

ULTRA PRECISION CHIP RESISTORS

BLU SERIES



Term. W
is Pb-free
and RoHS
compliant

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

CUSTOM OPTIONS

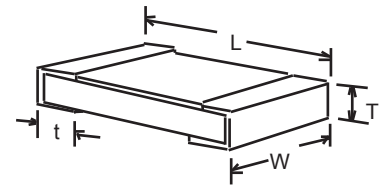
- Option P: Pulse resistant design
- Option ER: Burn-In for Hi-Rel applications
- Option V: +200° operating temperature
- Option A: Marking of resis. code in 3 or 4 digits (not available on BLU0201 or BLU0402)
- Matched sets and TC's to 2ppm available (limited range)

'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.



RESISTORS • CAPACITORS • COILS • DELAY LINES



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	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	50Ω - 30K	50Ω - 30K	50Ω - 30K	50Ω - 30K					
			10, 15	25Ω - 500K	25Ω - 500K	10Ω - 1M	25Ω - 500K					
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					
			5	50Ω - 30K	50Ω - 30K	50Ω - 30K	50Ω - 30K					
BLU2010	.5W	150V	10, 15	25Ω - 500K	25Ω - 500K	10Ω - 1M	25Ω - 500K		.197±.008 [5 ± .2]	.098±.008 [2.5 ± .2]	.024±.008 [.61 ± .2]	.024±.008 [.61 ± .2]
			25, 50, 100	25Ω - 500K	4.7Ω - 1M	4.7Ω - 1M	1Ω - 2M					
			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]

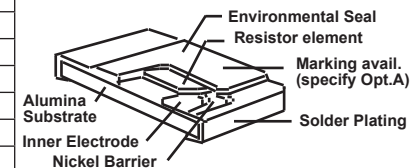
*Maximum working voltage determined by $E = \sqrt{PR}$, E should not exceed value listed. Increased voltage ratings available. ¹Extended range available, consult factory. ²TC measured 25°-100°C

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 $\pm 5^\circ\text{C}$, 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 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=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 (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.

