

CHR Series

Non-magnetic Chip Resistors



- Resistances from 1 Ohm to 10M Ohms
 - Power Rating 0.05 to 1.5Watt
 - Resistance Tolerances to $\pm 0.5\%$
 - TCR's to ± 50 ppm/ $^{\circ}\text{C}$
 - Non-Magnetic (contact PtAg)
 - Suitable for Glueing or Soldering
 - Sizes: 0402 / 0603 / 0805 / 1206 / 2010 / 2512 / 4020
 - Special High Temperature Version to 300 $^{\circ}\text{C}$ (H)
- (See ordering Information below)



SPECIFICATIONS

| Type | 0402 | 0603 | 0805 | 1206 | 2010 | 2512 | 4020 | |
|---------------------------------|--|------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------|
| Power Rating (W) ¹ | 0.05 | 0.10 | 0.125 | 0.25 | 0.50 | 1.0 | 1.5 | |
| Working Voltage (VAC) | Trimmed | 30 | 75 | 100 | 200 | 250 | 300 | 500 |
| | Untrimmed ($\geq 5\%$ tol.) | 60 | 150 | 200 | 400 | 900 | 1200 | 1200 |
| Resistance Range (Ω) | Tolerances Available (%) Temperature Coefficients Available (\pm ppm/ $^{\circ}\text{C}$) (others upon request) | | | | | | | |
| 1 Ω - <10 Ω | 10% to 20% 250 | 5% to 20% 100 / 250 | 5% to 20% 100 / 250 | 5% to 20% 100 / 250 | 5% to 20% 100 / 250 | 5% to 20% 100 / 250 | 5% to 20% 100 / 250 | |
| 10 Ω - <100 Ω | 5% to 10% 100 | 2% to 10% 50 / 100 | 1% to 10% 50 / 100 | 1% to 10% 50 / 100 | 1% to 10% 50 / 100 | 1% to 10% 50 / 100 | 1% to 10% 50 / 100 | |
| 100 Ω - 1M | 1% to 10% 50 / 100 | 1% to 10% 50 / 100 | 0.5% to 10% 50 / 100 | 0.5% to 10% 50 / 100 | 0.5% to 10% 50 / 100 | 0.5% to 10% 50 / 100 | 0.5% to 10% 50 / 100 | |
| >1M - 10M | 5% to 20% 50 / 100 | 1% to 10% 50 / 100 | 1% to 10% 50 / 100 | 1% to 10% 50 / 100 | 1% to 10% 50 / 100 | 1% to 10% 50 / 100 | 1% to 10% 50 / 100 | |

¹W @ 70 $^{\circ}\text{C}$ / 0W @ 155 $^{\circ}\text{C}$

| Specification | Value |
|----------------------------|---|
| Temperature Range | -55 $^{\circ}\text{C}$ to +155 $^{\circ}\text{C}$ (Standard) -55 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$ (50ppm/ $^{\circ}\text{C}$ Parts) -55 $^{\circ}\text{C}$ to +300 $^{\circ}\text{C}$ (High Temperature Version, TCR valid +25 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$) |
| Climactic Category | 55 / 155 / 56 |
| Solderability | 250 $^{\circ}\text{C}$ / 3s (up to 6 month after shipment resp. at storage in Nitrogen) |
| Max. Soldering Temperature | 260 $^{\circ}\text{C}$ / 10s |

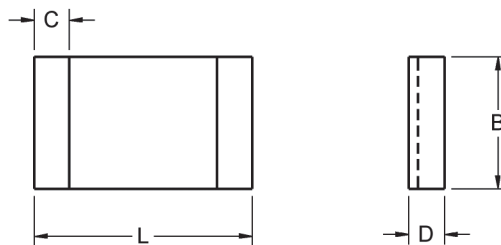
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SPECIFICATIONS (continued)

| Long Term Stability | Max ΔR | |
|-----------------------------------|----------------|-------------------|
| | <10 Ω | 10 Ω - 10M |
| Storage 125°C / 1000h | $\pm 1\%$ | $\pm 0.5\%$ |
| Storage 155°C / 1000h | $\pm 2\%$ | $\pm 1\%$ |
| Load Life / P=70% / 70°C / 1000h | $\pm 1\%$ | $\pm 0.5\%$ |
| Short term overload | $\pm 0.5\%$ | $\pm 0.25\%$ |
| Humidity / 96%RH / 40°C / 56 days | $\pm 1\%$ | $\pm 0.5\%$ |



| Type | Dimensions | | | |
|---------------------------------|---|---|--|---|
| | L | B | D | C |
| CHR 0402 / CHR 0402H | 0.040 ± 0.006 [1.04 ± 0.15] | 0.020 ± 0.006 [0.5 ± 0.15] | 0.012 ± 0.002 [0.3 ± 0.05] | 0.004 $+0.004 / -0.002$ [0.1 $+0.1 / -0.05$] |
| CHR 0603 / CHR 0603H | 0.060 $+0.006 / -0.002$ [1.5 $+0.15 / -0.05$] | 0.030 $+0.008 / -0.002$ [0.8 $+0.2 / -0.05$] | 0.016 $+0.006 / -0.002$ [0.4 $+0.15 / -0.05$] | 0.008 $+0.008 / -0.004$ [0.2 $+0.2 / -0.1$] |
| CHR 0805 / CHR 0805H | 0.080 $+0.006 / -0.002$ [2.0 $+0.15 / -0.05$] | 0.050 $+0.006 / -0.002$ [1.25 $+0.15 / -0.05$] | 0.016 $+0.006 / -0.002$ [0.4 $+0.15 / -0.05$] | 0.012 $+0.008 / -0.004$ [0.3 $+0.2 / -0.1$] |
| CHR 1206 / CHR 1206H | 0.120 $+0.006 / -0.002$ [3.2 $+0.15 / -0.05$] | 0.060 $+0.008 / -0.002$ [1.5 $+0.2 / -0.05$] | 0.016 $+0.006 / -0.002$ [0.4 $+0.15 / -0.05$] | 0.012 $+0.008 / -0.004$ [0.3 $+0.2 / -0.1$] |
| CHR 2010 / CHR 2010H | 0.200 $+0.006 / -0.002$ [5.1 $+0.15 / -0.05$] | 0.100 $+0.008 / -0.002$ [2.5 $+0.2 / -0.05$] | 0.024 $+0.008 / -0.004$ [0.6 $+0.20 / -0.1$] | 0.047 ± 0.008 [1.2 ± 0.2] |
| CHR 2512 / CHR 2512H | 0.250 $+0.006 / -0.002$ [6.2 $+0.15 / -0.05$] | 0.120 $+0.008 / -0.002$ [3.2 $+0.2 / -0.05$] | 0.024 $+0.008 / -0.004$ [0.6 $+0.20 / -0.1$] | 0.035 ± 0.008 [0.9 ± 0.2] |
| CHR 4020 / CHR 4020H | 0.402 $+0.006 / -0.002$ [10.2 $+0.15 / -0.05$] | 0.200 $+0.006 / -0.002$ [5.1 $+0.15 / -0.05$] | 0.024 $+0.008 / -0.004$ [0.6 $+0.20 / -0.1$] | 0.035 ± 0.008 [0.9 ± 0.2] |

Packaging:

Bulk or Blister tape to IEC 60286-3

Tape width 8mm / Reel Diameter 180 or 330mm
 Minimum quantity Bulk / 100 pieces per value
 Minimum quantity Tape & Reel / 500 pieces per value
 (Note: Except size 0402 / 1000 pieces per value)

Ordering Information

Standard Part Description: Part Type - Resistance - Tolerance - TCR

Example: CHR 0603 10 kOhms 5% 50ppm

(Note: if no TCR is specified, the highest value will be supplied)

High Temperature Part Description (H): Part Type H - Resistance - Tolerance - TCR

Example: CHR 0805H 50 kOhms 10% 50ppm

(Note: if no TCR is specified, the highest value will be supplied)

