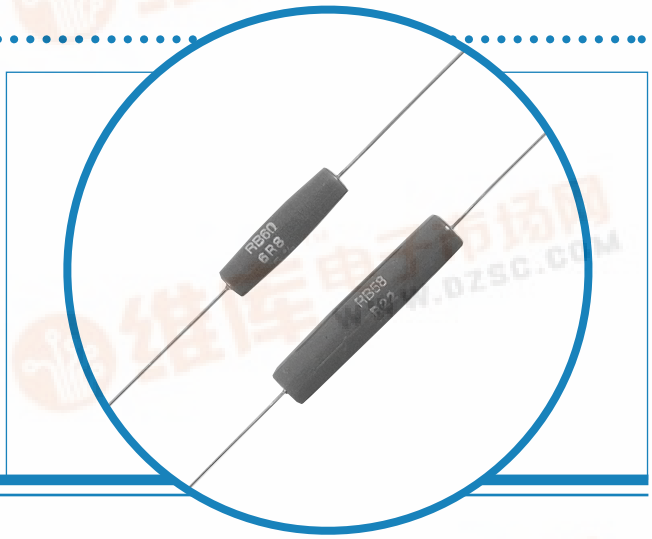
Vitreous Enamelled Wirewound Resistors

TT electronics
Welwyn Components

V700 (RB Style) Series

- **BS/CECC approved**
- **Stability for harsh environments**
- **Overload characteristics ideal for protection circuits**
- **High stability and reliability**
- **High power dissipation for size**
- **Impervious lead free vitreous enamel coating**



Electrical Data

		V757 (RB57)	V758 (RB58)	V759 (RB59)	V760 (RB60)	V761 (RB61)
Power rating at 25°C	watts	7	11.0	3.0	8.0	5.0
Resistance range	ohms	0R1 to 20K	0R2 to 82K	0R1 to 10K	0R1 to 56K	0R1 to 15K
Limiting element voltage	volts	200	400	100	250	160
TCR	ppm/°C	Typically: +75			Maximum +120	
Resistance tolerance	%	5 Closer tolerances to special order				

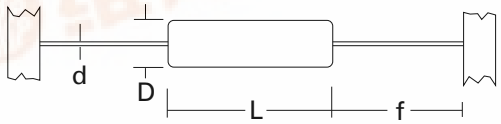
Approved CECC 40201 - 001						
Power rating at 25°C	watts	6.5		3.0	8.0	5.0
Power rating at 70°C	watts	5.6		2.6	6.9	4.3
Resistance range	ohms	0R1 to 20K		0R1 to 10K	0R1 to 56K	0R15 to 15K
Limiting element voltage	volts	160		63	250	160
TCR	ppm/°C	>20 ohms ±500		≥20 ohms -50 +250		
Resistance tolerance	%	5		5	5	5
Standard values		E24 preferred. Other values to special order				
Thermal impedance	°C/watt	44	32	88	36	58
Ambient temperature range	°C	-55 to 200				

* See temperature rise in graph Application Notes

Physical Data

Maximum Dimensions (mm) and Weight (g)

Type	L max	D max	f min	d max	Wt. Nom
V757 (RB57)	22.2	8	30	0.88	2
V758 (RB58)	47	11	30	0.88	9
V759 (RB59)	12.7	5.6	30	0.88	1
V760 (RB60)	36	10.0	30	0.88	4
V761 (RB61)	23	7.0	30	0.88	2



Construction

A high purity ceramic substrate is assembled with force fit end caps to which are welded the termination wires.

The resistive element is wound on the substrate and welded to the caps; the vitreous enamel protective coating is then applied.

Welwyn
A subsidiary of
TT electronics plc

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Terminations

Material Copper clad steel wire, nickel plated and solder-coated.

Strength The terminations meet requirements of IEC 68.2.21.

Solderability The terminations meet the requirements of IEC 115-1, Clause 4.17.3.2.

Performance Data

		CECC 40201-001	Actual Performance	
			Maximum	Typical
Load at rated power: 1000 hrs	ΔR%	5	5	3.5
Dry heat: 1000 hours at 200°c	ΔR%	5	2	1
Shelf life: 12 mths at room temp	ΔR%	Not specified	0.03	0.02
Derating from rated power at 25°C	ΔR%	Not specified	See derating curve	
Short term overload	ΔR%	2	1.5	0.5
Climatic	ΔR%	5	0.5	0.2
Climatic category	ΔR%	55/200/56	55/200/56	55/200/56
Long term damp heat	ΔR%	5	0.05	0.02
Temperature rapid change	ΔR%	1	0.5	0.05
Resistance to solder heat	ΔR%	1	0.25	0.03
Vibration	ΔR%	1	0.25	0.05
Noise (μV/V in a decade of freqency)		Not specified	zero	
Shock	ΔR%	1	0.2	0.05
Pulse handling		Data available by request		

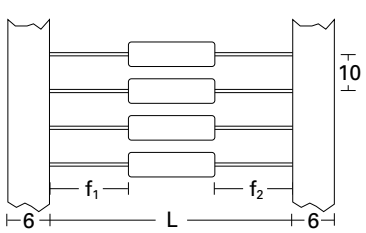
Application Notes

The terminations should not be bent closer than 1.6mm from the body, and the recommended minimum bend radius is 1.2mm. If resistors are to dissipate full rated power, the terminations should not be soldered closer than 4mm from the body.

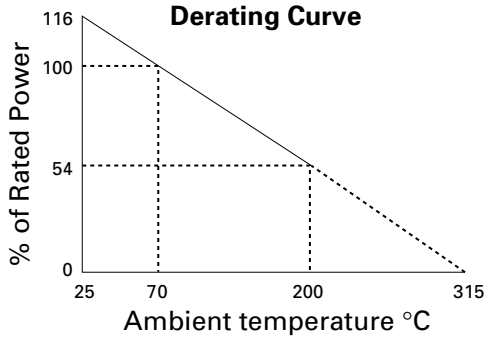
When cold, vitreous enamel has excellent insulation resistance. In common with all insulants the specific resistance of the enamel decreases with increase in temperature. Therefore, resistors operated at near maximum temperature cannot be classed as insulated and should not be used in contact with any conducting material.

Care must be taken when determining clearance distance between the resistor body and the printed circuit board or other components to ensure these are not over heated. Resistance is measured 6mm from the body.

Type	L
V759	63
V757	73
V761	73



$f_1 - f_2 \leq 1.4$ mm



Packaging

For RB59 and RB61 the standard method of packaging is taped and Ammo Packed.
For RB57, the standard method of packaging is taped and reeled. RB58 and RB60 are loose packed in boxes.
Alternative packaging available by request.

Standard Quantities Per Box/Spool

Type (style)	V757 (RB57)	V758 (RB58)	V759 (RB59)	V760 (RB60)	V761 (RB61)
Ammo pack	–	–	1000	–	1000
Spool	700	–	–	–	–
Box (Loose)	–	25	–	50	–

 Bedlington, Northumberland NE22 7AA, UK