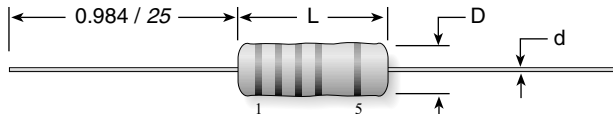


# WL Series

## Miniature Wirewound Current Sense

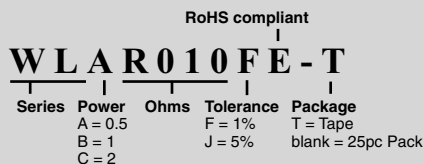


| Type | Power Rating (watts) | Resistance Range ( $\Omega$ ) | Dim. L (mm/in) | Dim. D (mm/in) | Dim. d (mm/in) |
|------|----------------------|-------------------------------|----------------|----------------|----------------|
| WLA  | 0.5                  | 0.005-0.100                   | 5.08 / 0.200   | 2.54 / 0.100   | 0.60 / 0.024   |
| WLB  | 1                    | 0.005-0.100                   | 7.00 / 0.276   | 3.00 / 0.120   | 0.60 / 0.024   |
| WLC  | 2                    | 0.010-0.100                   | 11.4 / 0.450   | 6.86 / 0.270   | 0.80 / 0.031   |

### PERFORMANCE CHARACTERISTICS

| Test                            | Conditions Of Test  | Performance |
|---------------------------------|---|-------------|
| Thermal Shock                   | Rated power applied until thermal stability, -55°C +0°C, -5°C, 15min.       | ±2.0%       |
| Short-time Overload             | 5 times rated wattage for 5 seconds   | ±2.0%       |
| Solderability                   | Method 208 of MIL-STD-202   | ±2.0%       |
| Terminal Strength               | Pull test: 10 pounds, 5 to 10 seconds, Twist test: 1080°, 5 second/rotation | ±1.0%       |
| Dielectric Withstanding Voltage | 500 Volts rms for 1W. 1 minute  | ±1.0%       |
| High Temperature Exposure       | Exposed to an ambient temperature of 275 +5/-0°C for 250 ±8 hours,          | ±5.0%       |
| Moisture Resistance             | MIL-STD-202 Method 106, 7b not applicable                                   | ±2.0%       |
| Low Temperature Storage         | Cold chamber at a temperature of -65 ±2°C for 24 ±4 hours                   | ±2.0%       |
| Vibration, High Frequency       | Frequency varied 10 to 2000Hz, 200G peak, 2 directions 6 hours each         | ±1.0%       |
| Load Life                       | 1000/2000 hours at rated power, +25°C, 1.5 hours "On", 0.5 hours "Off"      | ±5.0%       |

### ORDERING INFORMATION



### KEY TO FIVE-BAND CODE

| Band   | 1     | 2     | 3     | 4                | 5           |
|--------|-------|-------|-------|------------------|-------------|
| Color  | Digit | Digit | Digit | Multiplier       | Tolerance   |
| Black  | 0     | 0     | 0     | x 1 $\Omega$     |             |
| Brown  | 1     | 1     | 1     | x 10 $\Omega$    | ± 1% (F)    |
| Red    | 2     | 2     | 2     | x 100 $\Omega$   | ± 2% (G)    |
| Orange | 3     | 3     | 3     | x 1K $\Omega$    |             |
| Yellow | 4     | 4     | 4     | x 10K $\Omega$   |             |
| Green  | 5     | 5     | 5     | x 100K $\Omega$  | ± 0.5% (D)  |
| Blue   | 6     | 6     | 6     | x 1M $\Omega$    | ± 0.25% (C) |
| Violet | 7     | 7     | 7     | x 10M $\Omega$   | ± 0.10% (B) |
| Grey   | 8     | 8     | 8     |                  | ± 0.05%     |
| White  | 9     | 9     | 9     | x 0.001 $\Omega$ |             |
| Gold   |       |       |       | x 0.1 $\Omega$   | ± 5% (J)    |
| Silver |       |       |       | x 0.01 $\Omega$  | ± 10% (K)   |

### FEATURES

- Ultra-low ohmic value series for Current Sensing applications
- Very low inductance (<1nH at 1MHz Test)
- Miniaturized dimensions, Better power to dimension ratios
- Use of the highest quality standard (96% Alumina) ceramic core
- Manufacturing process—Wire winding/Spot Welding—by Computer Numerical Control (CNC) machine tools to ensure consistency of product quality.
- Encapsulated by epoxy molding compound
- Advanced IC encapsulation mold/die technologies

### SPECIFICATIONS

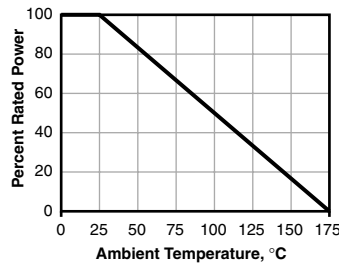
**Material**  
**Ceramic Core:** CeramTec Rubalit® 96% alumina  
**End Caps:** Stainless steel, precision formed  
**Leads:** Copper wire, 100% Sn (Lead Free) coated  
**CN49W alloy** resistance wire TC ±20ppm/°C  
**Encapsulation:** SUMICON 1100/1200 Epoxy molding compound for IC encapsulation

**Electrical**  
**Standard Tolerance:** F (1.0%), J (5.0%)

**Temperature Coefficient (ppm/°C):**  
 ±300ppm/°C for ≤0.03 $\Omega$   
 ±100ppm/°C for ≥0.033 $\Omega$

**Maximum Working Voltage:**  
 $\sqrt{P \times R}$

### DERATING



### STANDARD PART NUMBERS FOR WL SERIES

| Wattage: Series: | 0.5 WLA   | 1.0 WLB   | 2.0 WLC   |
|------------------|-----------|-----------|-----------|
| <b>Ohms</b>      |           |           |           |
| 0.005            | WLAR005FE | WLBR005FE | WLCR01FE  |
| 0.01             | WLAR01FE  | WLBR01FE  | WLCR015FE |
| 0.015            | WLAR015FE | WLBR015FE | WLCR02FE  |
| 0.02             | WLAR02FE  | WLBR02FE  |           |
| 0.025            | WLAR025FE | WLBR025FE | WLCR025FE |
| 0.03             | WLAR03FE  | WLBR03FE  | WLCR03FE  |
| 0.05             | WLAR05FE  | WLBR05FE  | WLCR05FE  |
| 0.10             | WLAR10FE  | WLBR10FE  | WLCR10FE  |

Check product availability at [www.ohmite.com](http://www.ohmite.com)

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