



American Accurate Components, Inc

196 Technology Dr. Ste E, Irvine, CA 92618, U.S.A

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HOW TO ORDER

CR 10 - 1003 F M

Packaging

M = 7" Reel O = Cutting Tape
B = Bulk K = Sample Kit

Tolerance (%)

F = ±1 G = ±0.5 J = ±5 D = ±0.1

EIA Resistance Value

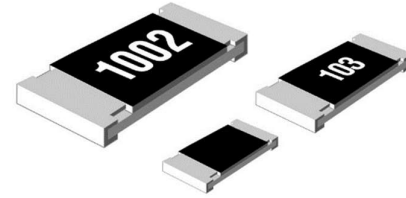
Standard Decade Values

Size

| | | | |
|----------|------------|---------|---------|
| 01005=00 | 0201=20 | 0402=05 | 0603=16 |
| 0805=10 | 1206=18 | 1210=14 | 2010=12 |
| 2512=01 | 2512-P=01P | | |

Series

CJ=Jumper CR = Resistor

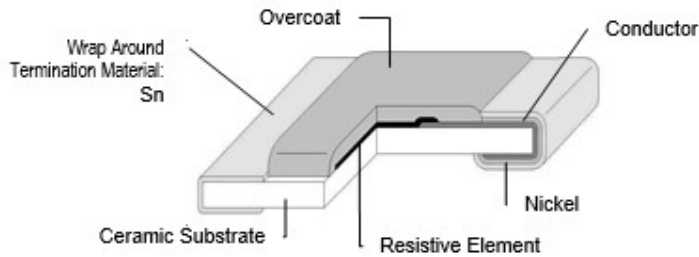
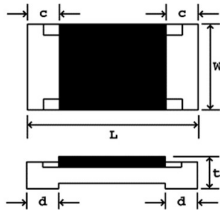


FEATURES

- Excellent stability over a wide range of environmental conditions
- Small size to 01005
- RoHS Compliance 2011/65/EU

SCHEMATIC

Wrap Around Terminal



DIMENSIONS (MM)

| Size | Size Code | L | W | c | d | t |
|--------|-----------|-----------------|-------------|-------------|------------------|-------------|
| 01005 | 00 | 0.40 ± 0.03 | 0.20 ± 0.03 | 0.10 ± 0.05 | 0.10 ± 0.05 | 0.13 ± 0.05 |
| 0201 | 20 | 0.60 ± 0.03 | 0.30 ± 0.03 | 0.10 ± 0.05 | 0.15 ± 0.05 | 0.25 ± 0.05 |
| 0402 | 05 | 1.00 ± 0.1-0.05 | 0.50 ± 0.05 | 0.20 ± 0.10 | 0.25 ± 0.10 | 0.32 ± 0.05 |
| 0603 | 16 | 1.60 ± 0.10 | 0.80 ± 0.10 | 0.30 ± 0.20 | 0.30 ± 0.20-0.10 | 0.45 ± 0.10 |
| 0805 | 10 | 2.00 ± 0.10 | 1.25 ± 0.10 | 0.40 ± 0.20 | 0.40 ± 0.20 | 0.50 ± 0.10 |
| 1206 | 18 | 3.10 ± 0.10 | 1.55 ± 0.10 | 0.50 ± 0.30 | 0.40 ± 0.20 | 0.55 ± 0.10 |
| 1210 | 14 | 3.10 ± 0.10 | 2.55 ± 0.10 | 0.50 ± 0.30 | 0.40 ± 0.20 | 0.60 ± 0.10 |
| 2010 | 12 | 5.00 ± 0.15 | 2.50 ± 0.15 | 0.60 ± 0.30 | 0.50 ± 0.25 | 0.60 ± 0.10 |
| 2512 | 01 | 6.30 ± 0.20 | 3.20 ± 0.20 | 0.60 ± 0.30 | 0.50 ± 0.25 | 0.60 ± 0.10 |
| 2512-P | 01P | 6.30 ± 0.20 | 3.20 ± 0.20 | 0.60 ± 0.30 | 0.50 ± 0.25 | 0.60 ± 0.10 |

ELECTRICAL SPECIFICATIONS FOR CHIP RESISTORS

| Size | 01005 | 0201 | 0402 | 0603 | 0805 |
|------------------------|-------|-------|-------|-------|------|
| Power Rating (EIA 575) | 1/32W | 1/20W | 1/16W | 1/10W | 1/8W |
| Max. Working Voltage* | 15V | 25V | 50V | 50V | 150V |
| Max. Overload Voltage | 30V | 50V | 100V | 100V | 300V |
| Operating Temp. | 70°C | 70°C | 70°C | 70°C | 70°C |

| Size | 1206 | 1210 | 2010 | 2512 |
|------------------------|------|------|------|------|
| Power Rating (EIA 575) | 1/4W | 1/3W | 1/2W | 1W |
| Max. Working Voltage* | 200V | 200V | 200V | 200V |
| Max. Overload Voltage | 400V | 400V | 400V | 400V |
| Operating Temp. | 70°C | 70°C | 70°C | 70°C |



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| Size | TCR (ppm/°C) | Tolerance (%) and Resistance | | | |
|-------|--------------|------------------------------|------------------------------|----------------------------|------------------------|
| | | D(±0.1%) & E-96 & E-24 | G(±0.5%) & E-96 & E-24 | F(±1%) & E-96 & E-24 | J(±5%) & E-24 |
| 01005 | ± 300 | | | 10Ω≤R<100Ω | 10Ω≤R<100Ω |
| | ± 200 | | | 100Ω≤R<1MΩ | 100Ω≤R<1MΩ |
| 0201 | ±200 | | 100Ω-10KΩ | 10Ω-2MΩ | 10Ω-10MΩ |
| | +600 -200 | | | 1Ω-9.1Ω | 1Ω-9.1Ω |
| 0402 | ±100 | 100Ω-499KΩ | 100Ω-1MΩ | 100Ω-1MΩ | |
| | ±200 | 10Ω-100Ω | 10Ω-100Ω | 10Ω≤R<100Ω 1MΩ<R≤10MΩ | 10Ω-10MΩ |
| | +500 -200 | | | 1Ω-9.1Ω | 1Ω-9.1Ω |
| | ±400 | | | | 10MΩ≤R≤20MΩ |
| 0603 | ±100 | 10Ω-560kΩ | 10Ω-1MΩ | 10Ω-1MΩ | |
| | ±200 | | | 1M<R≤10MΩ | 10Ω-10MΩ |
| | ±400 | | | 1Ω-9.1Ω | 1Ω-9.1Ω 10MΩ<R≤20MΩ |
| 0805 | ±100 | 10Ω-560kΩ | 10Ω-1MΩ | 10Ω-1MΩ | |
| | ±200 | | | 1M<R≤10MΩ | 10Ω-10MΩ |
| | ±400 | | | 1Ω-9.1Ω | 1Ω-9.1Ω 10MΩ<R≤20MΩ |
| 1206 | ±100 | 10Ω-560kΩ | 10Ω-1MΩ | 10Ω-1MΩ | |
| | ±200 | | | 1M<R≤10MΩ | 10Ω-10MΩ |
| | ±400 | | | 1Ω-9.1Ω | 1Ω-9.1Ω 10MΩ<R≤20MΩ |
| 1210 | ±100 | 10Ω-560kΩ | 10Ω-1MΩ | 10Ω-1MΩ | |
| | ±200 | | | 1M<R≤10MΩ | 10Ω-10MΩ |
| | ±400 | | | 1Ω-9.1Ω | 1Ω-9.1Ω 10MΩ<R≤20MΩ |
| 2010 | ±100 | 10Ω-560kΩ | 10Ω-1MΩ | 10Ω-1MΩ | |
| | ±200 | | | 1M<R≤10MΩ | 10Ω-10MΩ |
| | ±400 | | | 1Ω-9.1Ω | 1Ω-9.1Ω 10MΩ<R≤20MΩ |
| 2512 | ±100 | 10Ω-560kΩ | 10Ω-1MΩ | 10Ω-1MΩ | |
| | ±200 | | | 1M<R≤10MΩ | 10Ω-10MΩ |
| | ±400 | | | 1Ω-9.1Ω | 1Ω-9.1Ω 10MΩ<R≤20MΩ |

* Rated Voltage: $\sqrt{P \times R}$

ELECTRICAL SPECIFICATIONS for ZERO OHM JUMPERS

| Series | CJ20 (0201) | CJ05 (0402) | CJ06 (0603) | CJ10 (0805) |
|-----------------------|----------------|----------------|----------------|----------------|
| Rated Current | 0.5A (70°C) | 1A (70°C) | 1A (70°C) | 2A (70°C) |
| Resistance (Max) | 50 m Ω | 50 m Ω | 50 m Ω | 50 m Ω |
| Max. Overload Current | 1A | 2.5A | 2.5A | 5A |
| Working Temp. | -55°C ~ +125°C | -55°C ~ +155°C | -55°C ~ +155°C | -55°C ~ +155°C |

| Series | CJ18 (1206) | CJ14 (1210) | CJ12 (2010) | CJ01 (2512) |
|-----------------------|----------------|----------------|----------------|----------------|
| Rated Current | 2A (70°C) | 2A (70°C) | 2A (70°C) | 2A (70°C) |
| Resistance (Max) | 50 m Ω | 50 m Ω | 50 m Ω | 50 m Ω |
| Max. Overload Current | 5A | 5A | 5A | 5A |
| Working Temp. | -55°C ~ +155°C | -55°C ~ +155°C | -55°C ~ +155°C | -55°C ~ +155°C |

* Rated Voltage: $\sqrt{P \times R}$



RELIABILITY TESTS

| Test Items | Reference standard | Condition of Test | Test Limits ΔR |
|---|---|---|---|
| Temperature Coefficient of Resistance | IEC60115-1-4.8 JIS-C5201-1-4.8 | -55~+125 °C | Refer to page 2 |
| Short Time Overload | IEC60115-1-4.13 JIS-C5201-1-4.13 | 2.5 X rate voltage for 5 sec | ±(1% + 0.05Ω) Remarks: 01005, 0201 : ±(3% + 0.1Ω) 0402 : ±(2% + 0.1Ω) 0Ω : 50mΩ or less |
| Intermittent Overload | IEC60115-1-4.39 JIS-C5201-1-4.39 | 3.0 X rated voltage or Max Overloading voltage, 1sec "ON", 25sec "OFF", 10000 cycles Remarks: 0201-NA, 0402 2.5 X RCWV*) | ±(5.0% + 0.1Ω) 0Ω : 50mΩ or less |
| Endurance (Load Life) | IEC60115-1-4.25.1 JIS-C5201-1-4.25.1 | 1000 hours at rated voltage, 70°C, 1.5hours "ON", 0.5hour "OFF" | 0.1%, 0.5%, 1% : ±(1.0% + 0.05Ω) 2%, 5% : ±(3.0%+ 0.1Ω) Remarks: 01005, 0201 : ±(5% + 0.1Ω) 0402 : ±(3% + 0.1Ω) 0Ω : 100mΩ or less |
| Load Life with Humidity | IEC60115-1-4.24 JIS-C5201-1-4.24 | 1000 hours at rated voltage, 40±2°C, 90~95% RH 1.5hours "ON", 0.5hour "OFF" | 0.1%, 0.5%, 1% : ±(1.0% + 0.05Ω) 2%, 5% : ±(3.0%+ 0.1Ω) Remarks: 01005, 0201 : ±(5.0% + 0.1Ω) 0402 : ±(3.0% + 0.1Ω) 0Ω : 100mΩ or less |
| Rapid Change of Temperature | IEC60115-1-4.19 JIS-C5201-1-4.19 | -55°C (30 min.) / +155°C (30 min.) 5 cycles | 0.1%, 0.5%, 1% : ±(0.5% + 0.05Ω) 2%, 5% : ±(1.0%+0.05Ω) Remarks: 01005, 0201 : ±(3% + 0.1Ω) 0Ω : 50mΩ or less |
| Solderability | IEC60115-1-4.17 JIS-C5201-1-4.17 | 245±5°C solder, 2±0.5 sec dwell. Solder: Sn96.5 / Ag3.0 / Cu0.5 | At least 95% of surface area of electrode shall be covered with new solder |
| Robustness of Termination (Bending) | IEC60115-1-4.33 JIS-C5201-1-4.33 | 3mm deflection 2mm deflection (CR01 CR12) | 0.1%, 0.5%, 1% : ±(0.5% + 0.05Ω) 2%, 5% : ±(1.0%+0.05Ω) Remarks: 01005, 0201 : ±(1.0% + 0.1Ω) 0Ω : 50mΩ or less |
| Dielectric Withstanding Voltage (Voltage Proof) | IEC60115-1-4.7 JIS-C5201-1-4.7 | Applying voltage: 0201: 50V, 0402 & 0603: 300V The other 500V for a minute | No abnormalities such as flashover, burning dielectric breakdown shall appear |
| Insulation Resistance | IEC60115-1-4.6 JIS-C5201-1-4.6 | Applying voltage 100V for 1 minute. Remark: 0201 50V | ≥ 1GΩ |
| Resistance to Dry Heat | IEC60115-1-4.23.2 JIS-C5201-1-4.23.2 | 155±5°C for 96±4hours Remark: 0201 125±5°C | 0.1%, 0.5%, 1% : ±(1.0% + 0.05Ω) 2%, 5% : ±(2.0% + 0.1Ω) Remarks: 01005, 0201 : ±(2.0% + 0.1Ω) 0Ω : 50mΩ or less |
| Resistance to Solder Heat | IEC60115-1-4.18 JIS-C5201-1-4.18 | 270±5°C solder, 10±1 sec dwell. | 0.1%, 0.5%, 1% : ±(0.5% + 0.05Ω) 2%, 5% : ±(1.0% + 0.05Ω) Remarks: 01005, 0201 : ±(3.0% + 0.1Ω) 0Ω : 50mΩ or less |

Note: RCWV: Rated continuous working voltage

DERATING CURVE

For resistors operated at ambient temperature over 70°, power rating shall be derated in accordance with figure

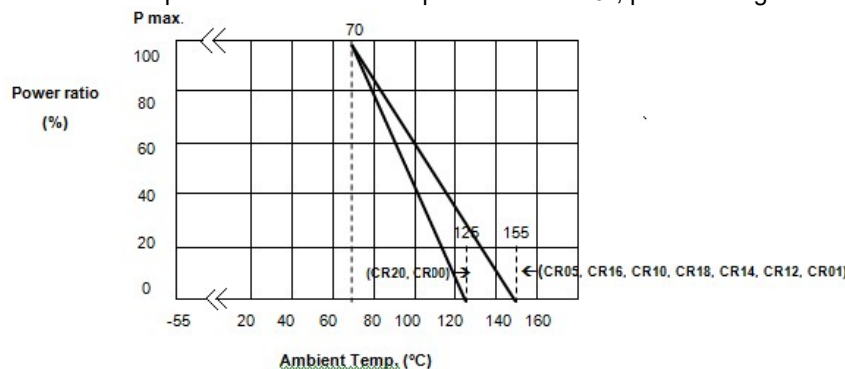


Figure 1



EIA Standard Values

| Decade Values in the EIA Standard E-24 Series: | | | | | |
|--|-----|-----|-----|-----|-----|
| 1.0 | 1.1 | 1.2 | 1.3 | 1.5 | 1.6 |
| 1.8 | 2.0 | 2.2 | 2.4 | 2.7 | 3.0 |
| 3.3 | 3.6 | 3.9 | 4.3 | 4.7 | 5.1 |
| 5.6 | 6.2 | 6.8 | 7.5 | 8.2 | 9.1 |

| Decade Values in the EIA Standard E-96 Series: | | | | | | |
|--|------|------|------|------|------|------|
| 1.00 | 2.10 | 4.22 | 8.25 | 16.9 | 32.4 | 59.0 |
| 1.02 | 2.15 | 4.32 | 8.45 | 17.4 | 33.0 | 60.4 |
| 1.05 | 2.20 | 4.42 | 8.56 | 17.8 | 33.2 | 61.9 |
| 1.07 | 2.21 | 4.53 | 8.87 | 18.0 | 34.0 | 62.0 |
| 1.10 | 2.26 | 4.64 | 9.09 | 18.2 | 34.8 | 63.4 |
| 1.13 | 2.32 | 4.70 | 9.31 | 18.7 | 35.7 | 64.9 |
| 1.15 | 2.37 | 4.75 | 9.53 | 19.1 | 36.0 | 65.5 |
| 1.18 | 2.43 | 4.87 | 9.76 | 19.6 | 36.5 | 68.0 |
| 1.21 | 2.49 | 4.99 | 10.0 | 20.0 | 37.4 | 68.1 |
| 1.24 | 2.56 | 5.11 | 10.2 | 20.5 | 38.3 | 69.8 |
| 1.27 | 2.61 | 5.23 | 10.5 | 21.0 | 39.0 | 71.5 |
| 1.30 | 2.67 | 5.36 | 10.7 | 21.5 | 39.2 | 73.2 |
| 1.33 | 2.74 | 5.49 | 11.0 | 22.0 | 40.2 | 75.0 |
| 1.37 | 2.80 | 5.60 | 11.3 | 22.1 | 41.2 | 76.8 |
| 1.40 | 2.87 | 5.62 | 11.5 | 22.6 | 42.2 | 78.7 |
| 1.43 | 2.94 | 5.76 | 11.8 | 23.2 | 43.0 | 80.6 |
| 1.47 | 3.00 | 5.90 | 12.0 | 23.7 | 43.2 | 82.0 |
| 1.50 | 3.01 | 6.04 | 12.1 | 24.0 | 44.2 | 82.5 |
| 1.54 | 3.09 | 6.19 | 12.4 | 24.3 | 45.3 | 84.5 |
| 1.58 | 3.16 | 6.20 | 12.7 | 24.9 | 46.4 | 86.6 |
| 1.62 | 3.24 | 6.34 | 13.0 | 25.5 | 47.0 | 88.7 |
| 1.65 | 3.32 | 6.49 | 13.3 | 26.1 | 47.5 | 90.9 |
| 1.69 | 3.40 | 6.65 | 13.7 | 26.7 | 48.7 | 91.0 |
| 1.74 | 3.48 | 6.80 | 14.0 | 27.0 | 49.9 | 93.1 |
| 1.78 | 3.57 | 6.81 | 14.3 | 27.4 | 51.0 | 95.3 |
| 1.80 | 3.65 | 6.98 | 14.7 | 28.0 | 51.1 | 97.6 |
| 1.82 | 3.74 | 7.15 | 15.0 | 28.7 | 52.3 | |
| 1.87 | 3.83 | 7.35 | 15.4 | 29.4 | 53.6 | |
| 1.91 | 3.90 | 7.50 | 15.8 | 30.0 | 54.9 | |
| 1.96 | 3.92 | 7.68 | 16.0 | 30.1 | 56.0 | |
| 2.00 | 4.02 | 7.87 | 16.2 | 30.9 | 56.2 | |
| 2.05 | 4.12 | 8.06 | 16.5 | 31.6 | 57.6 | |

Those items in a shaded box are also E-24 values and will be marked with the EIA 3 Digit Code.

VALUE MARKING

For those parts ordered with an E-24 value, the product will be marked with a 3 digit code. For those products ordered with an E-96 value, the product will be marked with a 4 digit code. For those parts which fall under E-96 and E-24 values (e.g. 1K ohm is both an E-96 and E-24 value), the part will be marked with a 3 digit code; 4 digit markings for this type is available upon special request.



01005, 0201, and 0402 Size
 No marking
 E-24 & E-96 Values



0603 Size
 EIA 96 Digit Code of 3.32K ohm
 E-96 Values



0603, 0805, 1206, 1210, 2010, 2512 Sizes
 EIA 3 Digit Code of 10K ohm resistor
 E-24 Values, E-96 Values



0805, 1206, 1210, 2010, 2512 Sizes
 EIA 4 Digit Code of 121K ohm resistor
 E-96 Values

0603 MARKING CODE for E96 VALUES

By combining a specific two-digit number and a letter code, you have a series of numeric/alpha digits that give you the complete (E96) resistance value codes for 0603 size part marking.

| Value | Code | Value | Code | Value | Code | Value | Code |
|-------|------|-------|------|-------|------|-------|------|
| 10.0 | 01 | 17.8 | 25 | 31.6 | 49 | 56.2 | 73 |
| 10.2 | 02 | 18.2 | 26 | 32.4 | 50 | 57.6 | 74 |
| 10.5 | 03 | 18.7 | 27 | 33.2 | 51 | 59.0 | 75 |
| 10.7 | 04 | 19.1 | 28 | 34.0 | 52 | 60.4 | 76 |
| 11.0 | 05 | 19.6 | 29 | 34.8 | 53 | 61.9 | 77 |
| 11.3 | 06 | 20.0 | 30 | 35.7 | 54 | 63.4 | 78 |
| 11.5 | 07 | 20.5 | 31 | 36.5 | 55 | 64.9 | 79 |
| 11.8 | 08 | 21.0 | 32 | 37.4 | 56 | 66.5 | 80 |
| 12.1 | 09 | 21.5 | 33 | 38.3 | 57 | 68.1 | 81 |
| 12.4 | 10 | 22.1 | 34 | 39.2 | 58 | 69.8 | 82 |
| 12.7 | 11 | 22.6 | 35 | 40.2 | 59 | 71.5 | 83 |
| 13.0 | 12 | 23.3 | 36 | 41.2 | 60 | 73.2 | 84 |
| 13.3 | 13 | 23.7 | 37 | 42.2 | 61 | 75.0 | 85 |
| 13.7 | 14 | 24.3 | 38 | 43.2 | 62 | 76.8 | 86 |
| 14.0 | 15 | 24.9 | 39 | 44.2 | 63 | 78.7 | 87 |
| 14.3 | 16 | 25.5 | 40 | 45.3 | 64 | 80.6 | 88 |
| 14.7 | 17 | 26.1 | 41 | 46.4 | 65 | 82.5 | 89 |
| 15.0 | 18 | 26.7 | 42 | 47.5 | 66 | 84.5 | 90 |
| 15.4 | 19 | 27.4 | 43 | 48.7 | 67 | 86.6 | 91 |
| 15.8 | 20 | 28.0 | 44 | 49.9 | 68 | 88.7 | 92 |
| 16.2 | 21 | 28.7 | 45 | 51.1 | 69 | 90.9 | 93 |
| 16.5 | 22 | 29.4 | 46 | 52.3 | 70 | 93.1 | 94 |
| 16.9 | 23 | 30.1 | 47 | 53.6 | 71 | 95.3 | 95 |
| 17.4 | 24 | 30.9 | 48 | 54.9 | 72 | 97.6 | 96 |

Letter Multiplier Cross Reference

A = 10 C = 1,000 E = 100,000 X = 1
 B = 100 D = 10,000 F = 1,000,000 Y = 0.1

0603 Code

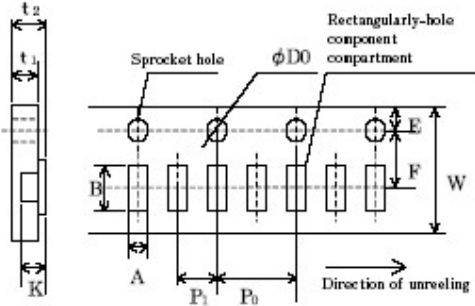
| Code | Explanation | Value |
|------|------------------------|------------------------|
| 01B | 01 = 10.0 & B = 100 | 10.0x100 = 1K Ω |
| 25C | 25 = 17.8 & C = 1,000 | 17.8x1,000 = 17.8K Ω |
| 93D | 93 = 90.9 & D = 10,000 | 90.9 x 10,000 = 909K Ω |

PACKAGE QUANTITY

| Type | 01005 | 0201 | 0402 | 0603 | 0805 |
|------|--------|--------|--------|--------|--------|
| B | | | | 25,000 | 10,000 |
| M | 15,000 | 10,000 | 10,000 | 5,000 | 5,000 |
| V | | 40,000 | 40,000 | 20,000 | 20,000 |

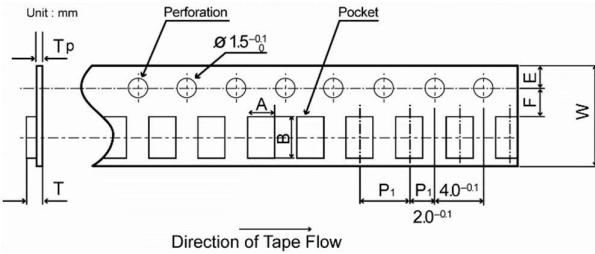
| Type | 1206 | 1210 | 2010 | 2512 |
|------|--------|--------|--------|--------|
| B | 5,000 | | | |
| M | 5,000 | 5,000 | 4,000 | 4,000 |
| V | 20,000 | 20,000 | 20,000 | 20,000 |

TAPE SCHEMATIC



01005 Size

| | | | | | |
|-----------|-----------|-----------|-----------|-----------|-----------|
| A | B | W | F | E | |
| 0.38±0.02 | 0.68±0.02 | 8.0±0.10 | 3.5±0.05 | 1.75±0.05 | |
| P1 | P0 | D0 | t1 | t2 | K |
| 2.0±0.05 | 4.0±0.10 | 1.55±0.03 | 0.42±0.05 | 0.5 | 0.27±0.02 |



0201 ~ 2512 Size

TAPE DIMENSIONS (mm)

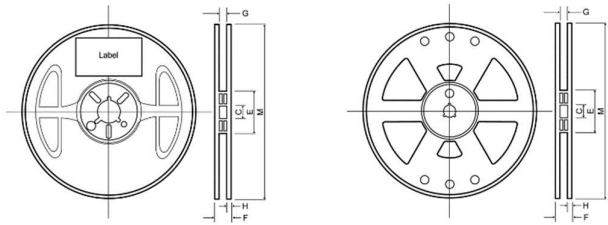
| | | | | |
|----------------|--------------------|-------------|-------------|-------------|
| | 0201 | 0402 | 0603 | 0805 |
| A | 0.37±0.05 | 0.65±0.1 | 1.1±0.2 | 1.65±0.2 |
| B | 0.67±0.1 | 1.15±0.1 | 1.9±0.2 | 2.4±0.2 |
| W | 8.0±0.2 | 8.0±0.2 | 8.0±0.2 | 8.0±0.2 |
| E | 1.75±0.1 | 1.75±0.10 | 1.75±0.1 | 1.75±0.1 |
| F | 3.5±0.05 | 3.5±0.05 | 3.5±0.05 | 3.5±0.05 |
| P ₁ | 2.0±0.1 | 2.0±0.05 | 4.0±0.1 | 4.0±0.1 |
| T | 0.5 _{max} | 0.55±0.1 | 0.70±0.1 | 0.90±0.1 |
| T _p | 0.4±0.05 | 0.40±0.05 | 0.60±0.1 | 0.75±0.1 |

| | | | | |
|----------------|-------------|-------------|-------------|-------------|
| | 1206 | 1210 | 2010 | 2512 |
| A | 2.0±0.15 | 2.9±0.1 | 2.9±0.1 | 3.4±0.1 |
| B | 3.6±0.15 | 3.5±0.1 | 5.3±0.1 | 6.6±0.1 |
| W | 8.0±0.2 | 8.0±0.2 | 12.0±0.2 | 12.0±0.2 |
| E | 1.75±0.1 | 1.75±0.1 | 1.75±0.1 | 1.75±0.1 |
| F | 3.5±0.05 | 3.5±0.05 | 5.5±0.05 | 5.5±0.05 |
| P ₁ | 4.0±0.1 | 4.0±0.1 | 4.0±0.1 | 4.0±0.1 |
| T | 0.90±0.1 | 0.90±0.1 | 1.0±0.1 | 1.0±0.1 |
| T _p | 0.75±0.1 | 0.75±0.1 | 0.25±0.1 | 0.25±0.1 |

TAPE

| Type | Resistor Size |
|-----------------------------------|------------------------------------|
| Press Pocket Carrier Tape | 01005 |
| Rect. Punching Carrier Paper Tape | 0201, 0402, 0603, 0805, 1206, 1210 |
| Plastic (Embossed Tape) | 2010 & 2512 |

REEL DRAWINGS



7" Reel (M)

13" Reel (V)

PACKAGE DIMENSIONS (mm)

| | | |
|---|--------------------|---------------------|
| | 7" Reel (M) | 13" Reel (V) |
| M | 180 ± 3.0 | 330±2.5 |
| H | 1.20 | 2.3± 0.5 |
| C | 13.0 ± 0.2 | 13.0 ± 0.2 |
| G | 9.0 ± 0.3 | 9.5 ± 0.5 |
| E | 60 ± 1.0 | 80.0 ± 1.0 |
| F | 11.4 ± 1.0 | 14.4 |

LABEL DESCRIPTION

One side surface of a reel is marked with a label with the following items of information.

1. Chip Resistor
2. Part Number
3. Tolerance
4. Quantity
5. Lot number for production month/year/suffix L*
6. Manufacturer's name or symbol

* The suffix "L" indicates that this item is lead free. As of September 2004, all new production items of the series CR and CJ are no longer containing tin/lead (SnPb) terminals; they are lead free and in compliance with Lead Free/RoHS

The content may change without notification 7/21/2016.