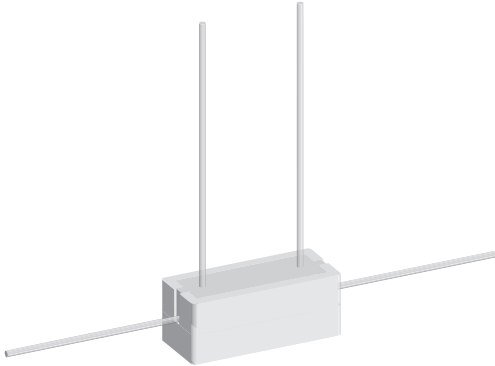


## Wirewound Resistors, Commercial Power, Four Terminal, Low Value



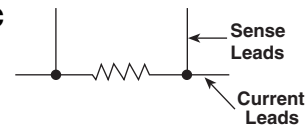
### FEATURES

- Low Inductance
- Extremely low resistance values
- Current sensing
- Low temperature coefficients
- High power to size ratio
- Ceramic cases are available with circuit board stand-offs (designated with a -3 model ending)
- Superior surge capability
- Complete welded construction
- Special inorganic potting compound and ceramic case provide high thermal conductivity in a fireproof package



**RoHS\***  
COMPLIANT

### SCHEMATIC



### STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	HISTORICAL MODEL	POWER RATING $P_{40^{\circ}\text{C}}$ W	RESISTANCE RANGE $\Omega$ $\pm 5\%$ STANDARD, $\pm 3\%$ AVAILABLE	WEIGHT (TYPICAL) g
CPSL03...5	CPSL-3-5	3	0.01 - 0.10	4.0
CPSL03...3	CPSL-3-3	3	0.01 - 0.10	4.2
CPSL05...5	CPSL-5-5	5	0.01 - 0.10	5.2
CPSL05...3	CPSL-5-3	5	0.01 - 0.10	5.4
CPSL07...5	CPSL-7-5	7	0.01 - 0.10	7.6
CPSL10...5	CPSL-10-5	10	0.01 - 0.10	10.2
CPSL15...5	CPSL-15-5	15	0.01 - 0.10	18.9

### TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	CPSL RESISTOR CHARACTERISTICS
Temperature Coefficient	ppm/ $^{\circ}\text{C}$	$\pm 100$ maximum
Short Time Overload	-	5 x rated power for 5 seconds
Maximum Working Voltage	V	$(P \times R)^{1/2}$
Operating Temperature Range	$^{\circ}\text{C}$	- 65/+ 275
Terminal Strength	lb	10 minimum
Dielectric Withstanding Voltage	$V_{AC}$	1000

### GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: CPSL05R0500JB143 (preferred part numbering format)

C P S L 0 5 R 0 5 0 0 J B 1 4 3

#### GLOBAL MODEL

CPSL03  
CPSL05  
CPSL07  
CPSL10  
CPSL15

#### VALUE

R = Decimal  
R1000 = 0.10  $\Omega$

#### TOLERANCE

F =  $\pm 1.0\%$   
G =  $\pm 2.0\%$   
H =  $\pm 3.0\%$   
J =  $\pm 5.0\%$   
K =  $\pm 10\%$

#### PACKAGING

E14 = Lead (Pb)-free bulk  
E31 = Lead (Pb)-free four layer bulk  
B14 = Tin/lead bulk  
B31 = Tin/lead four layer bulk

#### SPECIAL

Dash Number)  
(up to 3 digits)  
From 1-999 as applicable

Historical Part Number example: CPSL-5-3 0.05  $\Omega$  5% B14 (will continue to be accepted)

CPSL-5-3

0.05  $\Omega$

5%

B14

HISTORICAL MODEL

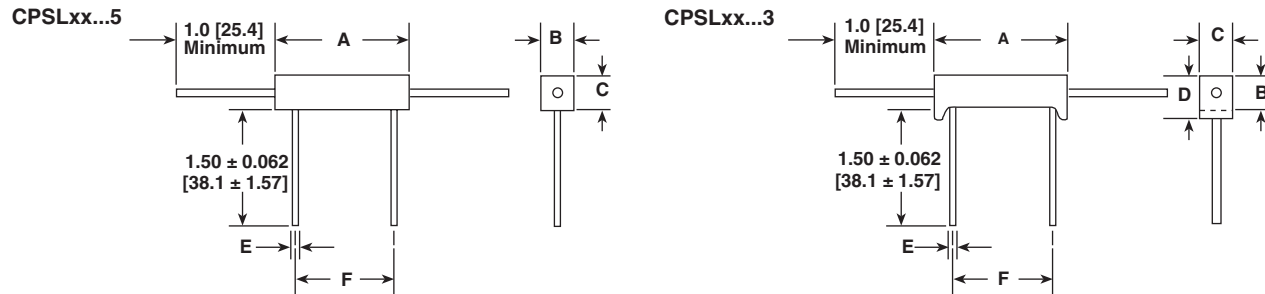
RESISTANCE VALUE

TOLERANCE CODE

PACKAGING

\* Pb containing terminations are not RoHS compliant, exemptions may apply

## DIMENSIONS



GLOBAL MODEL	DIMENSIONS in inches [millimeters]					
	A* ± 0.031 [0.794]	B ± 0.031 [0.794]	C ± 0.031 [0.794]	D ± 0.031 [0.794]	E ± 0.001 [0.025]	F ± 0.063 [1.59]
CPSL03...5	0.875 [22.22]	0.313 [7.94]	0.313 [7.94]	-	0.036 [0.914]	0.563 [14.30]
CPSL03...3	0.875 [22.22]	0.313 [7.94]	0.313 [7.94]	0.375 [9.52]	0.036 [0.914]	0.563 [14.30]
CPSL05...5	0.875 [22.22]	0.375 [9.52]	0.344 [8.73]	-	0.036 [0.914]	0.563 [14.30]
CPSL05...3	0.875 [22.22]	0.375 [9.52]	0.344 [8.73]	0.438 [11.11]	0.036 [0.914]	0.563 [14.30]
CPSL07...5	1.391 [35.32]	0.375 [9.52]	0.344 [8.73]	-	0.036 [0.914]	1.000 [25.40]
CPSL10...5	1.875 [47.62]	0.375 [9.52]	0.344 [8.73]	-	0.036 [0.914]	1.375 [34.93]
CPSL15...5	1.875 [47.62]	0.500 [12.70]	0.500 [12.70]	-	0.036 [0.914]	1.375 [34.93]

\* Potting compound may extend outside of ceramic case up to 0.060 [1.52] maximum per side.

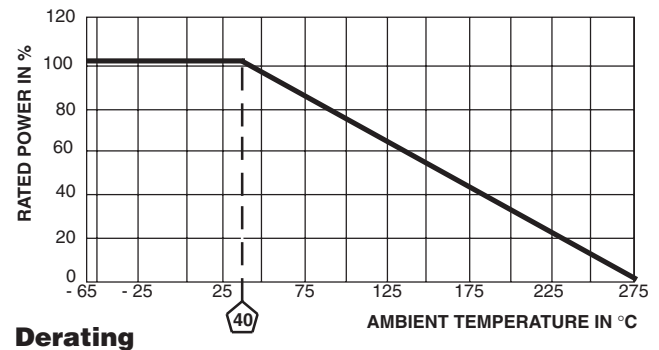
## MATERIAL SPECIFICATIONS

**Element:** Self-supporting copper-nickel alloy or nickel-chrome alloy, depending on resistance value

**Body:** Steatite ceramic case with inorganic potting compound

**Terminals:** Tinned copper

**Part Marking:** Dale, Model, Wattage, Value, Tolerance, Date Code



PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS
Thermal Shock	- 55 °C to + 275 °C, 5 cycles, 30 minute dwell time	± (5.0 % + 0.05 Ω) ΔR
Short Time Overload	5 x rated power for 5 seconds	± (4.0 % + 0.05 Ω) ΔR
Dielectric Withstanding Voltage	1000 V <sub>rms</sub> for one minute	± (2.0 % + 0.05 Ω) ΔR
Low Temperature Operation	- 65 °C, full rated working voltage for 45 minutes	± (3.0 % + 0.05 Ω) ΔR
Bias Humidity	75 °C, 90 % - 100 % RH, 240 hours	± (5.0 % + 0.05 Ω) ΔR
Load Life	1000 hours at rated power, + 40 °C, 1.5 hours "ON", 0.5 hours "OFF"	± (5.0 % + 0.05 Ω) ΔR
Terminal Strength	5 to 10 second 10 pound pull test, torsion test - 3 alternating directions, 360° each	± (1.0 % + 0.05 Ω) ΔR
Resistance to Solder Heat	Terminal immersed 3.5 seconds in molten solder at 1/8" to 3/16" from body	± (1.0 % + 0.05 Ω) ΔR



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