

FEATURES

- Resistances from 0.002Ohm to 10Ohms
- Power Rating to 15Watt
- Resistance Tolerances to $\pm 0.1\%$
- TCR to $\pm 25\text{ppm/K}$
- Load Stability to 0.1%
- SMD D2Pak

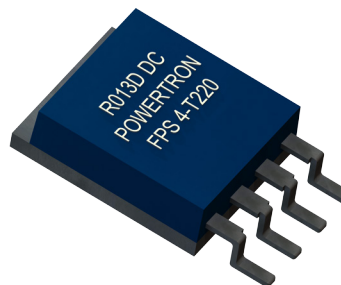


TABLE 1 – SPECIFICATIONS	
TYPE	
FPS 4-T220	
Resistance Range	
0.002 to 10 Ohms	
Power Rating	Free air 70°C
	1.5W
	With heatsink
	15W
Tolerances	
from 0.002 Ohms	
1% / 2% / 5%	
from 0.01 Ohms	
0.1% / 0.25% / 0.5% / 1% / 2% / 5%	
Thermal Resistance	
4.8 K/W	
Stability (1000h)	
0.1% / 0.2% / 0.5%	
(depends on stress)	
Temperature Coefficient	
Standard (Q)	
$\pm 25\text{ ppm/K}$ (20 to 60°C)	
Extended Temperature Range (R)	
$\pm 50\text{ ppm/K}$ (-40 to 130°C)	
other specifications upon request	
Voltage Proof	
300 VDC	
Maximum Current	
50A	
Thermal EMF	
$< 1\mu\text{V/K}$	
Operating Temperature Range	
-40 to 130°C	
Resistor Material	
CuNiMn-Foil	
Substrate	
Anodized aluminium	
Backplate	
Copper / Nickel-plated	
Housing	
PPS	
Connector Material	
Cu / tinned	
Soldering Profile	
lead free soldering	
time above 220°C max. 90 s	
max. temperature 245°C	
and JEDEC-J-STD-020	
Terminals	
4 (standard contact S)	

ORDERING INFORMATION
Part Number - Resistance - Contact - Tolerance - TCR
FPS 4-T220 0R010 S 0.1% Q

FIGURE 1 – TEMPERATURE COEFFICIENT

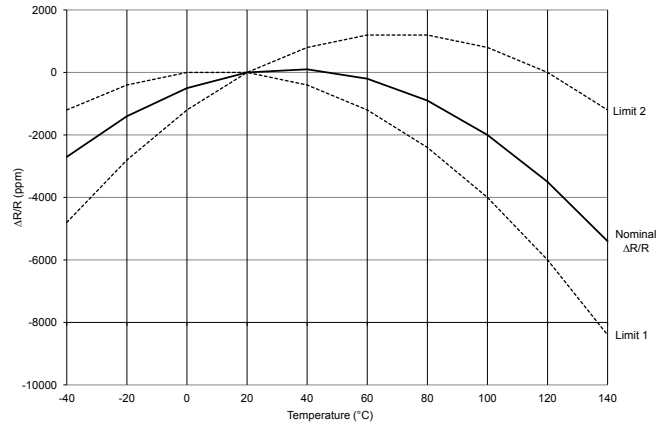
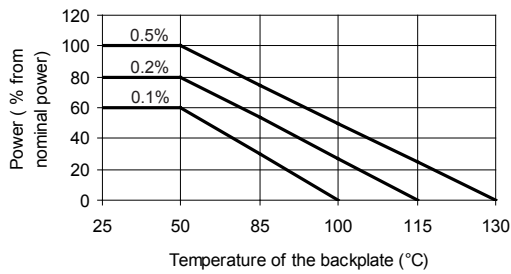


FIGURE 2 – DERATING



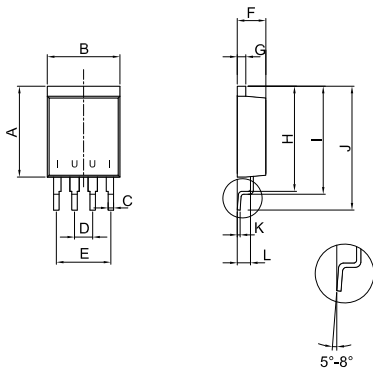
Power Rating Notes -

The FPS 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 :

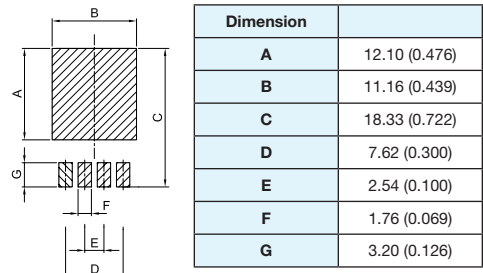
$$R_{0H} = \frac{T_{MAX} - (P \times R_{0R}) - T_A}{P}$$

Where: R_{0H} = Thermal Resistance of Heatsink (K/W)
 R_{0R} = 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 3 – DIMENSIONS in mm (inches)



Dimension	
A ±0.2 (±0.008)	12.70 (0.50)
B ±0.2 (±0.008)	10.16 (0.40)
C ±0.1 (±0.004)	0.76 (0.03)
D ±0.1 (±0.004)	2.54 (0.10)
E ±0.1 (±0.004)	7.62 (0.30)
F ±0.1 (±0.004)	4.00 (0.16)
G ±0.1 (±0.004)	1.20 (0.05)
H ±0.2 (±0.008)	14.60 (0.57)
I ±0.2 (±0.008)	15.00 (0.59)
J ±0.2 (±0.008)	17.33 (0.68)
K ±0.1 (±0.004)	0.40 (0.20)
L ±0.1 (±0.004)	1.85 (0.07)





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