

# CHR Series

Non-magnetic Chip Resistors



- Resistances from 1 Ohm to 10M Ohms
  - Power Rating 0.05 to 2Watt
  - Resistance Tolerances to  $\pm 0.5\%$
  - TCR's to  $\pm 50$  ppm/ $^{\circ}\text{C}$
  - Non-Magnetic (contact PtAg)
  - Suitable for Gluing 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 <sup>4</sup>	0603 <sup>4</sup>	0805 <sup>4</sup>	1206	2010	2512	4020	
Power Rating ( W )	0.05	0.10	0.125	0.25	0.50	1.0 <sup>3</sup>	2.0 <sup>3</sup>	
Working <sup>2</sup> Voltage ( VAC )	Trimmed	30	75	100	200	250	300	500
	Untrimmed ( $\geq 5\%$ tol.)	60	150	200	400	900	1200	1200
Resistance Range ( $\Omega$ )	Tolerances Available ( % ) Temperature Coefficients Available ( $\pm$ ppm/ $^{\circ}\text{C}$ ) <sup>1</sup> (others upon request)							
1 $\Omega$ - <10 $\Omega$	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 $\Omega$ - <100 $\Omega$	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 $\Omega$ - 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	

1) TCR: in ppm/ $^{\circ}\text{C}$ ; +25 $^{\circ}\text{C}$ ...+125 $^{\circ}\text{C}$ ; TCR below standard TCR (highest value): +25 $^{\circ}\text{C}$ ...+85 $^{\circ}\text{C}$

2) Continuous operating voltage ( $U_{-}$ ,  $U_{\text{eff}}$ ):  $V \leq \sqrt{P \cdot R}$  or max. working voltage (the lower value)

3) Solder pads must be sufficiently large to keep resistors's peak temperature below rating

4) Best tolerance for High Temp version is 2%

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 months after shipment or 12 months at storage in Nitrogen)
Max. Soldering Temperature	260 $^{\circ}\text{C}$ / 10s

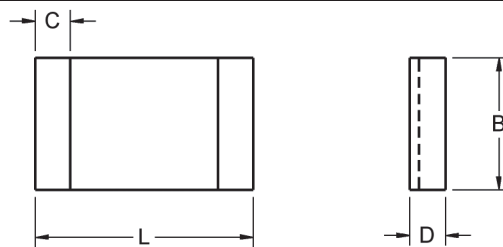
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## SPECIFICATIONS (continued)

Long Term Stability	Max $\Delta R$	
	<10 $\Omega$	10 $\Omega$ - 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	$\pm 1\%$	$\pm 0.5\%$
RoHS Compliant Exemption	This part is RoHS compliant with exemption 7(c)-I, as authorized by 2011/b5/EU.	



Type	Dimensions			
	L	B	D	C
CHR 0402 / CHR 0402H	0.95 +0.10 / -0.05	0.48 +0.10 / -0.05	0.28 +0.1 / -0.05	0.1 +0.1 / -0.05
CHR 0603 / CHR 0603H	1.5 +0.15 / -0.05	0.8 +0.15 / -0.05	0.4 +0.15 / -0.05	0.2 +0.2 / -0.1
CHR 0805 / CHR 0805H	2.0 +0.15 / -0.05	1.25 +0.15 / -0.05	0.4 +0.15 / -0.05	0.3 +0.2 / -0.1
CHR 1206 / CHR 1206H	3.2 +0.15 / -0.05	1.5 +0.2 / -0.05	0.4 +0.15 / -0.05	0.3 +0.2 / -0.1
CHR 2010 / CHR 2010H	5.1 +0.15 / -0.05	2.5 +0.2 / -0.05	0.6 +0.20 / -0.1	1.2 $\pm$ 0.2
CHR 2512 / CHR 2512H	6.3 +0.15 / -0.05	3.5 +0.2 / -0.05	0.6 +0.15 / -0.05	0.9 $\pm$ 0.2
CHR 4020 / CHR 4020H	10.2 +0.15 / -0.05	5.1 +0.2 / -0.05	0.6 +0.15 / -0.05	0.9 $\pm$ 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 )

