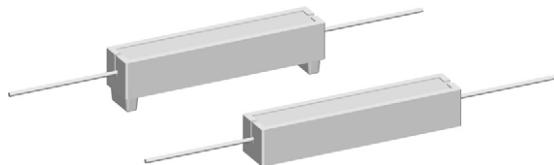


Wirewound/Metal Oxide Resistors, Commercial Power, Axial Lead



FEATURES

- High performance for low cost
- High power to size ratio
- Ceramic cases are available with circuit board stand-offs (designated with a ...3 model ending)
- Special cement potting compound and ceramic case provide high thermal conductivity in a fireproof package
- Material categorization:
for definitions of compliance please see www.vishay.com/doc?99912



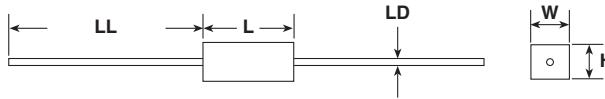
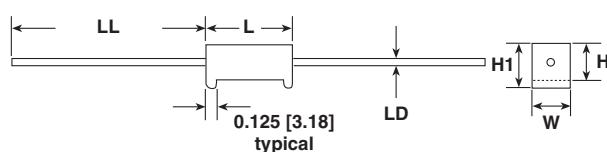
RoHS
COMPLIANT
HALOGEN
FREE
GREEN
(S-2008)

STANDARD ELECTRICAL SPECIFICATIONS					
GLOBAL MODEL	POWER RATING $P_{40^\circ C}$ W	RESISTANCE RANGE Ω WIREWOUND (1)	RESISTANCE RANGE Ω METAL OXIDE (1)	TOLERANCE $\pm \%$	WEIGHT (typical) g
CP0002	2	0.1 to 100	101 to 30K	5, 10	2.0
CP0003	3	0.1 to 100	101 to 33K	5, 10	3.4
CP0005	5	0.1 to 100	101 to 50K	5, 10	3.6
CP0005...3	5	0.1 to 100	101 to 50K	5, 10	4.8
CP0007	7	0.1 to 100	101 to 50K	5, 10	5.0
CP0007...3	7	0.1 to 100	101 to 50K	5, 10	6.8
CP0010	10	0.1 to 100	101 to 50K	5, 10	9.5
CP0010...3	10	0.1 to 100	101 to 50K	5, 10	9.9
CP0015	15	0.1 to 100	101 to 50K	5, 10	16.8
CP0020	20	0.1 to 100	101 to 50K	5, 10	22.8

TECHNICAL SPECIFICATIONS					
PARAMETER	UNIT	WIREWOUND CHARACTERISTICS	METAL OXIDE CHARACTERISTICS		
Temperature Coefficient	ppm/ $^\circ C$	± 400	± 400		
Short Time Overload	-	5 x rated power for 5 s	5 x rated power for 5 s		
Terminal Strength	lb	10 minimum	10 minimum		
Operating Temperature Range	$^\circ C$	-65 to +275	-65 to +225		
Dielectric Withstanding Voltage	V _{AC}	1000	1000		
Maximum Working Voltage	V	$(P \times R)^{1/2}$	$(P \times R)^{1/2}$		

GLOBAL PART NUMBER INFORMATION					
Global Part Numbering Example: CP000515R00JE663					
C	P	0	0	5	1 5 R 0 0 J E 6 6 3
GLOBAL MODEL (See Standard Electrical Specifications Global Model column for options)	VALUE $R = \text{decimal}$ $K = \text{thousand}$ $R1500 = 0.15 \Omega$ $1K500 = 1500 \Omega$	TOLERANCE $J = \pm 5.0 \%$ $K = \pm 10.0 \%$	PACKAGING E66 = lead (Pb)-free bulk pack	SPECIAL (Dash number) (Up to 3 digits) From 1 to 999 as applicable	

DIMENSIONS in inches [millimeters]

CPxxxx

CPxxxx...3


GLOBAL MODEL	DIMENSIONS in inches [millimeters]					
	L ⁽¹⁾ ± 0.060 [1.5]	W ± 0.040 [1.0]	H ± 0.040 [1.0]	H1 ± 0.060 [1.5]	LD ± 0.002 [0.05]	LL ± 0.120 [3.0]
CP0002	0.71 [18]	0.276 [7]	0.276 [7]	-	0.0256 [0.65]	1.378 [35]
CP0003	0.87 [22]	0.315 [8]	0.315 [8]	-	0.031 [0.8]	1.378 [35]
CP0005	0.87 [22]	0.394 [10]	0.354 [9]	-	0.031 [0.8]	1.378 [35]
CP0005...3	0.87 [22]	0.394 [10]	0.354 [9]	0.413 [10.5]	0.031 [0.8]	1.378 [35]
CP0007	1.38 [35]	0.394 [10]	0.354 [9]	-	0.031 [0.8]	1.378 [35]
CP0007...3	1.38 [35]	0.394 [10]	0.354 [9]	0.472 [12]	0.031 [0.8]	1.378 [35]
CP0010	1.89 [48]	0.394 [10]	0.354 [9]	-	0.031 [0.8]	1.378 [35]
CP0010...3	1.89 [48]	0.394 [10]	0.354 [9]	0.472 [12]	0.031 [0.8]	1.378 [35]
CP0015	1.89 [48]	0.492 [12.5]	0.453 [11.5]	-	0.031 [0.8]	1.378 [35]
CP0020	2.36 [60]	0.551 [14]	0.531 [13.5]	-	0.031 [0.8]	1.378 [35]

Notes
⁽¹⁾ Potting compound may extend outside of ceramic case up to 0.060 [1.52] maximum per side

MATERIAL SPECIFICATIONS

Element: wirewound = copper-nickel alloy or nickel-chrome alloy, depending on resistance value;
metal oxide = high temperature fired metal oxide film

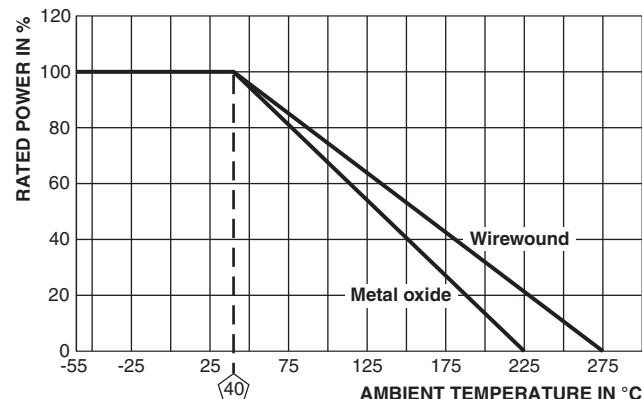
Core: wirewound = ceramic
metal oxide = ceramic

Body: steatite ceramic case with inorganic potting compound

End Caps: tin plated steel

Terminals: tinned copper

Part Marking: DALE, model, wattage, value, tolerance, date code

DERATING

PERFORMANCE

TEST	CONDITIONS OF TEST	TEST LIMITS (EIA-344)
Thermal Shock	-55 °C to +275 °C (+225 °C for metal oxide), 5 cycles, 30 min dwell time	± (5.0 % + 0.05 Ω) ΔR
Short Time Overload	5 x rated power for 5 s	± (4.0 % + 0.05 Ω) ΔR
Dielectric Withstanding Voltage	1000 V _{RMS} , for 1 min	± (2.0 % + 0.05 Ω) ΔR
Low Temperature Storage	-65 °C, full rated working voltage for 45 min	± (3.0 % + 0.05 Ω) ΔR
Humidity	75 °C, 90 % to 100 % RH, 240 h	± (5.0 % + 0.05 Ω) ΔR
Load Life	1000 h at rated power, + 25 °C, 1.5 h "ON", 0.5 h "OFF"	± (10.0 % + 0.05 Ω) ΔR
Terminal Strength	5 pounds for 30 s; body twisted about axis, 3 x 360° rotations	± (2.0 % + 0.05 Ω) ΔR
Resistance to Solder Heat	Terminal immersed 3.5 s in molten solder at 1/8" to 3/16" from body	± (4.0 % + 0.05 Ω) ΔR

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