ULTRA PRECISION CHIP RESISTORS

BLU SERIES









☐ Industry's widest range of precision chip resistors!

☐ Tolerance to ±0.01%, TCR to 5 ppm/°C

CUSTOM OPTIONS

- Option P: Pulse resistant design
- ☐ Option ER: Burn-In for Hi-Rel applications
- ☐ Option V: +200° operating temperature
- ☐ Option A: Marking of resis. code in 3 or 4 digits (not available on BLU0201 or BLU0402)
- ☐ Matched sets and TC's to 2ppm available (limited range)

'Blu-Chip' performance at an economical price!

RCD's expertise in the field of ultra-precision resistors since 1973, combined with the latest in automated chip resistor production equipment, enables precision chip resistors at prices comparable to lower grade devices. The BLU-chip design features excellent stability levels. Intermediate and extended-range values are available on custom basis. Popular values are available from stock.

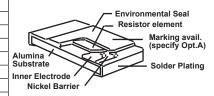
| RCD Type | Power @ 70°C | Max. Working Voltage* | TCR ² (PPM/°C) | Standard Resistance Range ¹ | | | | Dimensions | | | |
|-------------|-----------------|-----------------------------|------------------------------|--|------------|------------|------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | | | | 0.01% | .02%, .05% | 0.1%,0.25% | 0.5%, 1% | L | W | Т | t |
| BLU0201 | .05W | 15V | 10, 15 | N/A | N/A | 100Ω - 10K | 100Ω - 10K | .020±.004 [.5 ± .1] | .01±.002 [.25 ±.05] | .014±.004 [.35 ±.1] | 01±.005 [.25 ±.12] |
| | | | 25,50 | N/A | N/A | 100Ω - 10K | 33Ω - 22K | | | | |
| | | | 100 | N/A | N/A | 100Ω - 10K | 10Ω - 22K | | | | |
| BLU0402 | .062W | 25V | 5 | 50Ω -2K | 50Ω -2K | 51Ω -2K | 50Ω -2K | .040±.004 [1.0 ± .1] | .020±.002 [.5 ± .05] | .014±.004 [.35 ±. 1] | .01±.005 [.25 ±.12] |
| | | | 10, 15 | 50Ω -12K | 50Ω -12K | 51Ω -12K | 25Ω -12K | | | | |
| | | | 25 | 50Ω -12K | 50Ω -12K | 10Ω - 100K | 10Ω - 100K | | | | |
| | | | 50,100 | 50Ω -12K | 50Ω -12K | 10Ω - 100K | 10Ω - 1M | | | | |
| BLU0603 | .1W | 75V | 5 | 50Ω -8K | 50Ω -8K | 50Ω -8K | 50Ω -8K | .063±.008 [1.6 ± .2] | .031±.006 [.8 ± .15] | .018±.006 [.45 ±. 15] | .012±.008 [.3 ± .2] |
| | | | 10, 15 | 25Ω -100K | 25Ω -100K | 10Ω -402K | 25Ω -100K | | | | |
| | | | 25 | 25Ω -100K | 4.7Ω -150K | 4.7Ω -402K | 2Ω -402K | | | | |
| | | | 50,100 | 25Ω -100K | 4.7Ω -150K | 4.7Ω -402K | 2Ω - 1M | | | | |
| BLU0805 | .125W | 100V | 5 | 50Ω -16K | 50Ω -16K | 50Ω -16K | 50Ω -16K | .079±.006 [2.0±.15] | .050±.006 [1.25±.15] | .018±.006 [.45 ± .15] | .014±.008 [.35 ±. 2] |
| | | | 10, 15 | 25Ω -200K | 25Ω -200K | 10Ω -499K | 25Ω -200K | | | | |
| | | | 25,50,100 | 25Ω -200K | 4.7Ω -500K | 4.7Ω - 1M | 1Ω - 1M | | | | |
| BLU1206 | .25W | 150V | 5 | 50Ω -30K | 50Ω -30K | 50Ω -30K | 50Ω -30K | .126±.006 [3.2 ± .15] | .063±.006 [1.6 ± .15] | .020±.006 [.50 ± .15] | .020±.010 [.51 ± .25] |
| | | | 10, 15 | 25Ω -500K | 25Ω -500K | 10Ω -1M | 25Ω -500K | | | | |
| | | | 25,50,100 | 25Ω -500K | 4.7Ω - 1M | 4.7Ω - 1M | 1Ω - 2M | | | | |
| BLU1210 | .33W | 150V | 5, 10 | 100Ω -30K | 100Ω -330K | 100Ω -330K | 100Ω -330K | .126±.006 [3.2 ±.15] | .098±.008 [2.5 ± .2] | .024±.008 [.61 ±. 2] | .020±.010 [.51 ± .25] |
| | | | 25 | 51Ω -500K | 51Ω - 2M | 51Ω - 2M | 51Ω - 2M | | | | |
| | | | 50,100 | 51Ω -500K | 51Ω - 2M | 51Ω - 2M | 10Ω - 4.7M | | | | |
| BLU2010 | .5W | 150V | 5 | 50Ω -30K | 50Ω -30K | 50Ω -30K | 50Ω -30K | .197±.008 [5 ±. 2] | .098±.008 [2.5 ±. 2] | .024±.008 [.61 ± .2] | .024±.008 [.61 ± .2] |
| | | | 10, 15 | 25Ω -500K | 25Ω -500K | 10Ω -1M | 25Ω -500K | | | | |
| | | | 25,50,100 | 25Ω -500K | 4.7Ω - 1M | 4.7Ω - 1M | 1Ω - 2M | | | | |
| BLU2512 | 1W | 200V | 5 | 50Ω -50K | 50Ω -50K | 50Ω -50K | 50Ω -50K | .248±.008 [6.3 ± .2] | .126±.008 [3.2 ± .2] | .024±.008 [.61 ± .2] | .024±.008 [.61 ± .2] |
| | | | 10, 15 | 25Ω -500K | 25Ω -500K | 10Ω -1M | 25Ω -500K | | | | |
| | | | 25,50,100 | 25Ω -500K | 4.7Ω - 1M | 4.7Ω - 1M | 1Ω - 2M | | | | |

^{*}Maximum working voltage determined by E=\frac{VPR}, E should not exceed value listed. Increased voltage ratings available. 1Extended range available, consult factory. 2TC measured 25°-100°C

TYPICAL PERFORMANCE CHARACTERISTICS

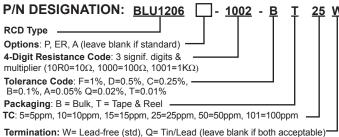
| Requirements | Characteristics (5-25ppm)* | Test Method | | | |
|------------------------------|-----------------------------|------------------------------------|--|--|--|
| Short Time Overload, 5 Sec. | ±0.1% ΔR | Rated W x 2.5, nte 2x MaxVoltage | | | |
| Resistance to Solder Heat | ± 0.05% ΔR | 260 ± 5°C, 3 seconds | | | |
| High Temperature Exposure | ± 0.1% ΔR | 100 hours @ +125°C | | | |
| Thermal Shock | ± 0.1% ΔR | -55°C to +125°C, 0.5 hrs, 5 cycles | | | |
| Moisture Resistance | ± 0.2% ΔR | Mil-STD-202 M103 95% RH 1000hrs | | | |
| Load Life (1000 hours) | ± 0.1% (± .25% 10,000 hrs) | Mil-PRF-55342G 4.8.11.1 ceramic | | | |
| Solderability | 95% (Min.) | MIL-Std-202, Method 208 | | | |
| Shelf Life | 100 ppm/year (Max.) | Room Temp. & Humidity, No-Load | | | |
| Dielectric Withstand Voltage | 250V (100V 0402 & 0603) | 60 Seconds, terminal to ceramic | | | |

CONSTRUCTION



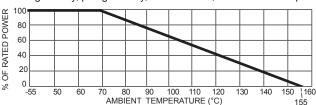
To ensure utmost reliability, care should be taken to avoid potential sources of ionic contamination.

 $^{^{\}star}$ The typical ΔR of chips with 50-100ppm TC is double that of chips with 5 to 25ppm TC



DERATING CURVE

Resistors may be operated up to full rated power with consideration of mounting density, pad geometry, PCB material, and ambient temperature.



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