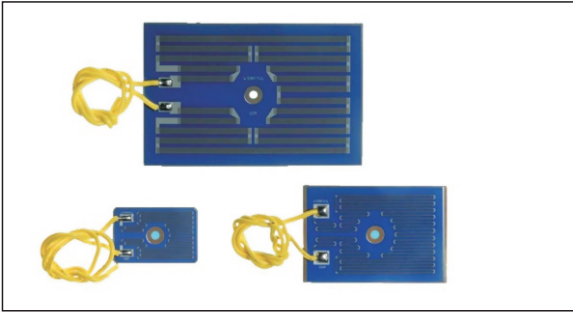


UVR Ultra Low Profile Power Resistors

Catalogue

- Features
- Applications
- Construction
- Dimensions、 Terminations
- Ordering Information
- Derating Curve
- Overload Conditions
- Electrical Data
- Thermal Performance



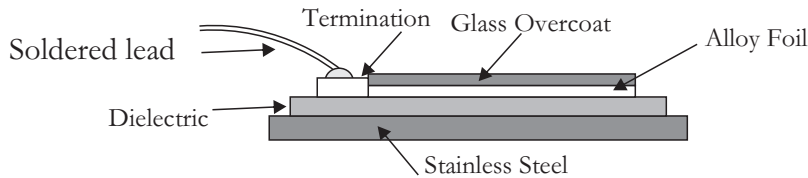
Features

- I Ultra low profile thick-film on steel
- II 500W to 7kW peak power
- III Single fixing heatsink mountable
- IV Ideal for dynamic braking, inrush limit and snubber circuits
- V Choice of flying lead, push-on or solder terminations
- VI Low inductance design
- VII High isolation, even after failsafe overload fusing
- VIII RoHS compliant, non-flammable construction

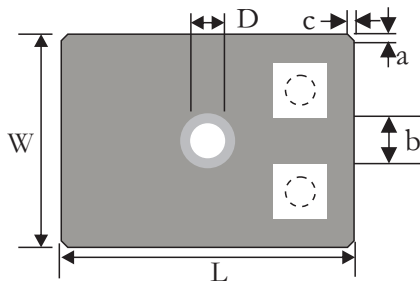
Applications

A heatsink with thermal resistance $\leq 0.53^{\circ}\text{C}/\text{W}$ will enable the component to operate at its continuous power rating. Thermal grease (e.g. DowCorning DC340) should be used and the heatsink should have a surface finish of $< 6.3\mu\text{m}$ with flatness of $< 0.05\text{mm}$. The resistor should be mounted using a screw head bolt of size M5 for UVR2, 3, 5 & 7, M3 for UVR1 and M2 for UVR1/2. This should be torqued to $2.5\text{Nm} \pm 10\%$. UVR resistors will fail safe (open circuit) under overload fault conditions and still maintain a 1kV dielectric withstand.

Construction



Dimensions, Terminations



Substrate thickness = t
Fixing hole is located centrally

Type	Dimensions (mm)							
	L ± 0.1	W ± 0.1	t ± 0.1	ΦD nom	a nom	b nom	c nom	wt. nom
UVR1/2	31.9	28.1	0.9	2.2	7.5	3.1	4.3	6.5
UVR 1	49.3	35.9	0.9	3.2	3.2	11.2	6.2	12.6
UVR 2	61.0	40.6	0.9	5.3	4.7	13.0	5.8	17.1
UVR 3	101.6	70.0	0.9	5.3	13.5	22.0	10.2	50.8
UVR 5	122.0	70.0	0.9	5.3	14.0	23.8	7.4	60.7
UVR 7	152.4	101.6	1.5	5.3	15.0	51.3	9.2	181.8
Option	C ode	Nominal Dimensions						
Solder pad only SnAg (96S)	O							
Flying leads UL3134/5 40A, 600V	L							
Push-on connectors (UVR 1, 2, 3, 5, 7)	T							

Ordering Information

Example:

UVR	100R	K	O
(1)	(2)	(3)	(4)
Series Name	Resistance	Resistance Tolerance	Termination

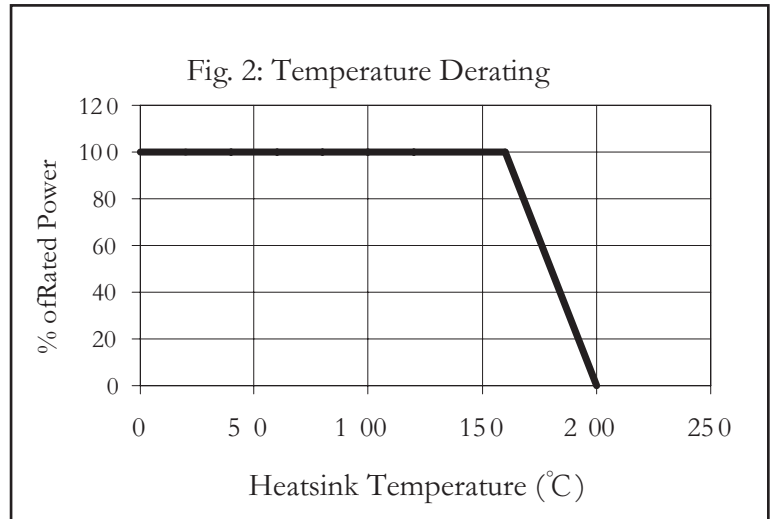
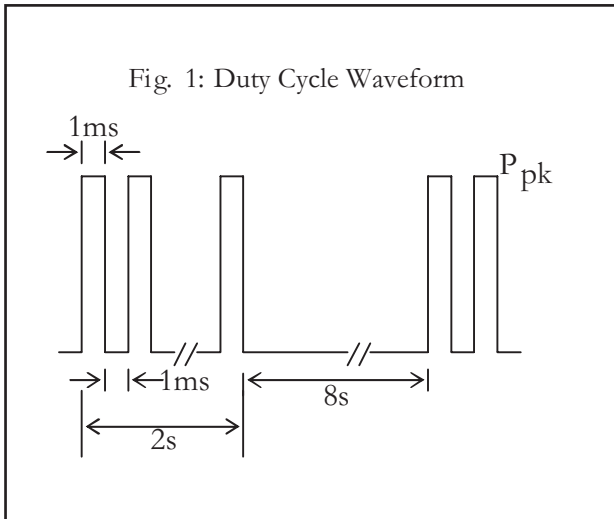
(1) Series Name: UVR

(2) Resistance: 0R100=1Ω, 10R00=10Ω, 1K000=1KΩ, 10K00=10KΩ

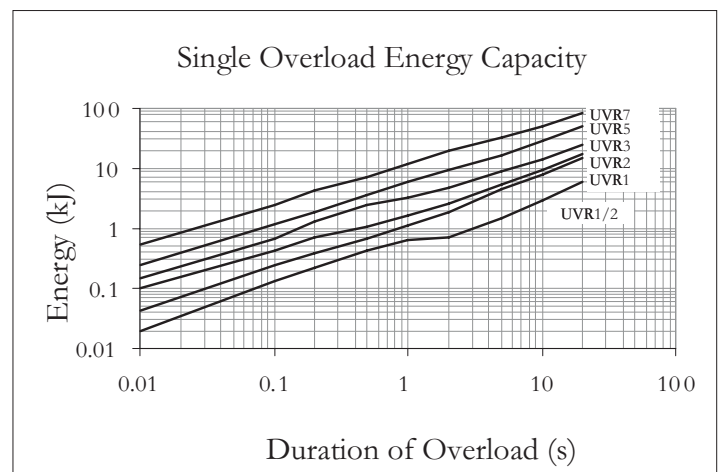
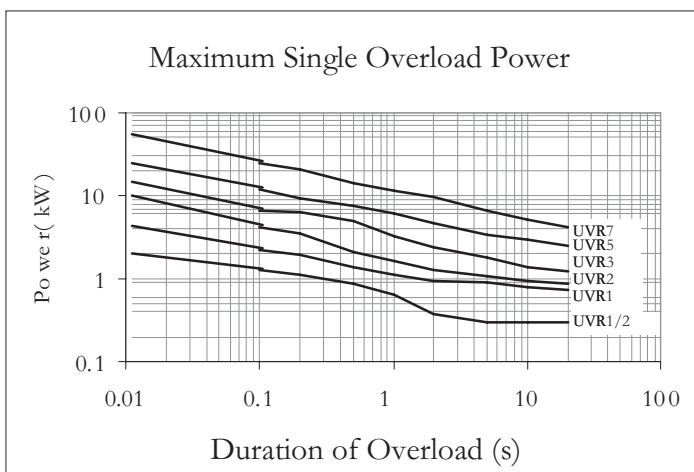
(3) Resistance Tolerance: K= ± 10%

(4) Termination: O = Solder pad only, L= Flying leads, T= Push-on connectors

Derating Curve



Overload Conditions



Electrical Data

		UVR1/2	UVR1	UVR2	UVR3	UVR5	UVR7
Resistance range	Ohms	22, 47, 100	12, 22, 47, 100, 150				47, 100, 150
Resistance tolerance	%	10					
Pulse power rating ¹	KW	0.5	1.5	2.0	3.5	5.0	7.0
Power rating on heatsink ²	W	160	180	200	260	270	280 ⁴
Power rating on fan-cooled heatsink ³	W	300	700	780	900	1000	1490 ⁴
TCR	ppm/°C	+ 500 to +600					
Maximum element temperature	°C	365					
Dielectric withstand ⁵	V (dc/ac peak)	2500					
Inductance (typical)	μ H	<3		<4	<5		<6

Notes:

1. For details of pulse condition see Fig. 1 in Performance Data.
2. Mounted on a 0.53°C/W heatsink with no forced air cooling, air temperature 25°C.
3. Mounted on a 0.53°C/W heatsink with 5m/s forced air cooling, air temperature 25°C.
4. Limited by the solder type; the rating can be improved for non-standard parts by using HMP solder.
5. Based on 100% production test, duration 2s minimum

Thermal Performance

		Maximum
Pulsed load at full pulse power rating 50,000 cycles (see Fig 1)		5
Mounted on a 0.53°C/W heatsink with 5m/s forced air cooling, air temperature 25°C.	Δ R%	
Derating at heatsink temperatures >160°C	S	see Fig. 2