

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*



The CM10 & CM16 series are currently available but not recommended for new designs. The **CI100505**, **CI160808**, **CW100505** and **CW160808** are possible alternatives.

CM45, CM16, CM10 SMT Chip Inductors

General Specifications

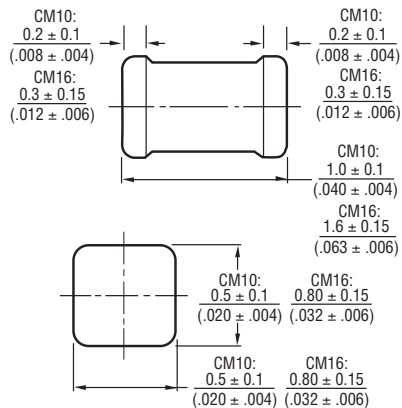
| | | |
|------------------------------------|------------------------|-------------------|
| Temperature Rise | CM10, CM16, CM45 | 20 °C max. |
| Ambient Temperature | CM10, CM16 | 80 °C max. |
| | CM45 | 100 °C max. |
| Operating Temperature | CM10, CM16 | -40 °C to +100 °C |
| | CM45 | -40 °C to +125 °C |
| Storage Temperature | CM10, CM16 | -40 °C to +100 °C |
| | CM45 | -40 °C to +125 °C |
| Resistance to Soldering Heat | | 260 °C, 5 seconds |

Materials

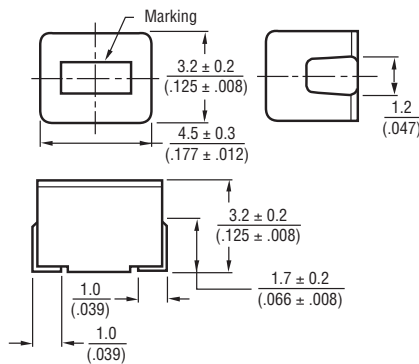
| | | |
|----------------|------------------|-----------------|
| Core Material | CM10, CM16 | Alumina ceramic |
| | CM45 | Ferrite Core |
| Coil Type | CM10, CM16 | Copper plating |
| | CM45 | Copper wire |
| Enclosure | CM10, CM16 | Resin |
| | CM45 | Epoxy resin |
| Terminal | | Sn |

Product Dimensions

CM100505, CM160808

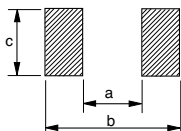


CM453232



DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

Recommended Land Pattern Dimensions



| Series | a | b | c |
|--------|---------------------------|---------------------------|---------------------------|
| CM10 | 0.5 to 0.6 (.019 to .023) | 1.5 to 1.7 (.059 to .067) | 0.5 to 0.6 (.019 to .023) |
| CM16 | 0.8 to 1.0 (.032 to .039) | 2.0 to 2.6 (.079 to .102) | 0.7 to 0.9 (.028 to .035) |
| CM45 | 2.0 to 2.4 (.079 to .094) | 5.0 to 5.3 (.197 to .209) | 1.4 to 1.7 (.055 to .067) |

*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

Specifications are subject to change without notice.

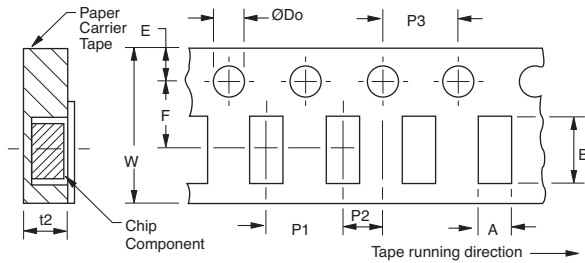
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CM45, CM16, CM10 SMT Chip Inductors

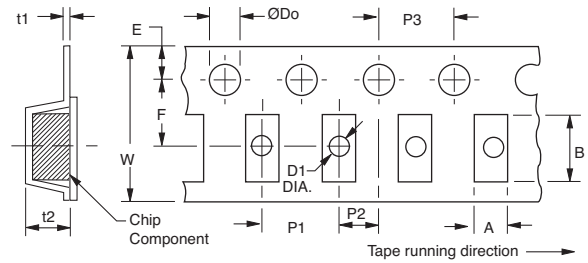
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Packaging Specifications

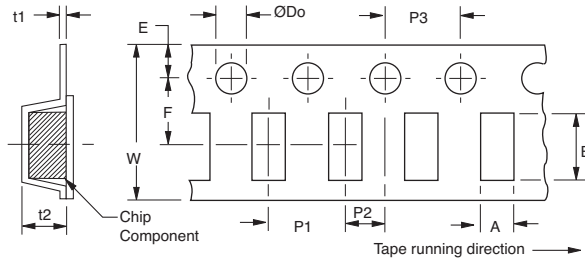
CM100505



CM160808



CM453232



DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

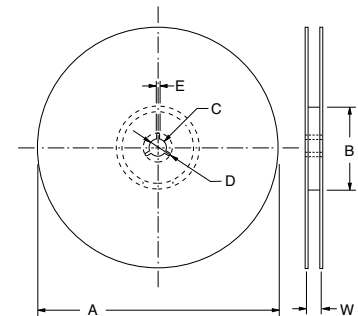
| Series | A | B | W | F | E | P1 | P2 | P3 | D0 Dia. | D1 Dia. | t1 | t2 |
|--------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| CM10 | 0.71 (.027) | 1.21 (.047) | 8.00 (.315) | 3.50 (.138) | 1.75 (.069) | 4.00 (.157) | 2.00 (.079) | 4.00 (.157) | 1.50 (.059) | -- | -- | 0.66 (.026) |
| CM16 | 1.00 (.039) | 1.80 (.071) | 8.00 (.315) | 3.50 (.138) | 1.75 (.069) | 4.00 (.157) | 2.00 (.079) | 4.00 (.157) | 1.50 (.059) | 0.60 (.024) | 0.27 (.011) | 1.20 (.047) |
| CM45 | 3.60 (.142) | 4.90 (.193) | 12.00 (.472) | 5.50 (.217) | 1.75 (.069) | 8.00 (.315) | 2.00 (.079) | 4.00 (.157) | 1.50 (.059) | 1.00 (.039) | 0.25 (.010) | 3.50 (.138) |

Reel Dimensions

| Series | A | B | C | D | E | W |
|------------|-------------|---------|-----------|-----------|----------|-----------|
| CM10, CM16 | 178 (7.008) | 60 min. | 13 (.512) | 21 (.827) | 2 (.079) | 9 (.354) |
| CM45 | | | | | | 13 (.512) |

Packaging

| Series | Quantity | Weight |
|--------|-------------|--------|
| CM10 | 10,000 pcs. | 150 g |
| CM16 | 3,000 pcs. | 90 g |
| CM45 | 500 pcs. | 100 g |



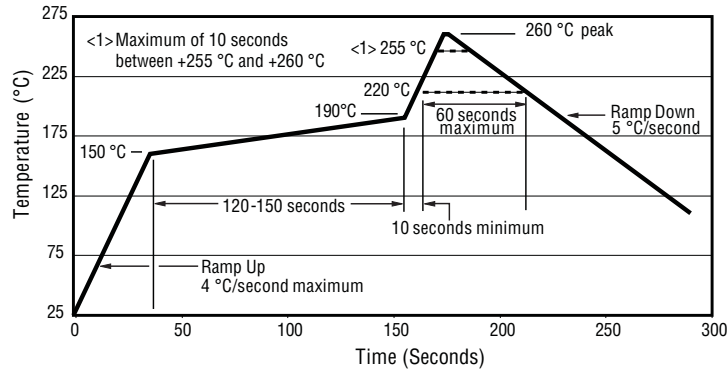
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CM45, CM16, CM10 SMT Chip Inductors

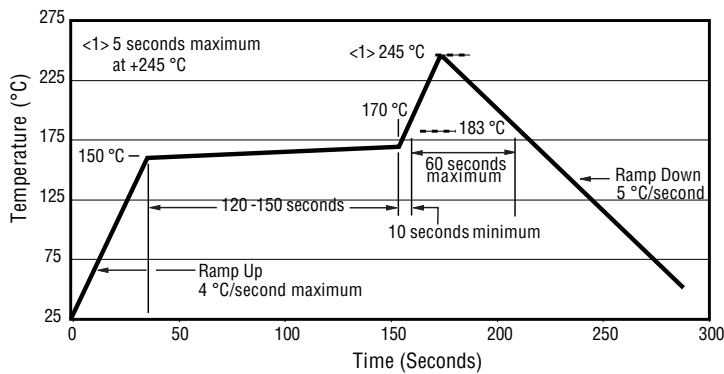
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Soldering Profiles

CM100505, CM160808



CM453232



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CM45, CM16, CM10 SMT Chip Inductors

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| RoHS Compliant 0402 Size Part Number | Inductance nH | Tolerance | Q min. | Test Frequency MHz | SRF min. MHz | RDC ohm max | IDC mA max |
|--|------------------|-----------|-----------|-----------------------|-----------------|----------------|---------------|
| CM100505-1N0DL | 1.00 | ±0.3 nH | 8 | 100 | 6000 | 0.05 | 400 |
| CM100505-1N2DL | 1.20 | ±0.3 nH | 8 | 100 | 6000 | 0.06 | 400 |
| CM100505-1N5DL | 1.50 | ±0.3 nH | 8 | 100 | 6000 | 0.07 | 400 |
| CM100505-1N8DL | 1.80 | ±0.3 nH | 8 | 100 | 6000 | 0.08 | 400 |
| CM100505-2N2DL | 2.20 | ±0.3 nH | 8 | 100 | 6000 | 0.09 | 400 |
| CM100505-2N7DL | 2.70 | ±0.3 nH | 8 | 100 | 5500 | 0.10 | 400 |
| CM100505-3N3DL | 3.30 | ±0.3 nH | 8 | 100 | 5500 | 0.12 | 400 |
| CM100505-3N9DL | 3.90 | ±0.3 nH | 8 | 100 | 5200 | 0.15 | 360 |
| CM100505-4N7DL | 4.70 | ±0.3 nH | 8 | 100 | 4800 | 0.17 | 360 |
| CM100505-5N6DL | 5.60 | ±0.3 nH | 8 | 100 | 4600 | 0.19 | 340 |
| CM100505-6N8JL | 6.80 | ± 5 % | 8 | 100 | 4000 | 0.30 | 320 |
| CM100505-8N2JL | 8.20 | ± 5 % | 8 | 100 | 3500 | 0.35 | 320 |
| CM100505-10NJL | 10.00 | ± 5 % | 8 | 100 | 2800 | 0.41 | 320 |
| CM100505-12NJL | 12.00 | ± 5 % | 8 | 100 | 2800 | 0.45 | 320 |
| CM100505-15NJL | 15.00 | ± 5 % | 8 | 100 | 2500 | 0.60 | 240 |
| CM100505-18NJL | 18.00 | ± 5 % | 8 | 100 | 2200 | 0.70 | 240 |
| CM100505-22NJL | 22.00 | ± 5 % | 8 | 100 | 2000 | 0.80 | 200 |
| CM100505-27NJL | 27.00 | ± 5 % | 8 | 100 | 1800 | 1.2 | 200 |
| CM100505-33NJL | 33.00 | ± 5 % | 8 | 100 | 1800 | 1.4 | 170 |
| CM100505-39NJL | 39.00 | ± 5 % | 8 | 100 | 1800 | 1.7 | 150 |
| CM100505-47NJL | 47.00 | ± 5 % | 8 | 100 | 1800 | 2.1 | 140 |
| CM100505-56NJL | 56.00 | ± 5 % | 8 | 100 | 1500 | 2.5 | 130 |
| CM100505-68NJL | 68.00 | ± 5 % | 8 | 100 | 1500 | 4.0 | 120 |
| CM100505-82NJL | 82.00 | ± 5 % | 8 | 100 | 1400 | 4.5 | 110 |
| CM100505-R10JL | 100.00 | ± 5 % | 8 | 100 | 1200 | 5.5 | 90 |

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CM45, CM16, CM10 SMT Chip Inductors

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| RoHS Compliant 0603 Size Part Number | Inductance nH | Tolerance | Q min. | Test Frequency MHz | SRF min. MHz | RDC ohm max | IDC mA max |
|--|------------------|-----------|-----------|-----------------------|-----------------|----------------|---------------|
| CM160808-1N5DL | 1.5 | ± 0.3 nH | 8 | 100 | 6000 | 0.07 | 500 |
| CM160808-1N8DL | 1.8 | ± 0.3 nH | 8 | 100 | 6000 | 0.08 | 500 |
| CM160808-2N2DL | 2.2 | ± 0.3 nH | 8 | 100 | 6000 | 0.09 | 500 |
| CM160808-2N7DL | 2.7 | ± 0.3 nH | 8 | 100 | 6000 | 0.10 | 500 |
| CM160808-3N3DL | 3.3 | ± 0.3 nH | 9 | 100 | 5500 | 0.12 | 500 |
| CM160808-3N9JL | 3.9 | ±5 % | 9 | 100 | 5500 | 0.15 | 450 |
| CM160808-4N7JL | 4.7 | ±5 % | 9 | 100 | 4800 | 0.17 | 450 |
| CM160808-5N6JL | 5.6 | ±5 % | 9 | 100 | 4600 | 0.18 | 430 |
| CM160808-6N8JL | 6.8 | ±5 % | 9 | 100 | 3550 | 0.20 | 430 |
| CM160808-8N2JL | 8.2 | ±5 % | 9 | 100 | 3500 | 0.28 | 400 |
| CM160808-10NJL | 10 | ±5 % | 10 | 100 | 2800 | 0.32 | 400 |
| CM160808-12NJL | 12 | ±5 % | 10 | 100 | 2800 | 0.35 | 400 |
| CM160808-15NJL | 15 | ±5 % | 10 | 100 | 2500 | 0.41 | 350 |
| CM160808-18NJL | 18 | ±5 % | 10 | 100 | 2300 | 0.45 | 350 |
| CM160808-22NJL | 22 | ±5 % | 10 | 100 | 2000 | 0.50 | 300 |
| CM160808-27NJL | 27 | ±5 % | 10 | 100 | 2000 | 0.55 | 300 |
| CM160808-33NJL | 33 | ±5 % | 10 | 100 | 1800 | 0.60 | 300 |
| CM160808-39NJL | 39 | ±5 % | 11 | 100 | 1800 | 0.80 | 300 |
| CM160808-47NJL | 47 | ±5 % | 11 | 100 | 1800 | 0.95 | 250 |
| CM160808-56NJL | 56 | ±5 % | 12 | 100 | 1800 | 1.2 | 250 |
| CM160808-68NJL | 68 | ±5 % | 12 | 100 | 1500 | 1.3 | 250 |
| CM160808-82NJL | 82 | ±5 % | 12 | 100 | 1500 | 1.5 | 250 |
| CM160808-R10JL | 100 | ±5 % | 12 | 100 | 1300 | 1.8 | 200 |
| CM160808-R12JL | 120 | ±5 % | 5 | 25.2 | 1200 | 3.0 | 130 |
| CM160808-R15JL | 150 | ±5 % | 5 | 25.2 | 1100 | 4.5 | 100 |
| CM160808-R18JL | 180 | ±5 % | 4 | 25.2 | 1000 | 6.5 | 80 |
| CM160808-R22JL | 220 | ±5 % | 4 | 25.2 | 900 | 7.5 | 70 |

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CM45, CM16, CM10 SMT Chip Inductors

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| RoHS Compliant 1812 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 |
|--|------------------|-------------------|-------------------|------------------|------------------|-----------|-------------------|-----------------|----------------|---------------|
| CM453232-R10<1>L | 0.10 | ±20 % | M | ±10 % | K | 35 | 25.2 | 300 | 0.18 | 800 |
| CM453232-R12<1>L | 0.12 | ±20 % | M | ±10 % | K | 35 | 25.2 | 280 | 0.2 | 770 |
| CM453232-R15<1>L | 0.15 | ±20 % | M | ±10 % | K | 35 | 25.2 | 250 | 0.22 | 730 |
| CM453232-R18<1>L | 0.18 | ±20 % | M | ±10 % | K | 35 | 25.2 | 220 | 0.24 | 700 |
| CM453232-R22<1>L | 0.22 | ±20 % | M | ±10 % | K | 40 | 25.2 | 200 | 0.25 | 665 |
| CM453232-R27<1>L | 0.27 | ±20 % | M | ±10 % | K | 40 | 25.2 | 180 | 0.26 | 635 |
| CM453232-R33<1>L | 0.33 | ±20 % | M | ±10 % | K | 40 | 25.2 | 165 | 0.28 | 605 |
| CM453232-R39<1>L | 0.39 | ±20 % | M | ±10 % | K | 40 | 25.2 | 150 | 0.30 | 575 |
| CM453232-R47<1>L | 0.47 | ±20 % | M | ±10 % | K | 40 | 25.2 | 145 | 0.32 | 545 |
| CM453232-R56<1>L | 0.56 | ±20 % | M | ±10 % | K | 40 | 25.2 | 140 | 0.36 | 520 |
| CM453232-R68<1>L | 0.68 | ±20 % | M | ±10 % | K | 40 | 25.2 | 135 | 0.40 | 500 |
| CM453232-R82<1>L | 0.82 | ±20 % | M | ±10 % | K | 40 | 25.2 | 130 | 0.45 | 475 |
| CM453232-1R0<1>L | 1.0 | ±10 % | K | ±5 % | J | 50 | 7.96 | 100 | 0.50 | 450 |
| CM453232-1R2<1>L | 1.2 | ±10 % | K | ±5 % | J | 50 | 7.96 | 80 | 0.55 | 430 |
| CM453232-1R5<1>L | 1.5 | ±10 % | K | ±5 % | J | 50 | 7.96 | 70 | 0.60 | 410 |
| CM453232-1R8<1>L | 1.8 | ±10 % | K | ±5 % | J | 50 | 7.96 | 60 | 0.65 | 390 |
| CM453232-2R2<1>L | 2.2 | ±10 % | K | ±5 % | J | 50 | 7.96 | 55 | 0.70 | 380 |
| CM453232-2R7<1>L | 2.7 | ±10 % | K | ±5 % | J | 50 | 7.96 | 50 | 0.75 | 370 |
| CM453232-3R3<1>L | 3.3 | ±10 % | K | ±5 % | J | 50 | 7.96 | 45 | 0.80 | 355 |
| CM453232-3R9<1>L | 3.9 | ±10 % | K | ±5 % | J | 50 | 7.96 | 40 | 0.90 | 330 |
| CM453232-4R7<1>L | 4.7 | ±10 % | K | ±5 % | J | 50 | 7.96 | 35 | 1.00 | 315 |
| CM453232-5R6<1>L | 5.6 | ±10 % | K | ±5 % | J | 50 | 7.96 | 33 | 1.10 | 300 |
| CM453232-6R8<1>L | 6.8 | ±10 % | K | ±5 % | J | 50 | 7.96 | 27 | 1.2 | 285 |
| CM453232-8R2<1>L | 8.2 | ±10 % | K | ±5 % | J | 50 | 7.96 | 25 | 1.4 | 270 |
| CM453232-100<1>L | 10 | ±10 % | K | ±5 % | J | 50 | 2.52 | 20 | 1.6 | 250 |
| CM453232-120<1>L | 12 | ±10 % | K | ±5 % | J | 50 | 2.52 | 18 | 2 | 225 |
| CM453232-150<1>L | 15 | ±10 % | K | ±5 % | J | 50 | 2.52 | 17 | 2.5 | 200 |
| CM453232-180<1>L | 18 | ±10 % | K | ±5 % | J | 50 | 2.52 | 15 | 2.8 | 190 |
| CM453232-220<1>L | 22 | ±10 % | K | ±5 % | J | 50 | 2.52 | 13 | 3.2 | 180 |
| CM453232-270<1>L | 27 | ±10 % | K | ±5 % | J | 50 | 2.52 | 12 | 3.6 | 170 |
| CM453232-330<1>L | 33 | ±10 % | K | ±5 % | J | 50 | 2.52 | 11 | 4 | 160 |
| CM453232-390<1>L | 39 | ±10 % | K | ±5 % | J | 50 | 2.52 | 10 | 4.5 | 150 |
| CM453232-470<1>L | 47 | ±10 % | K | ±5 % | J | 50 | 2.52 | 10 | 5 | 140 |
| CM453232-560<1>L | 56 | ±10 % | K | ±5 % | J | 50 | 2.52 | 9 | 5.5 | 135 |
| CM453232-680<1>L | 68 | ±10 % | K | ±5 % | J | 50 | 2.52 | 9 | 6 | 130 |
| CM453232-820<1>L | 82 | ±10 % | K | ±5 % | J | 50 | 2.52 | 8 | 7 | 120 |
| CM453232-101<1>L | 100 | ±10 % | K | ±5 % | J | 40 | 2.52 | 8 | 8 | 110 |
| CM453232-121<1>L | 120 | ±10 % | K | ±5 % | J | 40 | 0.796 | 6 | 8 | 110 |
| CM453232-151<1>L | 150 | ±10 % | K | ±5 % | J | 40 | 0.796 | 5 | 9 | 105 |
| CM453232-181<1>L | 180 | ±10 % | K | ±5 % | J | 40 | 0.796 | 5 | 9.5 | 102 |
| CM453232-221<1>L | 220 | ±10 % | K | ±5 % | J | 40 | 0.796 | 4 | 10 | 100 |
| CM453232-271<1>L | 270 | ±10 % | K | ±5 % | J | 40 | 0.796 | 4 | 12 | 92 |
| CM453232-331<1>L | 330 | ±10 % | K | ±5 % | J | 40 | 0.796 | 3.5 | 14 | 85 |
| CM453232-391<1>L | 390 | ±10 % | K | ±5 % | J | 40 | 0.796 | 3 | 18 | 80 |
| CM453232-471<1>L | 470 | ±10 % | K | ±5 % | J | 40 | 0.796 | 3 | 26 | 62 |
| CM453232-561<1>L | 560 | ±10 % | K | ±5 % | J | 30 | 0.796 | 3 | 30 | 50 |
| CM453232-681<1>L | 680 | ±10 % | K | ±5 % | J | 30 | 0.796 | 3 | 30 | 50 |
| CM453232-821<1>L | 820 | ±10 % | K | ±5 % | J | 30 | 0.796 | 2.5 | 35 | 30 |
| CM453232-102<1>L | 1000 | ±10 % | K | ±5 % | J | 30 | 0.252 | 2.5 | 40 | 30 |

<1> Enter tolerance code from standard or 1/2 tolerance column. Example: CM453232-1R2KL is standard tolerance; CM453232-1R2JL is 1/2 tolerance.

REV. 07/15

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