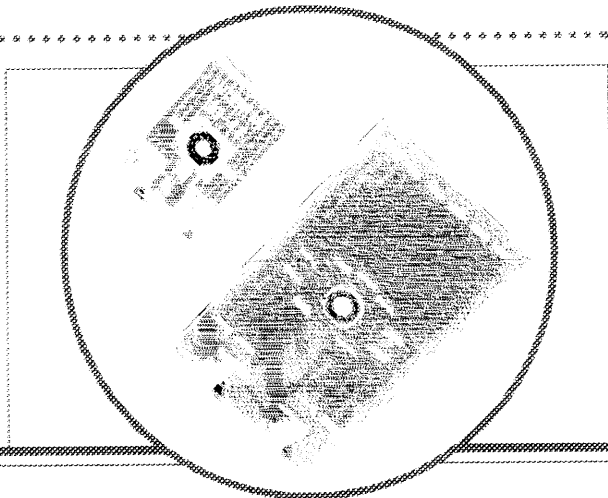


Ultra Low Profile Dynamic Braking/Power Resistors

WDBR Series

- Simple construction, lower installation cost
- 2kW and 5kW versions
- Failsafe
- Low inductance
- UL and IP approval pending
- Enables reduction in overall product size



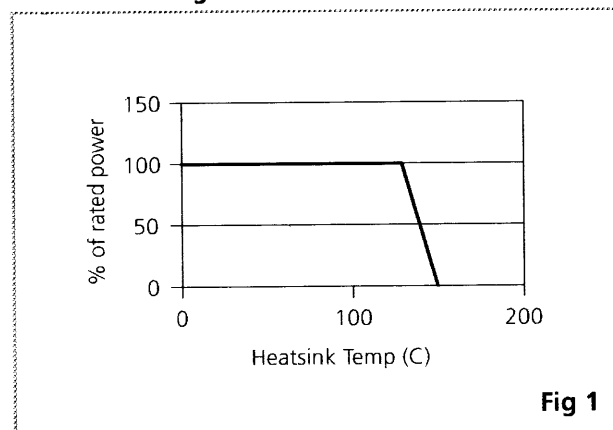
This new range of thick film on steel planar power resistors offers high pulse withstand capability, compact footprint and low profile, to many demanding applications including dynamic motor braking and industrial welding.

Electrical Data

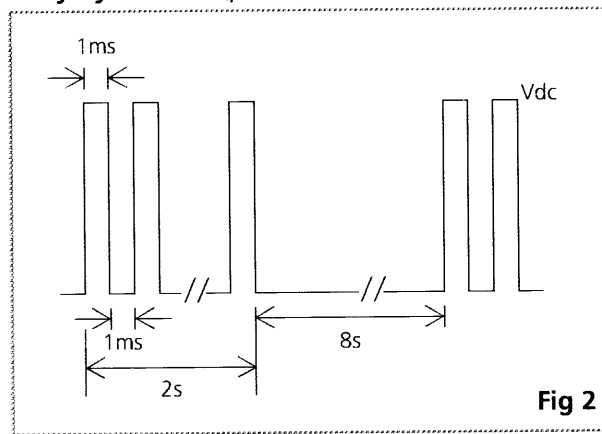
		WDBR2	WDBR5
Resistance range	Ω	5R0 to 270R	
Standard values		E12	
Max ΔR at rated pulse load (te)		$\pm 20\%$	
Max pulse power (min 50000 cycles as per Fig 2)	kW	2	5
Stability (nominal load) after 50000 cycles	ΔR	$< \pm 5\%$	
Max resistor 'hot spot' temperature	$^{\circ}\text{C}$	365	
Min dielectric withstand voltage	V DC	2500	
Max single pulse power (1ms pulse non-repetitive)	W	8000	16000
Max continuous load	W	100	300
Derating		See Fig 1	
Inductance (typical)	μH	< 3	< 5

Testing carried out on a heatsink (thermal resistance 0.5°C/W), force cooled at 15 m/s air velocity for 50000 cycles.

Power Derating



Duty Cycle 2s on (pulsed) 8s off



General Note

Welwyn Components reserves the right to make changes in product specification without notice or liability. All information is subject to Welwyn's own data and is considered accurate at time of going to print.

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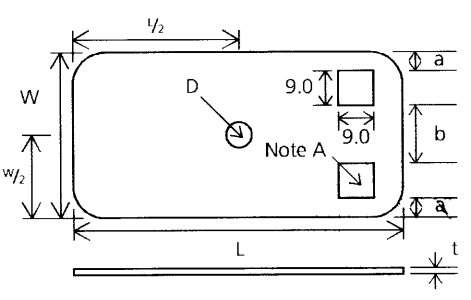
Issue G - 07.01

Ultra Low Profile Dynamic Braking/Power Resistors

WDBR Series

Physical Data

Dimensions (mm)							
Type	L	W	t	BD	a	b	Note A
WDBR2	60.96	40.64	0.9	5.3	4.75	13	See termination style
WDBR5	122	70	0.9	5.3	13	24	



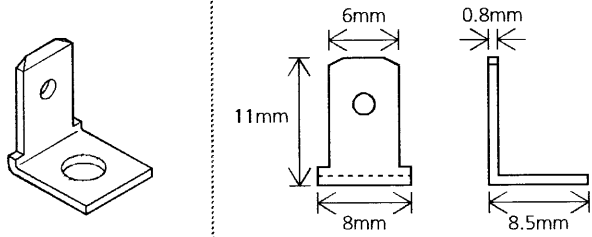
Termination Style

WDBR resistors are available with push-on connections (T) or flying leads (L), as detailed below:

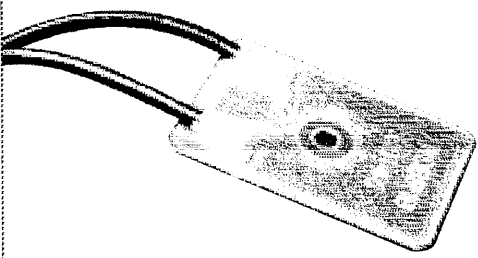
Style T, standard push-on connections as shown below are fitted to the resistor.

Style L, flying leads, 250mm long are attached to the resistor these are rated at 30A. The cable used conforms to BS7211, low smoke zero halogen insulated power cable. The soldered joint is protected using an epoxy encapsulant.

Style T



Style L



Application Notes

It is important to select a heatsink with low thermal resistance (typically $\leq 0.12^{\circ}\text{C/W}$) to enable the component to operate at its continuous power rating. Forced air cooling is required to maintain the specified temperature limits.

A thermal grease (e.g. Dow Corning DC340 or equivalent), should be applied between the heatsink and the resistor. The resistor should be mounted using an M4 screw head bolt, torqued to a maximum of $2.5 \pm 10\% \text{ Nm}$. The mounting area of the heatsink must have a surface finish of $\leq 6.3 \mu\text{m}$ with a flatness of $\leq 0.05 \text{ mm}$.

WDBR resistors will 'failsafe' (open circuit) under overload (fault) conditions whilst maintaining a dielectric withstand of 1kV minimum.

Ordering Procedure

Specify type reference etc as shown in this example of a WDBR2 120R 20% with flying leads

Type

WDBR

2

L

120R

Power rating

22kW

55kW

Termination style

LFlying leads

TPush-on connectors

Value (use IEC 62 code)

For additional information or to discuss your specific requirements please contact our Resistor Applications Team using the contact details below.