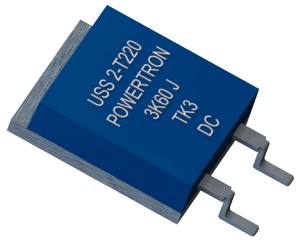
USS UNS 2-T220

FEATURES

- Resistances from 0.5Ohm to 150kOhms
- Power Rating to 15Watt
- Resistance Tolerances to ±0.01%
- TCR to ±3ppm/K
- Load Stability to 0.01%
- SMD D2Pak



Pb-free Available

RoHS* COMPLIANT

TABLE 1—SPECIFICATIONS

TYPE		USS 2-T220	UNS 2-T220
Resistance Range		0.5 Ohms to 150 kOhms	0.5 Ohms to 5 kOhms
Power Rating	**Free air 70°C**		
	free air 70°C (R<50R0)	1.5W	1.5W
	free air 70°C (R>50R0)	1.0W	1.0W
	With heatsink		
	with heatsink (R<50R0)	10W	15W
	with heatsink (R>50R0)	6W	10W
Tolerances			
from 0.5 Ohms		0.1% / 0.25% / 0.5% / 1%	
from 10.0 Ohms		0.05% / 0.1% / 0.25% / 0.5% / 1%	
from 25.0 Ohms		0.02% / 0.05% / 0.1% / 0.25% / 0.5% / 1%	
from 50.0 Ohms		0.01% / 0.02% / 0.05% / 0.1% / 0.25% / 0.5% / 1%	
Thermal Resistance Rthj-c			
R<50R0		10.8 K/W	6.8 K/W
R>50R0		18.8 K/W	10.8 K/W
Stability (1000h)		0.01%	
Shelf Life Stability		25ppm / ΔR after 1 year 50ppm / ΔR after 3 years	
Temperature Coefficient		max. ±5ppm/K (-55 to 155°C) typ. ±3ppm/K (-55 to 125°C)	
Voltage Proof		1 kVDC	
Thermal EMF		< 0.1µV/K	
Operating Temperature Range		-55 to 155°C	
Resistor Material		NiCr-Foil	
Substrate		Al_2O_3	AlN
Housing		PPS + Cu heatsink nickel plated	
Connector Material		Cu / tinned	
Terminals		2 (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%

FIGURE 1—TEMPERATURE COEFFICIENT

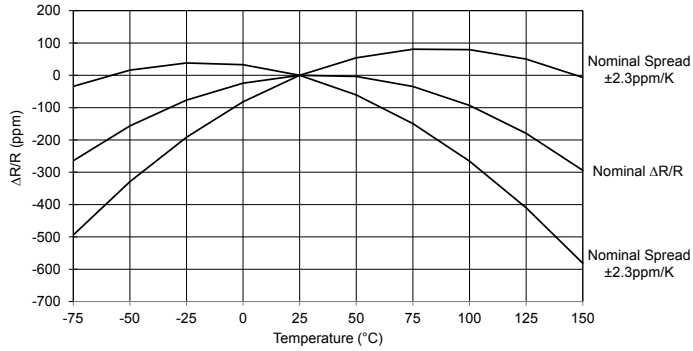
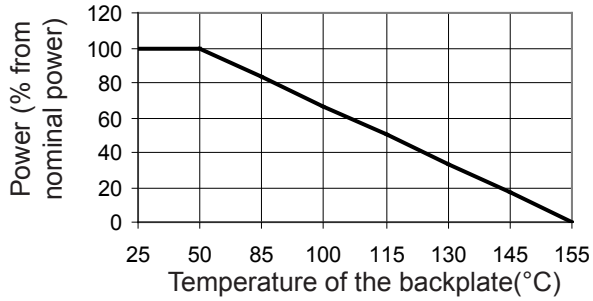


FIGURE 2—DERATING

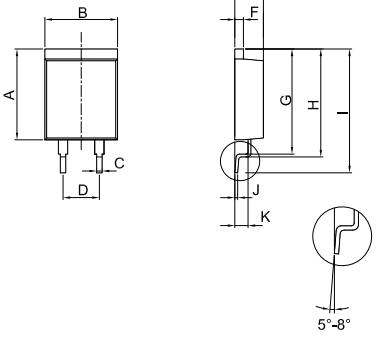


Power Rating Notes -
The U-Series Resistors must be attached to a suitable heat-sink. The maximum internal resistor temperature is 155°C.
To specify an appropriate heatsink use the following formula :

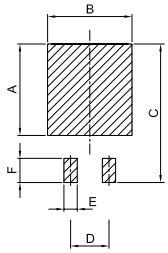
$$R_{\theta H} = \frac{T_{MAX} - (P \times R_{\theta R}) - T_A}{P}$$

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)



Dimension	mm
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)	5.08 (0.20)
E ±0.1 (±0.004)	4.00 (0.16)
F ±0.1 (±0.004)	1.20 (0.05)
G ±0.2 (±0.008)	14.60 (0.57)
H ±0.2 (±0.008)	15.00 (0.59)
I ±0.2 (±0.008)	17.33 (0.68)
J ±0.1 (±0.004)	0.40 (0.02)
K ±0.1 (±0.004)	1.85 (0.07)



Dimension	mm
A	12.10 (0.476)
B	11.16 (0.439)
C	18.33 (0.722)
D	5.08 (0.200)
E	1.76 (0.069)
F	3.20 (0.126)

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