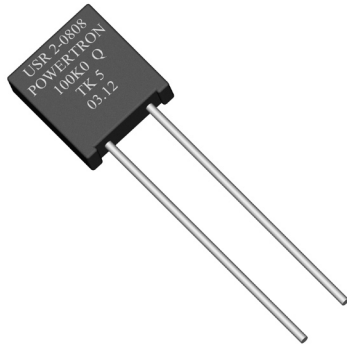


USR 2-0808 /1510 /2110 /3010

Precision Foil Resistors

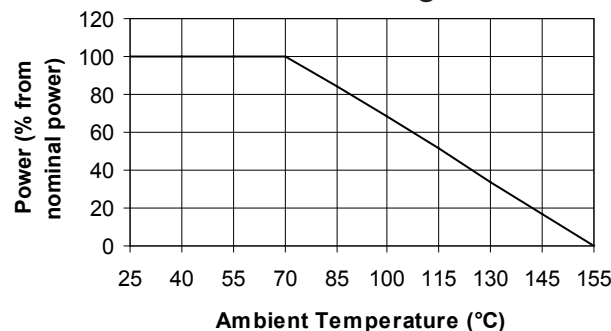


- Resistances from 10hm to 1MOhms
- Power Rating to 2Watt
- Resistance Tolerances to $\pm 0.005\%$
- TCR to $\pm 1\text{ppm/K}$
- Load Stability to 0.01%

SPECIFICATIONS

Type	USR 2-0808	USR 2-1510	USR 2-2110	USR 2-3010
Resistance Range	1.0 to 300 kOhms	1.0 to 300 kOhms	1.0 to 500 kOhms	1.0 to 1 MOhms
Power rating (70°C)	0.6W (<100 kOhms) 0.4 (>100 kOhms)	1.0W (<200 kOhms) 0.6 (>200 kOhms)	1.5W (<300 kOhms) 0.8 (>300 kOhms)	2.0W (<400 kOhms) 1.0 (>400 kOhms)
Tolerances from 1.0 Ohms from 5.0 Ohms from 12.0 Ohms from 25.0 Ohms from 100.0 Ohms	0.5% / 1% 0.05% / 0.1% / 0.25% / 0.5% / 1% 0.02% / 0.05% / 0.1% / 0.25% / 0.5% / 1% 0.01% / 0.02% / 0.05% / 0.1% / 0.25% / 0.5% / 1% 0.005% / 0.01% / 0.02% / 0.05% / 0.1% / 0.25% / 0.5% / 1%			
Stability	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 $\pm 1\text{ppm/K}$ (0 to 60°C) and $\pm 1\text{ppm/K}$ (-55 to 125°C)			
Insulation Resistance	> 10GOhm			
Thermal EMF	< 0.1 $\mu\text{V/K}$			
Operating Temperature Range	-55 to 155°C			
Resistor Material	NiCr-Foil			
Substrate	Al_2O_3			
Housing	PBTP / Epoxy			
Connector Material	Cu tinned			
Terminals	2			

Derating



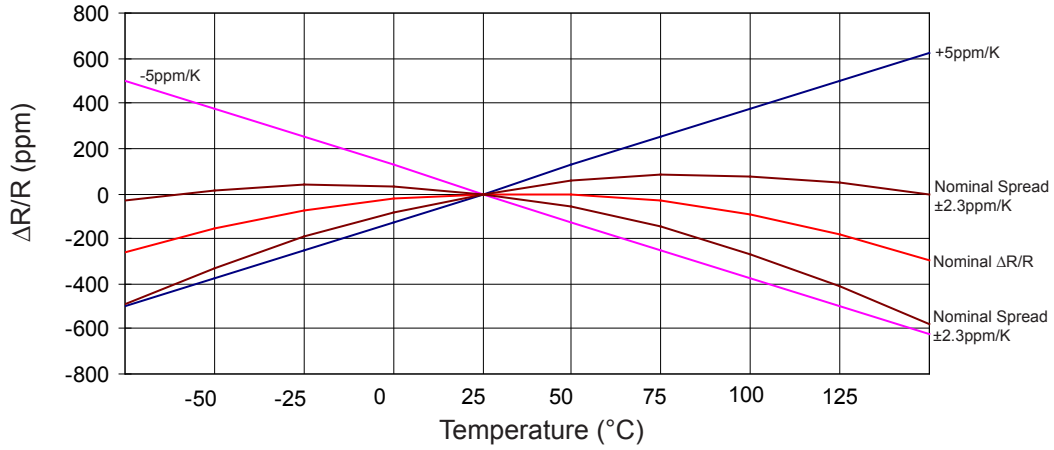
Ordering Information

Part Number - Resistance - Tolerance - TCR
 USR 2-2110 478kOhms 0.1% 5ppm

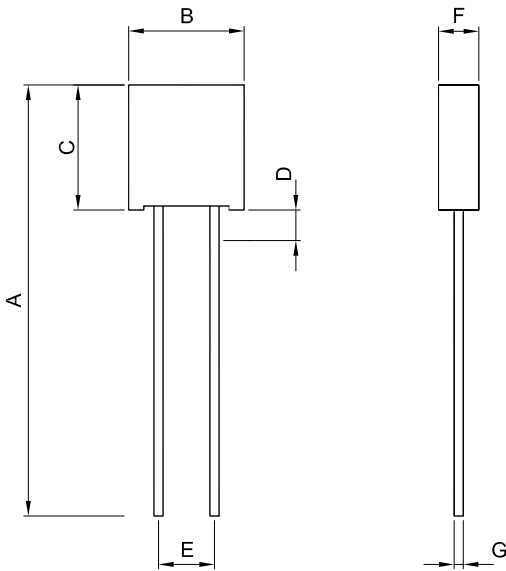
only 0808:
 Grid (E) 3.81mm (0.15inches) = D
 Grid (E) 5.08mm (0.2inches) = J

SPECIFICATIONS (continued)

Temperature Coefficient



Dimensions



Type	Dimension	mm	tol. (±mm)	inches	tol. (±inches)
USR 2-0808 Grid D	A	28.30	2.0	1.11	0.079
	B	7.62	0.1	0.30	0.004
	C	8.30	0.2	0.33	0.008
	D	2.00	0.1	0.08	0.004
	E	3.81	0.1	0.15	0.004
	F	2.67	0.1	0.11	0.004
	G (>150kOhms)	Ø0.64 Ø0.3	0.1	Ø0.03 Ø0.012	0.004
USR 2-0808 Grid J	A	28.00	2.0	1.10	0.079
	B	7.49	0.1	0.29	0.004
	C	8.00	0.2	0.31	0.008
	D	2.00	0.1	0.08	0.004
	E	5.08	0.1	0.20	0.004
	F	2.49	0.1	0.10	0.004
	G (>150kOhms)	Ø0.64 Ø0.3	0.1	Ø0.03 Ø0.012	0.004
USR 2-1510	A	30.50	2.0	1.20	0.079
	B	14.61	0.2	0.58	0.008
	C	10.49	0.2	0.41	0.008
	D	2.00	0.1	0.08	0.004
	E	10.16	0.2	0.40	0.008
	F	4.06	0.1	0.16	0.004
	G	Ø0.64	0.1	Ø0.03	0.004
USR 2-2110	A	30.50	2.0	1.20	0.079
	B	20.83	0.2	0.82	0.008
	C	10.49	0.2	0.41	0.008
	D	2.00	0.1	0.08	0.004
	E	16.51	0.2	0.65	0.008
	F	4.06	0.1	0.16	0.004
	G	Ø0.64	0.1	Ø0.03	0.004
USR 2-3010	A	30.50	2.0	1.20	0.079
	B	30.48	0.2	1.20	0.008
	C	10.49	0.2	0.41	0.008
	D	2.00	0.1	0.08	0.004
	E	22.86	0.2	0.90	0.008
	F	6.60	0.2	0.26	0.008
	G	Ø0.64	0.1	Ø0.03	0.004