

WL Series

Miniature Wirewound Current Sense

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

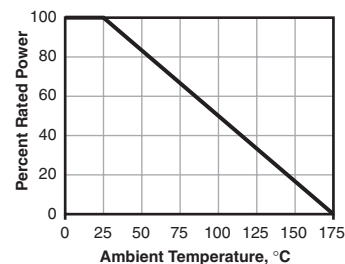
SERIES SPECIFICATIONS

Type	Power Rating (watts)	Resistance Range (Ω)
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

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

Derating



PERFORMANCE DATA

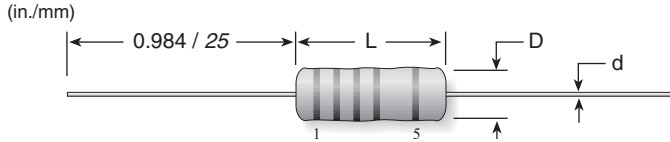
Test	Conditions Of Test	Performance
Thermal Shock	Rated power applied until thermal stability, -55° C $+0^{\circ}$ C, -5° C, 15min.	$\pm 2.0\%$
Short-time Overload	5 times rated wattage for 5 seconds	$\pm 2.0\%$
Solderability	Method 208 of MIL-STD-202	$\pm 2.0\%$
Terminal Strength	Pull test: 10 pounds,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

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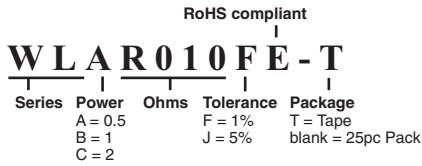
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DIMENSIONS



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	WLBRO05FE	
0.01	WLAR01FE	WLBRO1FE	WLCRO1FE
0.015	WLAR015FE	WLBRO15FE	WLCRO15FE
0.02	WLAR02FE	WLBRO2FE	WLCRO2FE
0.025	WLAR025FE	WLBRO25FE	WLCRO25FE
0.03	WLAR03FE	WLBRO3FE	WLCRO3FE
0.05	WLAR05FE	WLBRO5FE	WLCRO5FE
0.10	WLAR10FE	WLBRO10FE	WLCRO10FE

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)