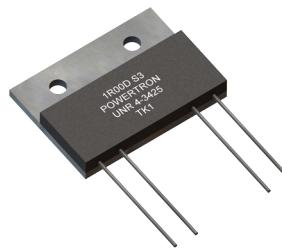


FEATURES

- Resistances from 0.05Ohm to 500Ohms
- Power Rating to 50Watt
- Resistance Tolerances to $\pm 0.01\%$
- TCR to $\pm 1\text{ppm/K}$
- Load Stability to 0.01%



RoHS*
COMPLIANT

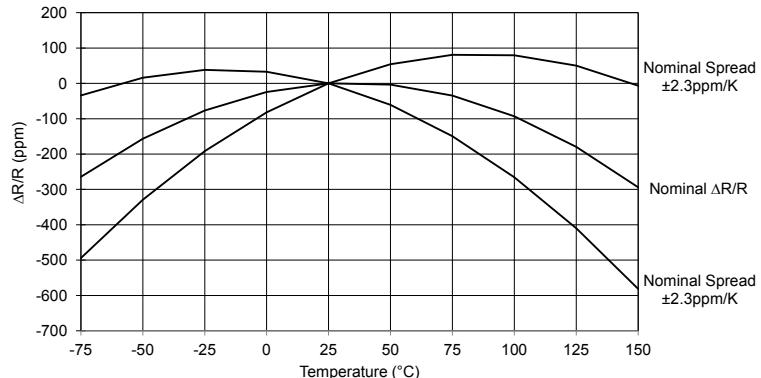
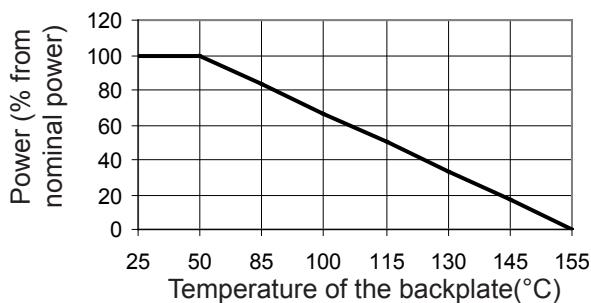
TABLE 1 – SPECIFICATIONS

TYPE		USR 4-3425	UNR 4-3425
Resistance Range		0.05 to 650 Ohms other resistance values upon request / power rating depending on resistance value	
Power Rating	Free air 70°C	3W (available with heat sink on backside: 5W)	
	With heatsink	30W	50W
Tolerances			
from 0.05 Ohms		0.1% / 0.25% / 0.5% / 1%	
from 10.0 Ohms		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		3.5 K/W	2.1 K/W
Stability (1000h)		0.01%	
Shelf Life Stability		25ppm / ΔR after 1 year 50ppm / ΔR after 3 years	
Temperature Coefficient		max. $\pm 5\text{ppm/K}$ (-55 to 155°C) typ. $\pm 3\text{ppm/K}$ (-55 to 125°C) upon request $\pm 1\text{ppm/K}$ (0 to 60°C)	
Voltage Proof		750 VDC	
Maximum Current		15A	
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		Epoxy + Al-heatsink	
Connector Material		Cu / tinned	
Terminals		4 (standard contact D)	
Max. Torque		1 Nm	
Notes		Specially designed for applications with fast changing electrical load	

ORDERING INFORMATION

Part Number - Resistance - Contact - Tolerance - TCR (if not standard)

USR 4-3425 10R000 D 0.5% 1ppm/K (0 to 60°C)

FIGURE 1—TEMPERATURE COEFFICIENT**FIGURE 2—DERATING****Power Rating Notes -**

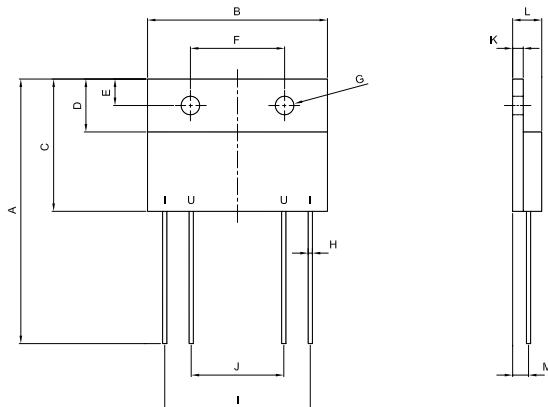
The U-Series Resistors must be attached to a suitable heatsink.

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)

Dimension	
A ± 2.0 (± 0.079)	50.00 (1.97)
B ± 0.3 (± 0.012)	34.00 (1.34)
C ± 0.2 (± 0.008)	25.00 (0.98)
D ± 0.2 (± 0.008)	10.00 (0.39)
E ± 0.1 (± 0.004)	5.00 (0.20)
F ± 0.2 (± 0.008)	17.80 (0.70)
G ± 0.1 (± 0.004)	Ø3.50 (Ø0.14)
H ± 0.1 (± 0.004)	Ø0.8 (Ø0.031)
I ± 0.2 (± 0.008)	27.50 (1.08)
J ± 0.2 (± 0.008)	17.50 (0.69)
K ± 0.1 (± 0.004)	2.00 (0.08)
L ± 0.1 (± 0.004)	5.50 (0.22)
M ± 0.2 (± 0.008)	3.00 (0.12)



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