

*RoHS COMPLIANT



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Features

- High resistance to heat and humidity
- Resistance to mechanical shock and pressure
- Accurate dimensions for automatic surface mounting
- Wide inductance range (1.0 nH to 1000 µH)
- RoHS compliant*



Model CM20 & CM25 Series are obsolete and not recommended for new designs.

Certain CM32 Models are obsolete and not recommended for new designs - see page 4.

CM32, CM25, CM20 SMT Chip Inductors

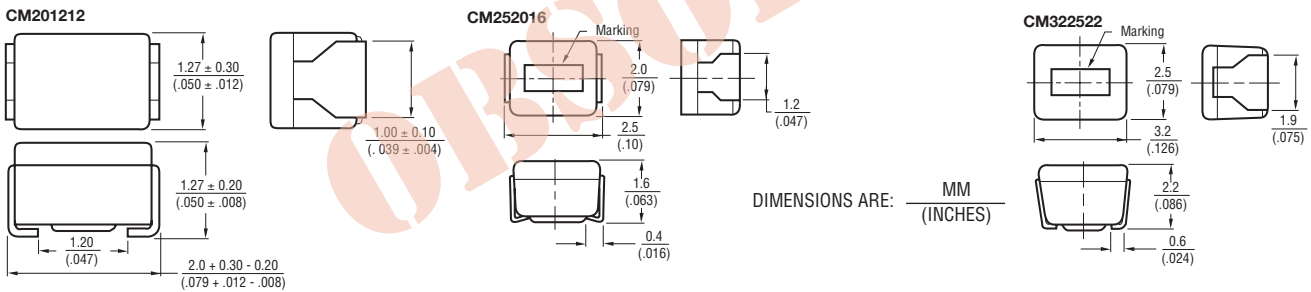
General Specifications

| | |
|------------------------------------|------------------------|
| Temperature Rise |20 °C max. |
| Ambient Temperature | 80 °C max. |
| Operating Temperature |-40 °C to +100 °C |
| Storage Temperature |-40 °C to +100 °C |
| Resistance to Soldering Heat |260 °C, 5 seconds |

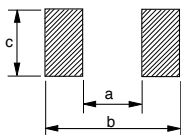
Materials

| | |
|---------------|-------------------------------|
| Core Material | |
| CM20 |Polymer 10 nH to 1000 nH |
| CM25 |Polymer 10 nH to 180 nH |
| CM32 |Polymer 47 nH to 180 nH |
| Ferrite Core | |
| CM25 |220 nH to 100 µH |
| CM32 |220 nH + |
| Coil Type |Copper wire |
| Enclosure |Epoxy resin |
| Terminal |Sn |

Product Dimensions



Recommended Land Pattern Dimensions



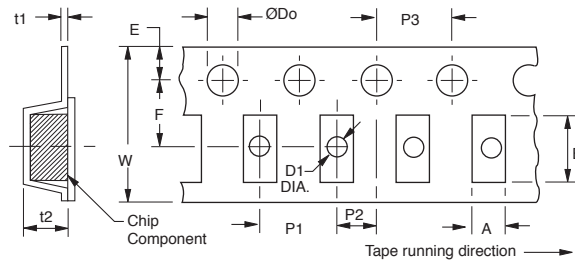
| Model | a | b | c |
|-------|---------------------------|---------------------------|---------------------------|
| CM20 | 1.0 to 1.2 (.039 to .047) | 3.0 to 3.8 (.118 to .150) | 0.9 to 1.3 (.028 to .051) |
| CM25 | 1.4 to 1.5 (.055 to .059) | 3.5 to 4.0 (.138 to .157) | 1.2 to 1.6 (.047 to .063) |
| CM32 | 1.6 to 2.0 (.063 to .079) | 4.0 to 4.6 (.157 to .181) | 1.9 to 2.4 (.075 to .094) |

*RoHS Directive 2002/95/EC Jan 27, 2003 including Annex. Specifications are subject to change without notice. Customers should verify actual device performance in their specific applications.

CM32, CM25, CM20, CM SMT Chip Inductors

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Packaging Specifications



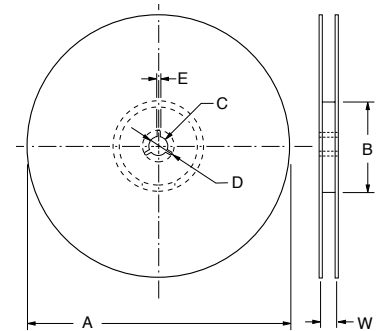
| Model | A | B | W | F | E | P1 | P2 | P3 | D0 Dia. | D1 Dia. | t1 | t2 |
|-------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| CM20 | 1.45 (.057) | 2.25 (.089) | 8.00 (.315) | 3.50 (.138) | 1.75 (.069) | 4.00 (.157) | 2.00 (.079) | 4.00 (.157) | 1.50 (.059) | 1.00 (.039) | 0.25 (.010) | 1.55 (.061) |
| CM25 | 2.40 (.094) | 2.90 (.114) | 8.00 (.315) | 3.50 (.138) | 1.75 (.069) | 4.00 (.157) | 2.00 (.079) | 4.00 (.157) | 1.50 (.059) | 1.10 (.043) | 0.25 (.010) | 1.85 (.073) |
| CM32 | 2.80 (.110) | 3.60 (.142) | 8.00 (.315) | 3.50 (.138) | 1.75 (.069) | 4.00 (.157) | 2.00 (.079) | 4.00 (.157) | 1.50 (.059) | — | 0.25 (.010) | 2.40 (.094) |

Reel Dimensions

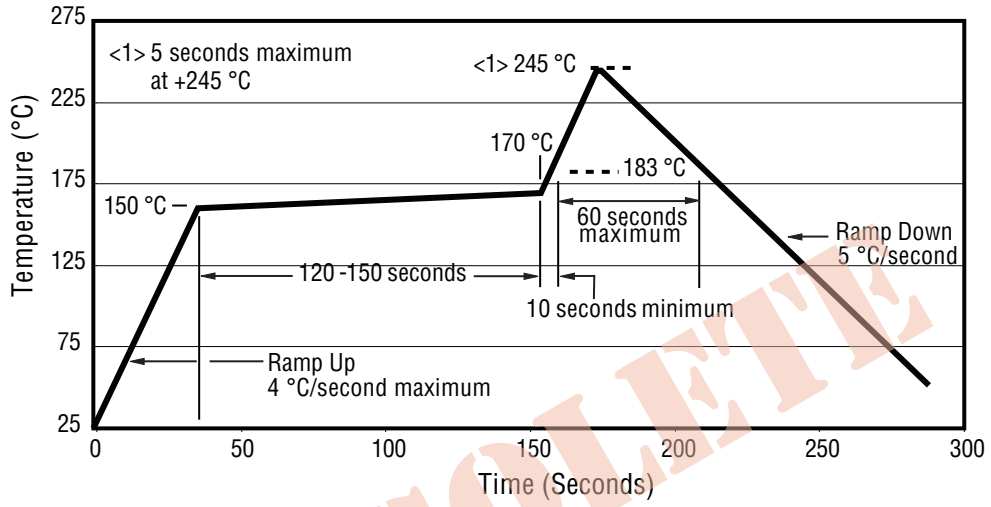
| Model | A | B | C | D | E | W |
|-------------|-------------|---------|-----------|-----------|----------|----------|
| CM20 ~ CM32 | 178 (7.008) | 60 min. | 13 (.512) | 21 (.827) | 2 (.079) | 9 (.354) |

Packaging

| Model | Quantity | Weight |
|-------|----------|--------|
| CM20 | 3000 pcs | 90 g |
| CM25 | 2000 pcs | 100 g |
| CM32 | 2000 pcs | 190 g |



Soldering Profile



OBSOLETE

Chip Inductors - CM322522 Series Wirewound

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| RoHS Compliant 1210 Size Part Number | Inductance μH | Std. Tolerance | Std. Tol. Code | 1/2 Tolerance | 1/2 Tol. Code | Q min. | Test Freq. MHz | SRF min. MHz | RDC ohm max | IDC mA max |
|--|------------------|-------------------|-------------------|------------------|------------------|-----------|-------------------|-----------------|----------------|---------------|
| ⚠ CM322522-47NML | 0.047 | ±20 % | M | N/A | N/A | 10 | 100 | 680 | 0.20 | 450 |
| ⚠ CM322522-56NML | 0.056 | ±20 % | M | N/A | N/A | 10 | 100 | 600 | 0.22 | 420 |
| ⚠ CM322522-68NML | 0.068 | ±20 % | M | N/A | N/A | 10 | 100 | 540 | 0.25 | 400 |
| ⚠ CM322522-82NML | 0.082 | ±20 % | M | N/A | N/A | 10 | 100 | 500 | 0.27 | 380 |
| ⚠ CM322522-R10ML | 0.10 | ±20 % | M | N/A | N/A | 10 | 100 | 450 | 0.30 | 360 |
| ⚠ CM322522-181<1>L | 180 | ±10 % | K | ±5 % | J | 20 | 0.796 | 7 | 17 | 50 |
| ⚠ CM322522-221<1>L | 220 | ±10 % | K | ±5 % | J | 20 | 0.796 | 7 | 21 | 45 |

Tighter tolerance available on request. Consult factory.

NOTE: 47 nH to 180 nH 'air core' / 220 nH to 220 uH 'ferrite core'

<1>Enter tolerance code from standard or 1/2 tolerance column. Example: CM322522-1R0KL is standard tolerance; CM322522-1R0JL is 1/2 tolerance.

OBSOLETE

Chip Inductors - CM252016 Series Wirewound

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| RoHS Compliant 1008 Size Part Number | Inductance μH | Tolerance | Q min. | Test Frequency MHz | SRF min. MHz | RDC ohm max | IDC mA max |
|--|------------------|-----------|-----------|-----------------------|-----------------|----------------|---------------|
| CM252016-10NKL | 0.010 | ±10 % | 10 | 100 | 2500 | 0.32 | 280 |
| CM252016-12NKL | 0.012 | ±10 % | 10 | 100 | 2200 | 0.34 | 270 |
| CM252016-15NKL | 0.015 | ±10 % | 10 | 100 | 1800 | 0.38 | 255 |
| CM252016-18NKL | 0.018 | ±10 % | 10 | 100 | 1550 | 0.4 | 250 |
| CM252016-22NKL | 0.022 | ±10 % | 15 | 100 | 1350 | 0.43 | 240 |
| CM252016-27NKL | 0.027 | ±10 % | 15 | 100 | 1150 | 0.47 | 230 |
| CM252016-33NKL | 0.033 | ±10 % | 15 | 100 | 1000 | 0.51 | 220 |
| CM252016-39NKL | 0.039 | ±10 % | 15 | 100 | 890 | 0.55 | 215 |
| CM252016-47NKL | 0.047 | ±10 % | 15 | 100 | 770 | 0.59 | 205 |
| CM252016-56NKL | 0.056 | ±10 % | 15 | 100 | 670 | 0.63 | 200 |
| CM252016-68NKL | 0.068 | ±10 % | 15 | 100 | 590 | 0.68 | 190 |
| CM252016-82NKL | 0.082 | ±10 % | 15 | 100 | 520 | 0.73 | 185 |
| CM252016-R10KL | 0.10 | ±10 % | 10 | 25.2 | 460 | 0.80 | 175 |
| CM252016-R12KL | 0.12 | ±10 % | 10 | 25.2 | 400 | 0.87 | 170 |
| CM252016-R15KL | 0.15 | ±10 % | 10 | 25.2 | 340 | 0.98 | 160 |
| CM252016-R18KL | 0.18 | ±10 % | 10 | 25.2 | 300 | 1.05 | 155 |
| CM252016-R22ML | 0.22 | ±20 % | 25 | 25.2 | 230 | 0.70 | 190 |
| CM252016-R27ML | 0.27 | ±20 % | 25 | 25.2 | 210 | 0.75 | 180 |
| CM252016-R33ML | 0.33 | ±20 % | 25 | 25.2 | 190 | 0.85 | 170 |
| CM252016-R39ML | 0.39 | ±20 % | 25 | 25.2 | 175 | 0.95 | 160 |
| CM252016-R47ML | 0.47 | ±20 % | 25 | 25.2 | 160 | 1.00 | 155 |
| CM252016-R56ML | 0.56 | ±20 % | 25 | 25.2 | 150 | 1.10 | 150 |
| CM252016-R68ML | 0.68 | ±20 % | 25 | 25.2 | 135 | 1.25 | 140 |
| CM252016-R82ML | 0.82 | ±20 % | 25 | 25.2 | 125 | 1.40 | 130 |
| CM252016-1R0KL | 1.0 | ±10 % | 25 | 7.96 | 115 | 0.65 | 195 |
| CM252016-1R2KL | 1.2 | ±10 % | 25 | 7.96 | 100 | 0.75 | 180 |
| CM252016-1R5KL | 1.5 | ±10 % | 25 | 7.96 | 90 | 0.85 | 170 |
| CM252016-1R8KL | 1.8 | ±10 % | 25 | 7.96 | 85 | 0.95 | 160 |
| CM252016-2R2KL | 2.2 | ±10 % | 25 | 7.96 | 80 | 1.05 | 155 |
| CM252016-2R7KL | 2.7 | ±10 % | 25 | 7.96 | 75 | 1.2 | 145 |
| CM252016-3R3KL | 3.3 | ±10 % | 25 | 7.96 | 65 | 1.3 | 135 |
| CM252016-3R9KL | 3.9 | ±10 % | 25 | 7.96 | 60 | 1.4 | 130 |
| CM252016-4R7KL | 4.7 | ±10 % | 25 | 7.96 | 55 | 1.6 | 125 |
| CM252016-5R6KL | 5.6 | ±10 % | 25 | 7.96 | 50 | 1.8 | 120 |
| CM252016-6R8KL | 6.8 | ±10 % | 25 | 7.96 | 45 | 1.9 | 115 |
| CM252016-8R2KL | 8.2 | ±10 % | 25 | 7.96 | 40 | 2.2 | 105 |
| CM252016-100KL | 10 | ±10 % | 25 | 2.52 | 32 | 3.5 | 80 |
| CM252016-120KL | 12 | ±10 % | 25 | 2.52 | 30 | 3.8 | 75 |
| CM252016-150KL | 15 | ±10 % | 25 | 2.52 | 28 | 4.4 | 70 |
| CM252016-180KL | 18 | ±10 % | 25 | 2.52 | 25 | 5.0 | 65 |
| CM252016-220KL | 22 | ±10 % | 25 | 2.52 | 22 | 5.8 | 60 |
| CM252016-270KL | 27 | ±10 % | 20 | 2.52 | 21 | 6.3 | 115 |
| CM252016-330KL | 33 | ±10 % | 20 | 2.52 | 20 | 7.1 | 110 |
| CM252016-390KL | 39 | ±10 % | 20 | 2.52 | 18 | 9.5 | 90 |
| CM252016-470KL | 47 | ±10 % | 20 | 2.52 | 17 | 11.0 | 80 |
| CM252016-560KL | 56 | ±10 % | 20 | 2.52 | 16 | 12.1 | 75 |
| CM252016-680KL | 68 | ±10 % | 20 | 2.52 | 15 | 16.6 | 70 |
| CM252016-820KL | 82 | ±10 % | 20 | 2.52 | 13 | 19.0 | 65 |
| CM252016-101KL | 100 | ±10 % | 15 | 0.796 | 12 | 21.0 | 60 |

Tighter tolerance available on request. Consult factory.

NOTE: 10 nH to 180 nH 'air core' / 220 nH to 220 uH 'ferrite core'

Specifications are subject to change without notice.

Customers should verify actual device performance in their specific applications.

Chip Inductors - CM201212 Series Wirewound

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| RoHS Compliant 0805 Size Part Number | Inductance μH | Tolerance | Q min. | Test Frequency MHz | SRF min. MHz | RDC ohm max | IDC mA max |
|--|------------------|-----------|-----------|-----------------------|-----------------|----------------|---------------|
| CM201212-10NKL | 0.010 | ±10 % | 10 | 100 | 3300 | 0.20 | 540 |
| CM201212-12NKL | 0.012 | ±10 % | 10 | 100 | 3300 | 0.23 | 535 |
| CM201212-15NKL | 0.015 | ±10 % | 12 | 100 | 3000 | 0.25 | 520 |
| CM201212-18NKL | 0.018 | ±10 % | 12 | 100 | 3000 | 0.27 | 480 |
| CM201212-22NKL | 0.022 | ±10 % | 15 | 100 | 2600 | 0.29 | 465 |
| CM201212-27NKL | 0.027 | ±10 % | 15 | 100 | 2500 | 0.32 | 455 |
| CM201212-33NKL | 0.033 | ±10 % | 15 | 100 | 2000 | 0.37 | 395 |
| CM201212-39NKL | 0.039 | ±10 % | 15 | 100 | 2000 | 0.38 | 390 |
| CM201212-47NKL | 0.047 | ±10 % | 15 | 100 | 1600 | 0.42 | 385 |
| CM201212-56NKL | 0.056 | ±10 % | 15 | 100 | 1500 | 0.45 | 360 |
| CM201212-68NKL | 0.068 | ±10 % | 15 | 100 | 1400 | 0.52 | 340 |
| CM201212-82NKL | 0.082 | ±10 % | 15 | 100 | 1100 | 0.60 | 330 |
| CM201212-R10KL | 0.10 | ±10 % | 8 | 25.2 | 800 | 0.78 | 285 |
| CM201212-R12KL | 0.12 | ±10 % | 8 | 25.2 | 600 | 0.99 | 275 |
| CM201212-R15KL | 0.15 | ±10 % | 10 | 25.2 | 600 | 1.47 | 230 |
| CM201212-R18KL | 0.18 | ±10 % | 10 | 25.2 | 600 | 1.61 | 195 |
| CM201212-R22KL | 0.22 | ±10 % | 10 | 25.2 | 500 | 1.84 | 170 |
| CM201212-R27KL | 0.27 | ±10 % | 10 | 25.2 | 300 | 1.95 | 165 |
| CM201212-R33KL | 0.33 | ±10 % | 10 | 25.2 | 200 | 2.16 | 160 |
| CM201212-R39KL | 0.39 | ±10 % | 10 | 25.2 | 150 | 2.35 | 150 |
| CM201212-R47KL | 0.47 | ±10 % | 10 | 25.2 | 150 | 2.57 | 145 |
| CM201212-R56KL | 0.56 | ±10 % | 10 | 25.2 | 100 | 2.65 | 140 |
| CM201212-R68KL | 0.68 | ±10 % | 10 | 25.2 | 100 | 2.99 | 130 |
| CM201212-R82KL | 0.82 | ±10 % | 10 | 25.2 | 80 | 3.35 | 125 |
| CM201212-1R0KL | 1.0 | ±10 % | 8 | 7.96 | 80 | 3.82 | 120 |

Tighter tolerance available on request. Consult factory.