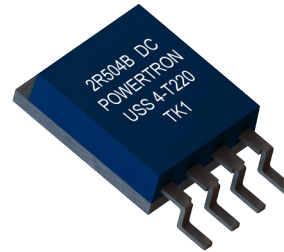


FEATURES

- Resistances from 0.2Ohm to 80Ohms
- Power Rating to 15Watt
- Resistance Tolerances to $\pm 0.01\%$
- TCR to $\pm 1\text{ppm/K}$
- Load Stability to 0.01%



RoHS*
COMPLIANT

TABLE 1 – SPECIFICATIONS			
TYPE		USS 4-T220	UNS 4-T220
Resistance Range		0.2 to 80 Ohms	
Power Rating	Free air 70°C	1.5W	1.5W
	With heatsink	10W	15W
Tolerances		0.1% / 0.25% / 0.5% / 1%	
from 0.5 Ohms		0.05% / 0.1% / 0.25% / 0.5% / 1%	
from 10.0 Ohms		0.01% / 0.02% / 0.05% / 0.1% / 0.25% / 0.5% / 1%	
from 50.0 Ohms			
Thermal Resistance		10.8 K/W	6.8 K/W
Stability (1000h)		0.01%	
Shelf Life Stability		25ppm / ΔR after 1 year 50ppm / ΔR after 3 year	
Temperature Coefficient		max. $\pm 5\text{ppm/K}$ (-55 to 155°C) typ. $\pm 3\text{ppm/K}$ (-55 to 125°C) upon request $\pm 1\text{ppm/K}$ (25 to 60°C)	
Voltage Proof		1 kVDC	
Thermal EMF		< 0.1 $\mu\text{V/K}$	
Operating Temperature Range		-55 to 155°C	
Resistor Material		NiCr-Foil	
Substrate		Al ₂ O ₃	AlN
Housing		PPS + Cu heatsink nickel plated	
Connector Material		Cu / tinned	
Terminals		4 (standard contact S)	
Soldering temperature		210°C <30 seconds other versions upon request	
Notes		Specially designed for applications with fast changing electrical load	

ORDERING INFORMATION
Part Number - Resistance - Contact - Tolerance - TCR (if not standard)
USS 2-T220 5K700 S 0.5% 3ppm

FIGURE 1 – TEMPERATURE COEFFICIENT

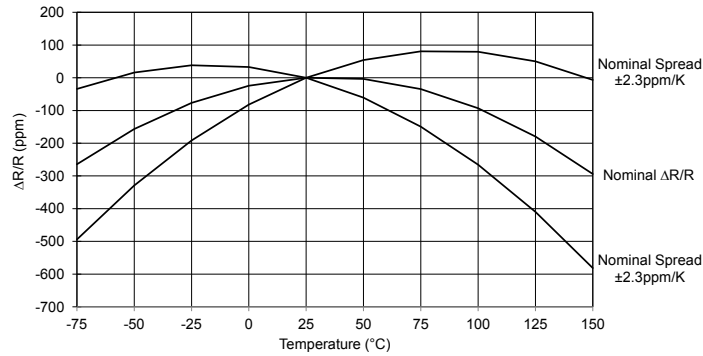
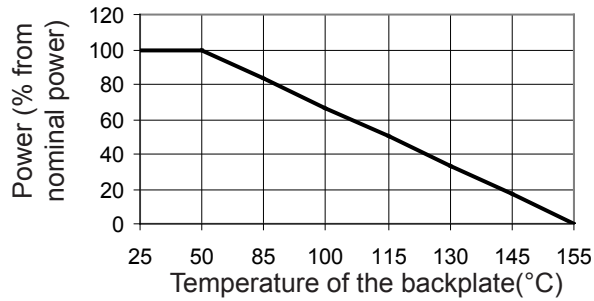


FIGURE 2 – DERATING



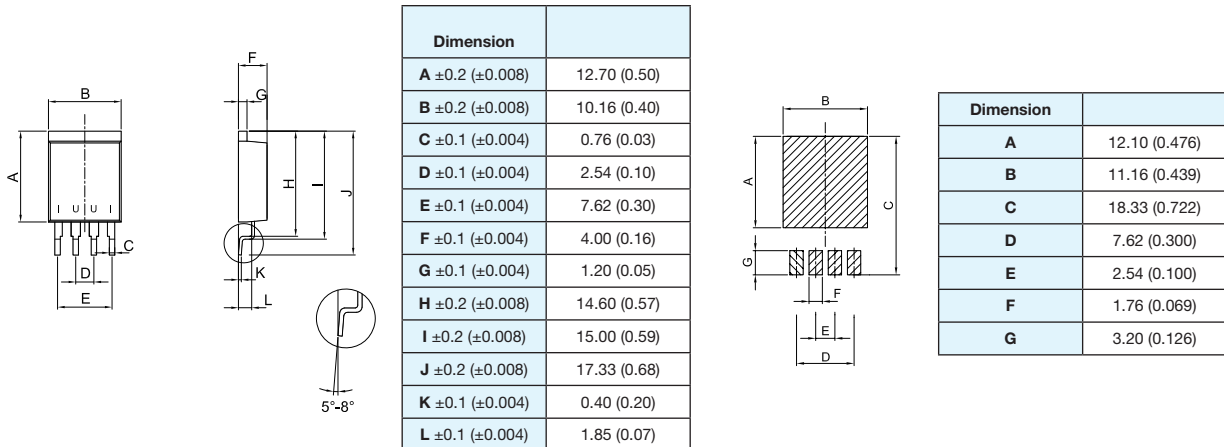
Power Rating Notes -

The U-Series Resistors must be attached to a suitable heatsink. The maximum internal resistor temperature is 155°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 3 – DIMENSIONS in mm (inches)





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