

ULTRA PRECISION CHIP RESISTORS

BLU SERIES



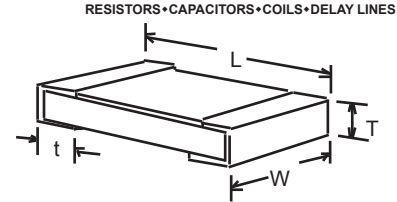
- Industry's widest range of precision chip resistors!
- Tolerance to $\pm 0.01\%$, TCR to 5 ppm/ $^{\circ}\text{C}$

CUSTOM OPTIONS

- Option P: Pulse resistant design
- Option ER: Burn-In for Hi-Rel applications
- Option V: +200 $^{\circ}$ 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 $^{\circ}\text{C}$	Max. Working Voltage*	TCR ² (PPM/ $^{\circ}\text{C}$)	Standard Resistance Range ¹					Dimensions			
				0.01%	.02%, .05%	0.1%, 0.25%	0.5%, 1%		L	W	T	t
BLU0201	.05W	15V	10, 15	N/A	N/A	100 Ω - 10K	100 Ω - 10K		.020 $\pm$.004 [.5 $\pm$.1]	.01 $\pm$.002 [.25 $\pm$.05]	.014 $\pm$.004 [.35 $\pm$.1]	.01 $\pm$.005 [.25 $\pm$.12]
			25, 50	N/A	N/A	100 Ω - 10K	33 Ω - 22K					
			100	N/A	N/A	100 Ω - 10K	10 Ω - 22K					
BLU0402	.062W	25V	5	50 Ω - 2K	50 Ω - 2K	51 Ω - 2K	50 Ω - 2K		.040 $\pm$.004 [1.0 $\pm$.1]	.020 $\pm$.002 [.5 $\pm$.05]	.014 $\pm$.004 [.35 $\pm$.1]	.01 $\pm$.005 [.25 $\pm$.12]
			10, 15	50 Ω - 12K	50 Ω - 12K	51 Ω - 12K	25 Ω - 12K					
			25	50 Ω - 12K	50 Ω - 12K	10 Ω - 100K	10 Ω - 100K					
			50, 100	50 Ω - 12K	50 Ω - 12K	10 Ω - 100K	10 Ω - 1M					
BLU0603	.1W	75V	5	50 Ω - 8K	50 Ω - 8K	50 Ω - 8K	50 Ω - 8K		.063 $\pm$.008 [1.6 $\pm$.2]	.031 $\pm$.006 [.8 $\pm$.15]	.018 $\pm$.006 [.45 $\pm$.15]	.012 $\pm$.008 [.3 $\pm$.2]
			10, 15	25 Ω - 100K	25 Ω - 100K	10 Ω - 402K	25 Ω - 100K					
			25	25 Ω - 100K	4.7 Ω - 150K	4.7 Ω - 402K	2 Ω - 402K					
			50, 100	25 Ω - 100K	4.7 Ω - 150K	4.7 Ω - 402K	2 Ω - 1M					
BLU0805	.125W	100V	5	50 Ω - 16K	50 Ω - 16K	50 Ω - 16K	50 Ω - 16K		.079 $\pm$.006 [2.0 $\pm$.15]	.050 $\pm$.006 [1.25 $\pm$.15]	.018 $\pm$.006 [.45 $\pm$.15]	.014 $\pm$.008 [.35 $\pm$.2]
			10, 15	25 Ω - 200K	25 Ω - 200K	10 Ω - 499K	25 Ω - 200K					
			25, 50, 100	25 Ω - 200K	4.7 Ω - 500K	4.7 Ω - 1M	1 Ω - 1M					
BLU1206	.25W	150V	5	50 Ω - 30K	50 Ω - 30K	50 Ω - 30K	50 Ω - 30K		.126 $\pm$.006 [3.2 $\pm$.15]	.063 $\pm$.006 [1.6 $\pm$.15]	.020 $\pm$.006 [.50 $\pm$.15]	.020 $\pm$.010 [.51 $\pm$.25]
			10, 15	25 Ω - 500K	25 Ω - 500K	10 Ω - 1M	25 Ω - 500K					
			25, 50, 100	25 Ω - 500K	4.7 Ω - 1M	4.7 Ω - 1M	1 Ω - 2M					
BLU1210	.33W	150V	5, 10	100 Ω - 30K	100 Ω - 330K	100 Ω - 330K	100 Ω - 330K		.126 $\pm$.006 [3.2 $\pm$.15]	.098 $\pm$.008 [2.5 $\pm$.2]	.024 $\pm$.008 [.61 $\pm$.2]	.020 $\pm$.010 [.51 $\pm$.25]
			25	51 Ω - 500K	51 Ω - 2M	51 Ω - 2M	51 Ω - 2M					
			50, 100	51 Ω - 500K	51 Ω - 2M	51 Ω - 2M	10 Ω - 4.7M					
BLU2010	.5W	150V	5	50 Ω - 30K	50 Ω - 30K	50 Ω - 30K	50 Ω - 30K		.197 $\pm$.008 [5 $\pm$.2]	.098 $\pm$.008 [2.5 $\pm$.2]	.024 $\pm$.008 [.61 $\pm$.2]	.024 $\pm$.008 [.61 $\pm$.2]
			10, 15	25 Ω - 500K	25 Ω - 500K	10 Ω - 1M	25 Ω - 500K					
			25, 50, 100	25 Ω - 500K	4.7 Ω - 1M	4.7 Ω - 1M	1 Ω - 2M					
BLU2512	1W	200V	5	50 Ω - 50K	50 Ω - 50K	50 Ω - 50K	50 Ω - 50K		.248 $\pm$.008 [6.3 $\pm$.2]	.126 $\pm$.008 [3.2 $\pm$.2]	.024 $\pm$.008 [.61 $\pm$.2]	.024 $\pm$.008 [.61 $\pm$.2]
			10, 15	25 Ω - 500K	25 Ω - 500K	10 Ω - 1M	25 Ω - 500K					
			25, 50, 100	25 Ω - 500K	4.7 Ω - 1M	4.7 Ω - 1M	1 Ω - 2M					

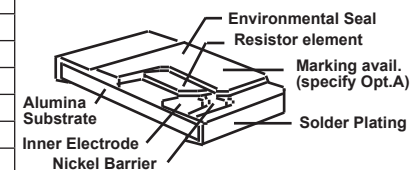
*Maximum working voltage determined by $E = \sqrt{PR}$, E should not exceed value listed. Increased voltage ratings available. ¹Extended range available, consult factory. ²TC measured 25 $^{\circ}$ -100 $^{\circ}\text{C}$

TYPICAL PERFORMANCE CHARACTERISTICS

Requirements	Characteristics (5-25ppm)*	Test Method
Short Time Overload, 5 Sec.	$\pm 0.1\%$ ΔR	Rated W x 2.5, nte 2x Max..Voltage
Resistance to Solder Heat	$\pm 0.05\%$ ΔR	260 $\pm$ 5 $^{\circ}\text{C}$, 3 seconds
High Temperature Exposure	$\pm 0.1\%$ ΔR	100 hours @ +125 $^{\circ}\text{C}$
Thermal Shock	$\pm 0.1\%$ ΔR	-55 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$, 0.5 hrs, 5 cycles
Moisture Resistance	$\pm 0.2\%$ ΔR	Mil-STD-202 M103 95% RH 1000hrs
Load Life (1000 hours)	$\pm 0.1\%$ ($\pm$.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

* The typical ΔR of chips with 50-100ppm TC is double that of chips with 5 to 25ppm TC

CONSTRUCTION



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

P/N DESIGNATION: BLU1206 - 1002 - B T 25 W

RCD Type _____

Options: P, ER, A (leave blank if standard)

4-Digit Resistance Code: 3 signif. digits & multiplier (10R0=10 Ω , 1000=100 Ω , 1001=1K Ω)

Tolerance Code: F=1%, D=0.5%, C=0.25%, B=0.1%, A=0.05% Q=0.02%, T=0.01%

Packaging: B = Bulk, T = Tape & Reel

TC: 5=5ppm, 10=10ppm, 15=15ppm, 25=25ppm, 50=50ppm, 101=100ppm

Termination: W = Lead-free (std), Q = Tin/Lead (leave blank if both acceptable)

DERATING CURVE

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

