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

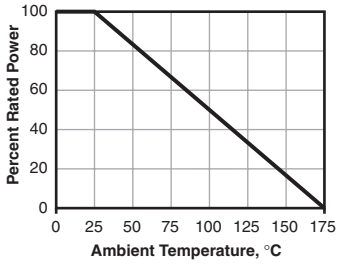
SERIES SPECIFICATIONS

Type	Power Rating (watts)	Resistance Range (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 ±20ppm/°C
Encapsulation	SUMICON 1100/1200 Epoxy molding compound for IC encapsulation
Standard Tolerance	F (1.0%), J (5.0%)
Temperature Coefficient	±300ppm/°C for ≤0.03Ω; ±100ppm/°C for ≥0.033Ω
Maximum Working Voltage	√PxR

Derating



PERFORMANCE DATA

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 to10 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%

(continued)

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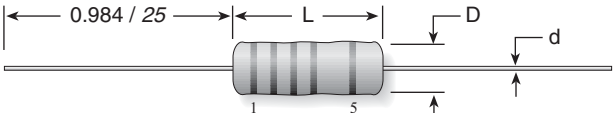
DIMENSIONS

(in./mm)



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

RoHS compliant

W L A R 0 1 0 F E - T

Series	Power	Ohms	Tolerance	Package
	A = 0.5 B = 1 C = 2		F = 1% J = 5%	T = Tape blank = 25pc Pack

Standard Part Numbers for WL Series

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

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)