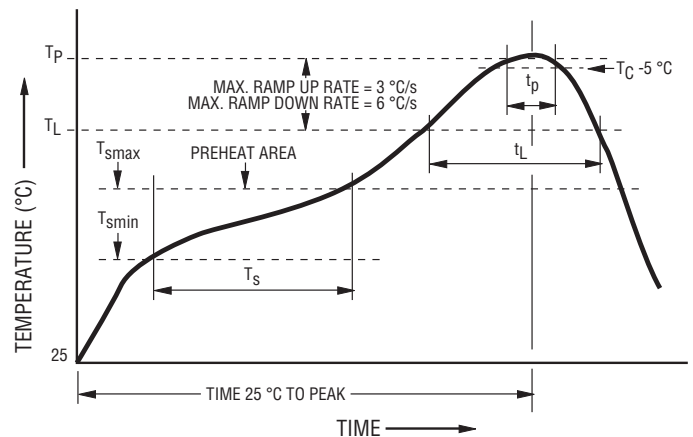
Electrical Schematic



How to Order

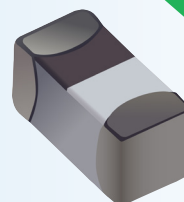
Series **CE0603G - 1N2 P**
 Value Code
 Tolerance
 P = ±0.1 nH G = ±2 %
 C = ±0.2 nH H = ±3 %
 D = ±0.3 nH J = ±5 %

Soldering Profile

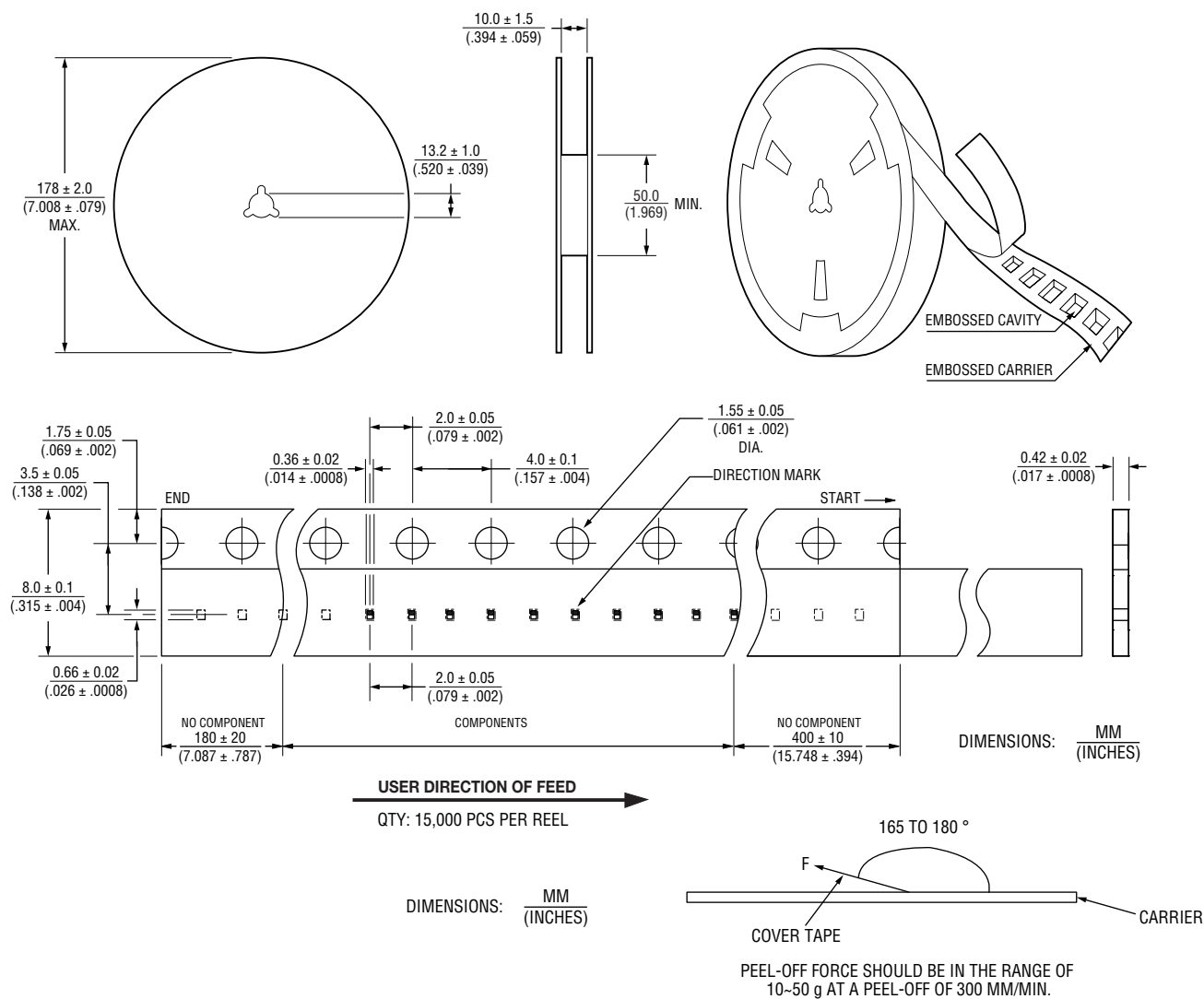


Profile Feature	Pb-Free Assembly
Preheat / Soak: Temperature Min. (T _{smin}) Temperature Max. (T _{smax}) Time (t _s) from (T _{smin} to T _{smax})	150 °C 200 °C 60~120 seconds
Ramp Up Rate (T _L to T _P)	3 °C / second max.
Liquidous Temperature (T _L) Time (t _L) maintained above T _L	217 °C 60~150 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)	6 °C / second max.
Time 25 °C to Peak Temperature	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.



Packaging Specifications



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