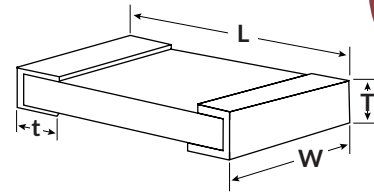


ULTRA PRECISION CHIP RESISTORS BLU SERIES



RESISTOR



FEATURES

- ▶ Industry's widest range of precision chip resistors!
- ▶ Tolerance to $\pm 0.010\%$, TCR to 1 ppm/ $^{\circ}\text{C}$

CUSTOM OPTIONS

- ▶ **Opt. B:** Increased Power and Voltage
- ▶ **Opt. P:** Pulse resistant design
- ▶ **Opt. ER:** Burn-In for Hi-Rel applications
- ▶ **Opt. V:** +200 $^{\circ}\text{C}$ Operating Temperature
- ▶ **Opt. A:** Marking of resistance code in 3 or 4 digits (not available on BLU0201 or BLU0402)

'BLU-Chip' performance at an economical price!

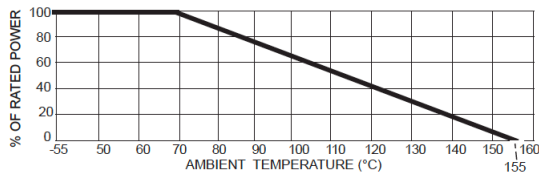
The BLU-Chip design features excellent stability levels. Intermediate and extended-range values are available on a custom basis. Popular values are available from stock. Mil-spec screening available.

RCD TYPE	POWER @ 70 $^{\circ}\text{C}$ (W)	MAX WORKING VOLTAGE* (V)	TCR (ppm/ $^{\circ}\text{C}$)	STANDARD RESISTANCE RANGE ¹				DIMENSIONS In (mm)			
				$\pm 0.010\%$	$\pm 0.020\%$, $\pm 0.050\%$	$\pm 0.10\%$, $\pm 0.25\%$	$\pm 0.50\%$, $\pm 1.0\%$	L	W	T	t
BLU0201	0.050	15	10, 15	N/A	N/A	100 Ω - 10K	100 Ω - 10K	0.020 \pm 0.040 [0.50 \pm 0.10]	0.010 \pm 0.002 [0.25 \pm 0.050]	0.014 \pm 0.004 [0.35 \pm 0.10]	0.010 \pm 0.005 [0.25 \pm 0.12]
			25, 50	N/A	N/A	50 Ω - 75K	33 Ω - 75K				
			100	N/A	N/A	50 Ω - 75K	10 Ω - 75K				
BLU0402 BLU0402B	0.062 0.100	25 50	1, 2, 3	50 Ω - 5K	50 Ω - 5K	50 Ω - 5K	50 Ω - 5K	0.040 \pm 0.004 [1.0 \pm 0.10]	0.020 \pm 0.002 [0.50 \pm 0.050]	0.014 \pm 0.004 [0.35 \pm 0.10]	0.010 \pm 0.005 [0.25 \pm 0.12]
			5	50 Ω - 20K	50 Ω - 20K	50 Ω - 20K	50 Ω - 20K				
			10, 15	50 Ω - 12K	50 Ω - 12K	50 Ω - 100K	25 Ω - 100K				
BLU0603 BLU0603B	0.100 0.167	75 100	25, 50, 100	50 Ω - 12K	50 Ω - 12K	4 Ω - 511K	4 Ω - 511K	0.063 \pm 0.008 [1.6 \pm 0.20]	0.031 \pm 0.006 [0.80 \pm 0.15]	0.018 \pm 0.006 [0.45 \pm 0.15]	0.012 \pm 0.008 [0.30 \pm 0.20]
			1, 2, 3	25 Ω - 15K	25 Ω - 15K	25 Ω - 15K	25 Ω - 15K				
			5	25 Ω - 60K	25 Ω - 60K	25 Ω - 60K	25 Ω - 60K				
BLU0805 BLU0805B	0.125 0.250	100 150	10, 15	25 Ω - 100K	4.7 Ω - 330K	4.7 Ω - 511K	4.7 Ω - 511K	0.079 \pm 0.006 [2.0 \pm 0.15]	0.050 \pm 0.006 [1.25 \pm 0.15]	0.018 \pm 0.006 [0.45 \pm 0.15]	0.014 \pm 0.008 [0.35 \pm 0.20]
			25, 50, 100	25 Ω - 100K	4.7 Ω - 330K	1 Ω - 1M	1 Ω - 1M				
			1, 2, 3	25 Ω - 30K	25 Ω - 30K	25 Ω - 30K	25 Ω - 30K				
BLU1206 BLU1206B	0.250 0.330	150 200	5	25 Ω - 150K	25 Ω - 150K	25 Ω - 150K	25 Ω - 150K	0.126 \pm 0.006 [3.2 \pm 0.15]	0.063 \pm 0.006 [1.6 \pm 0.15]	0.020 \pm 0.006 [0.50 \pm 0.15]	0.020 \pm 0.010 [0.51 \pm 0.25]
			10, 15	25 Ω - 200K	4.7 Ω - 1M	4.7 Ω - 1M	4.7 Ω - 1M				
			25, 50, 100	25 Ω - 200K	4.7 Ω - 1M	1 Ω - 2M	1 Ω - 2M				
BLU1210	0.330	150	1, 2, 3	25 Ω - 50K	25 Ω - 50K	25 Ω - 50K	25 Ω - 50K	0.126 \pm 0.006 [3.2 \pm 0.15]	0.098 \pm 0.008 [2.5 \pm 0.20]	0.024 \pm 0.008 [0.61 \pm 0.20]	0.020 \pm 0.010 [0.51 \pm 0.25]
			5	25 Ω - 300K	25 Ω - 300K	25 Ω - 300K	25 Ω - 300K				
			10, 15	25 Ω - 500K	4.7 Ω - 1M	4.7 Ω - 1M	4.7 Ω - 1M				
BLU2010	0.500	150	25, 50, 100	25 Ω - 500K	4.7 Ω - 1M	1 Ω - 2.5M	1 Ω - 2.5M	0.197 \pm 0.008 [5.0 \pm 0.20]	0.098 \pm 0.008 [2.5 \pm 0.20]	0.024 \pm 0.008 [0.61 \pm 0.20]	0.024 \pm 0.008 [0.61 \pm 0.20]
			1, 2, 3	25 Ω - 100K	25 Ω - 100K	25 Ω - 100K	25 Ω - 100K				
			5	25 Ω - 300K	25 Ω - 300K	25 Ω - 300K	25 Ω - 300K				
BLU2512	1.0	200	10, 15	25 Ω - 500K	4.7 Ω - 1M	4.7 Ω - 1M	4.7 Ω - 1M	0.248 \pm 0.008 [6.3 \pm 0.20]	0.126 \pm 0.008 [3.2 \pm 0.20]	0.024 \pm 0.008 [0.61 \pm 0.20]	0.024 \pm 0.008 [0.61 \pm 0.20]
			25, 50, 100	25 Ω - 500K	4.7 Ω - 1M	1 Ω - 3M	1 Ω - 3M				
			1, 2, 3	25 Ω - 100K	25 Ω - 100K	25 Ω - 100K	25 Ω - 100K				

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

DERATING CURVE

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

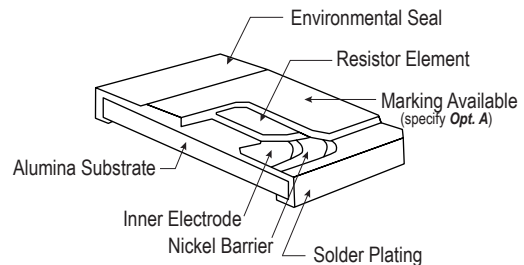


TYPICAL PERFORMANCE

Requirements	Characteristics (5-25ppm)*	Test Method
Short Time Overload, 5 Sec.	$\pm 0.10\%$ ΔR	Rated W x 2.5, nte 2x MAX voltage
Resistance to Solder Heat	$\pm 0.050\%$ ΔR	260 \pm 5 $^{\circ}\text{C}$, 3 seconds
High Temperature Exposure	$\pm 0.10\%$ ΔR	100 hours @ +125 $^{\circ}\text{C}$
Thermal Shock	$\pm 0.10\%$ ΔR	-55 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$, 0.50 hrs, 5 cycles
Moisture Resistance	$\pm 0.20\%$ ΔR	MIL-STD-202, M103 95% RF 1,000 hrs
Load Life	1,000 hrs $\pm 0.10\%$ 10,000 hrs $\pm 0.25\%$	Rated W, MIL-PRF-55342 4.8.11.1
Solderability	95% MIN	MIL-STD-202, Method 208
Shelf Life (ppm/year)	100 MAX	Room Temp & Humidity, No-Load
DWV	Standard 250V 0402 & 0603 100V	60 second, terminal to ceramic

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

CONSTRUCTION



PART NUMBER DERIVATION

