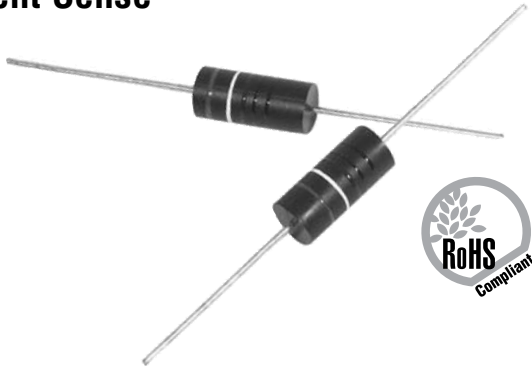


# WL Series

## Miniature Wirewound Current Sense



## 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

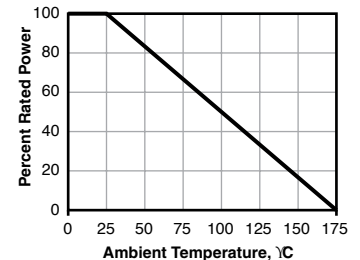
## SERIES SPECIFICATIONS

Type	Power Rating (watts)	Resistance Range ( $\Omega$ )
WLA	0.5	0.005-0.100
WLB	1	0.005-0.100
WLC	2	0.010-0.100
WLD	3	0.010-0.100

## CHARACTERISTICS

<b>Ceramic Core</b>	CeramTec Rubalit® 96% alumina
<b>End Caps</b>	Stainless steel, precision formed
<b>Leads</b>	Copper wire, 100% Sn (Lead Free) coated
<b>Resistance Wire</b>	CN49W alloy TC $\pm 20$ ppm/ $^{\circ}$ C
<b>Encapsulation</b>	SUMICON 1100/1200 Epoxy molding compound for IC encapsulation
<b>Standard Tolerance</b>	F (1.0%), J (5.0%)
<b>Temperature Coefficient</b>	$\pm 300$ ppm/ $^{\circ}$ C for $\leq 0.03\Omega$ ; $\pm 100$ ppm/ $^{\circ}$ C for $\geq 0.033\Omega$
<b>Maximum Working Voltage</b>	$\sqrt{P \times R}$

## Derating



## PERFORMANCE DATA

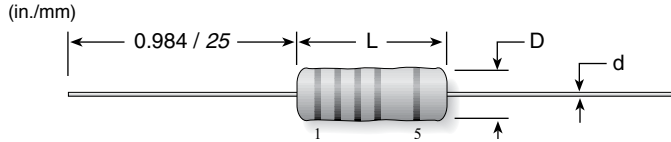
Test	Conditions Of Test	Performance
<b>Thermal Shock</b>	Rated power applied until thermal stability, $-55^{\circ}$ C, $+0^{\circ}$ C, $-5^{\circ}$ C, 15min.	$\pm 2.0\%$
<b>Short-time Overload</b>	5 times rated wattage for 5 seconds	$\pm 2.0\%$
<b>Solderability</b>	Method 208 of MIL-STD-202	$\pm 2.0\%$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

(continued)

# WL Series

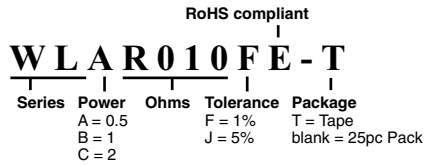
## Miniature Wirewound Current Sense

### DIMENSIONS



Type	Power Rating (watts)	L	D	d
WLA	0.5	5.08 / 0.200	2.54 / 0.100	0.60 / 0.024
WLB	1	7.00 / 0.276	3.30 / 0.130	0.60 / 0.024
WLC	2	11.4 / 0.450	4.57 / 0.180	0.80 / 0.031
WLD	3	13.54 / 0.530	5.50 / 0.216	0.80 / 0.031

### ORDERING INFORMATION



#### Standard Part Numbers for WL Series

Wattage:	0.5	1.0	2.0
Series:	WLA	WLB	WLC
Ohms			
0.005	WLAR005FE	WLBR005FE	WLCR010FE
0.01	WLAR010FE	WLBR010FE	WLCR015FE
0.015	WLAR015FE	WLBR015FE	WLCR015FE
0.02	WLAR020FE	WLBR020FE	WLCR020FE
0.025	WLAR025FE	WLBR025FE	WLCR025FE
0.03	WLAR030FE	WLBR030FE	WLCR030FE
0.05	WLAR050FE	WLBR050FE	WLCR050FE
0.10	WLAR100FE	WLBR100FE	WLCR100FE

#### Key to five-band code



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