FEATURES

- Resistances from 0.001 Ohm to 10Ohms
- Power Rating to 30 Watt
- Resistance Tolerances to ±0.1%
- TCR to ±3ppm/K
- Very Low Inductance
- Load Stability to 0.1%

Pb-free Available

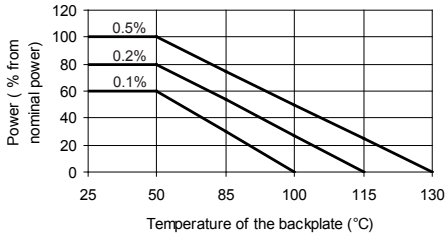
RoHS* COMPLIANT

TABLE 1—SPECIFICATIONS		
TYPE		PCS 301
Resistance Range		0.001 to 10 Ohms
Power Rating	**Free air 70°C**	3W
	With heatsink	30W
Tolerances from 0R001		0.1% / 0.25% / 0.5% / 1% / 2% / 5%
Thermal Resistance		3.5 K/W
Stability (1000h)		0.1% / 0.2% / 0.5% (depends on stress)
Temperature Coefficient **≥ 0.001 Ω to < 0.01 Ω** **≥ 0.01 Ω to < 0.05 Ω** **≥ 0.05 Ω to <0.1 Ω** **≥ 0.1 Ω to 10 Ω**		 ±15 ppm/K (0 to 60°C) ±10 ppm/K (0 to 60°C) ±5 ppm/K (0 to 60°C) ±3 ppm/K (0 to 60°C)
Voltage Proof		300 VDC
Maximum Current		15 A
Thermal EMF		< 1µV/K
Operating Temperature Range		-40 to 130 °C
Resistor Material		Bulk Metal® Foil
Substrate		Anodized aluminium
Housing		Epoxy
Connector Material		Cu / tinned
Terminals		4 (S-Standard)
Max. Torque		1 Nm

ORDERING INFORMATION

Part Number - Resistance - Contact - Tolerance
PCS 301 0R005 S 0.1%

FIGURE 1—DERATING

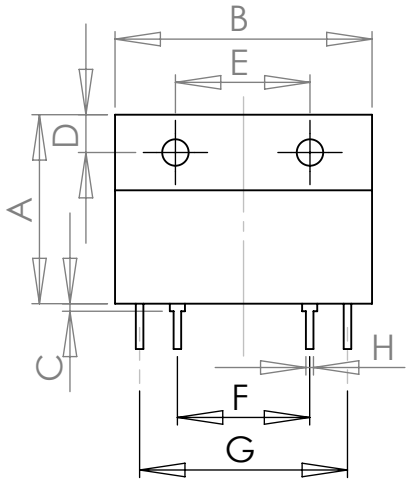


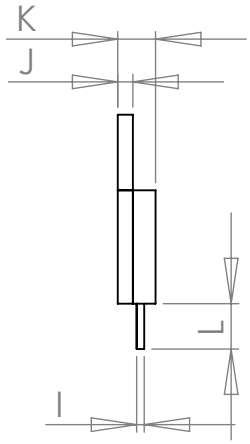
Power Rating Notes -
The PCS Series Resistors must be attached to a suitable heat-sink. The maximum internal resistor temperature is 130°C.
To specify an appropriate heatsink use the following formula :

$$R_{\theta H} = \frac{T_{MAX} - (P \times R_{\theta R}) - T_A}{P}$$

Where: $R_{\theta H}$ = Thermal Resistance of Heatsink (K/W)
$R_{\theta R}$ = Thermal Resistance of Resistor (K/W)
T_{MAX} = Maximum Temperature of Resistor
T_A = Ambient Temperature of Heatsink (°C)
P = Power Through Resistor (W)

FIGURE 2—DIMENSIONS in mm (inches)





Dimension	S-contact
A ±0.2 (±0.008)	25.00 (0.98)
B ±0.5 (±0.02)	34.00 (1.34)
C ±0.1 (±0.004)	1.00 (0.04)
D ±0.1 (±0.004)	5.00 (0.2)
E ±0.2 (±0.008)	17.80 (0.70)
F ±0.2 (±0.008)	17.50 (0.69)
G ±0.2 (±0.008)	27.50 (1.08)
H ±0.1 (±0.004) rectangular ±0.1 (±0.004)	Ø1.00 (0.04) 0.40 (0.02)
I ±0.1 (±0.004)	1.00 (0.04)
J ±0.2 (±0.008)	2.00 (0.08)
K ±0.2 (±0.008)	5.00 (0.20)
L (Minimum)	5.50 (0.22)

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