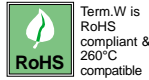
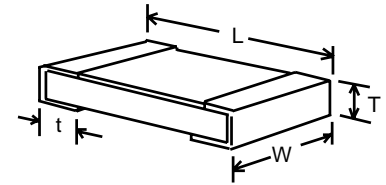


# ULTRA PRECISION CHIP RESISTORS

## BLU SERIES



RESISTORS • CAPACITORS • COILS • DELAY LINES



- 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 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 (PPM/°C)	Standard Resistance Range <sup>1</sup>				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	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				
			5	50Ω -30K	50Ω -30K	50Ω -30K	50Ω -30K				
BLU1206	.25W	150V	10, 15	25Ω -500K	25Ω -500K	10Ω -1M	25Ω -500K	.126±.006 [3.2 ± .15]	.063±.006 [1.6 ± .15]	.020±.006 [.50 ± .15]	.020±.010 [.51 ± .25]
			25,50,100	25Ω -500K	4.7Ω - 1M	4.7Ω - 1M	1Ω - 2M				
			5, 10	100Ω -30K	100Ω -330K	100Ω -330K	100Ω -330K				
			25	51Ω -500K	51Ω - 2M	51Ω - 2M	51Ω - 2M				
BLU1210	.33W	150V	50,100	51Ω -500K	51Ω - 2M	51Ω - 2M	10Ω - 4.7M	.126±.006 [3.2 ± .15]	.098±.008 [2.5 ± .2]	.024±.008 [.61 ± .2]	.020±.010 [.51 ± .25]
			5	50Ω -30K	50Ω -30K	50Ω -30K	50Ω -30K				
			10, 15	25Ω -500K	25Ω -500K	10Ω -1M	25Ω -500K				
BLU2010	.5W	150V	25,50,100	25Ω -500K	4.7Ω - 1M	4.7Ω - 1M	1Ω - 2M	.197±.008 [5 ± .2]	.098±.008 [2.5 ± .2]	.024±.008 [.61 ± .2]	.024±.008 [.61 ± .2]
			5	50Ω -50K	50Ω -50K	50Ω -50K	50Ω -50K				
			10, 15	25Ω -500K	25Ω -500K	10Ω -1M	25Ω -500K				
BLU2512	1W	200V	25,50,100	25Ω -500K	4.7Ω - 1M	4.7Ω - 1M	1Ω - 2M	.248±.008 [6.3 ± .2]	.126±.008 [3.2 ± .2]	.024±.008 [.61 ± .2]	.024±.008 [.61 ± .2]
			5	50Ω -50K	50Ω -50K	50Ω -50K	50Ω -50K				
			10, 15	25Ω -500K	25Ω -500K	10Ω -1M	25Ω -500K				

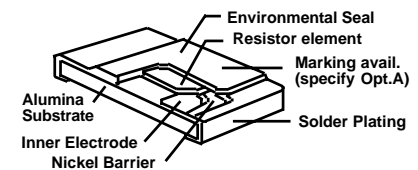
\*Maximum working voltage determined by  $E = \sqrt{PR}$ , E should not exceed value listed. Increased voltage ratings available. <sup>1</sup> Extended range available, consult factory.

### TYPICAL PERFORMANCE CHARACTERISTICS

Requirements	Characteristics (5-25ppm)*	Test Method
Short Time Overload, 5 Sec.	$\pm 0.1\% \Delta R$	Rated W x 2.5, nte 2x Max..Voltage
Resistance to Solder Heat	$\pm 0.05\% \Delta R$	260 $\pm$ 5°C, 3 seconds
High Temperature Exposure	$\pm 0.1\% \Delta R$	100 hours @ +125°C
Thermal Shock	$\pm 0.1\% \Delta R$	-55°C to +125°C, 0.5 hrs, 5 cycles
Moisture Resistance	$\pm 0.2\% \Delta R$	Mil-STD-202 M103 95% RH 1000hrs
Load Life (1000 hours)	$\pm 0.1\% (\pm .25\% 10,000 \text{ hrs})$	Rated W, Mil-PRF-55342 4.8.11.1
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  $\Delta R$  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 BLU1206 □ - 1002 - B T 25 W

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

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

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, Q= Tin/Lead (leave blank if either is acceptable)

### DERATING CURVE

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

