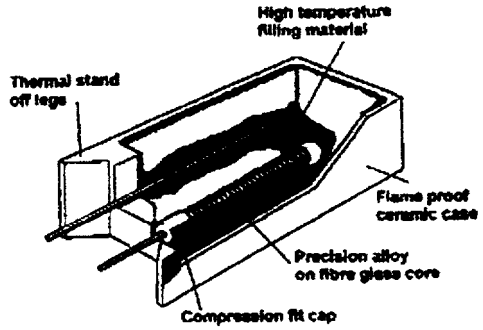
344-096 to 344-310

VERTICAL POWER WIRE WOUND RESISTOR

SERIES KWV

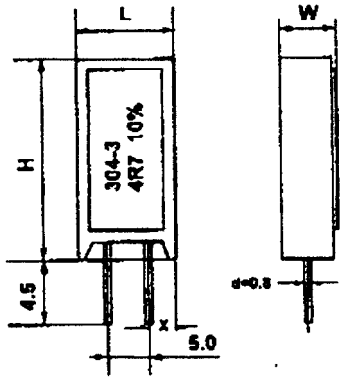
- ☐ USES SMALL AREA OF PCB
- ☐ FLAME PROOF
- ☐ GOOD PULSE DUTY



Specifications

CONSTRUCTION

These resistors are constructed by winding special precision alloy wire continuously and uniformly on to fibreglass. The element is then cut to length and the cap and wire are attached by compression fitting. The resulting element is then potted in high temperature working "cement" which provides mechanical and environmental protection as well as increasing the thermal capacity to permit higher power dissipation. The vertical format allows high density packing on printed circuit boards. Wire pitch centres are standardised on 5 mm (±0.5) but are not necessarily symmetrical since the resistor element is placed as near as possible to the centre of the case to improve heat dissipation (see table)



PERFORMANCE

ELECTRICAL

Standard tolerance	E24	5%(J)
or	E12	10%(K)
Temperature coefficient (ppm/°C depends on resistance value)		-80 to 500
Continuous working voltage		$\sqrt{P*R}$
Insulation Resistance		$>10^4 M\Omega$
Insulation Volts		2000 V_{RMS}

ENVIRONMENTAL

Temperature range	-55 °C to 275 °C
Load life drift	< ± 3% (avg.)
Short time overload	<1% ± 0R05
Temperature cycling	5%
Thermal Shock 25 °C to +125 °C	< 1% + 0R05
Damp Heat steady state (40 °C 95% RH)	<± 2%
Climatic Category	-55/200/56

MECHANICAL

Terminal strength	40N
Leads	Solder plated copper, cropped to length ready for direct insertion to printed circuit board
Solderability (solder globule test)	<2.5 secs
Marking:	Alpha-numeric, type number, resistance value and tolerance.

Applications

Power supplies and power applications requiring rugged small resistors, which are completely encapsulated in a flame proof casing. The construction is such that the resistor uses the minimum amount of PCB area whilst still being no higher than a typical smoothing electrolytic capacitor

The wire wound element gives the best performance under transient surge conditions and the high overload pulses frequently encountered during the switch-on period of equipment .

Other resistance values outside the stated range can be made to special order.

Packing data

In order to minimise damage in transit the resistors are packed in full boxes in the following quantities and will be supplied in multiples thereof:

302-3	260 pcs
304-3	180 pcs
306-3	180 pcs
308-3	165 pcs
310-3	125 pcs

Dimensions in mm

Type	P_{25} watts	Range	L ±1	H ±1	W ±1	X
302-3	2.0	0R01-910R	11 0	20.5	7 0	2.3
304-3	3.0	0R15-680R	12.0	25 0	8.0	2 3
306-3	5 0	0R022-680R	13.0	26.0	9 0	3.5
308-3	7.0	0R033-1K5	13.0	39 0	9.5	3.5
310-3	10 0	0R047-2K0	13.0	51.0	9.5	3.5

Ordering data

Specify part number, resistance value and tolerance

Example:

304-3 18R 5%

VTM-CN RX27-5 VTM KWV 03/10/96

VTM (UK) LTD., 8 Cornium Centre, Raans Road, Amersham, Bucks HP6 6JQ Tel: 01494 738600 Fax. 01494 738610

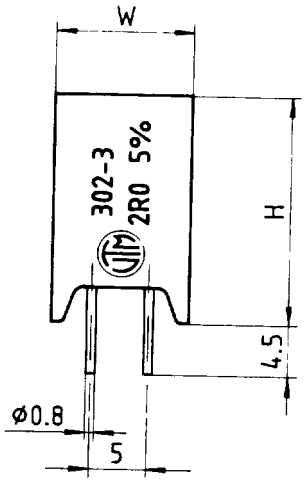
Power Wirewound Resistors 344096→344310
vertical, glass fibre core, ceramic case

Technical specifications

Types		302	304	306	308
Styles		—	—	—	—
Dimensions	mm	see list, next page			
Rated power P_{70} (solder joint 110°C)	W	0,8	1,0	1,2	2,5
Resistance range (applic. E-series)	Ω	R10...1K2	R10...2K4	R10...9K1	R10...15K
		E24 (5%), E12 (10%)			
Tolerances	%	± 5, ± 10			
Temperature coefficient	$10^{-6}K^{-1}$	−80 . . . +500			
Max. cont. work. voltage	V_{RMS}	$\sqrt{P_{70} \cdot R}$ for all styles			
Thermal resistance	KW^{-1}	280°C/P_{70} max			
Insulation voltage	V_{RMS}	2000			
Insulation resistance	Ω	$> 10^4$M			
Climatic category	—	55/200/56			
Temperature range	°C	−55 . . . 275			
Derating	—	linear from 70°C to 275°C (OW)			
Failure rate (total failure, ϑs max., 60% conf. lev.)	$10^{-9}h^{-1}$	appr. 100, depends on value			
Load life (P_{70}, 70°C, 1000 hrs)	%	+ 3,0 average			
Damp heat, steady state (40°C, 93% r.h., 56 d)	%	± 2,0			
Climatic sequence (IEC 115 - 1/23)	%	± 2,0			
Terminal strength-	%	± 1,0			
Terminal tensile strength	N	50			
Resistance to sold. heat (260°C, 10 s, 3 mm)	%	± 0,2 typ.			
Solderability	s	2,5 Flowtime, Solderglobule test, IEC 68-2-20T			

Ordering-number	e.g. 304-3, 3R3, 5%, V0				
Packaging-units: bulk		240 pcs	200 pcs	180 pcs	120 pcs (V0)

Dimensions:

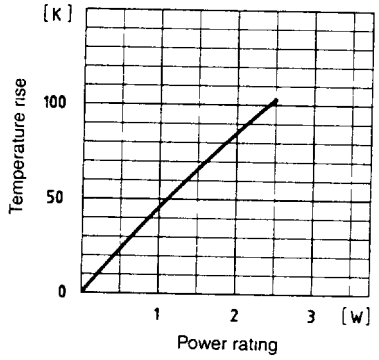


	302	304	306	308
W [mm]	12	12	12	12
H [mm]	20	25	30	37
D [mm]	7	7	8	9

Marking: Printed in clear

Temperature rise:
(solder joint)

Type 302-3



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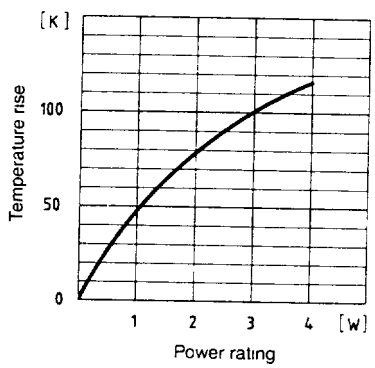
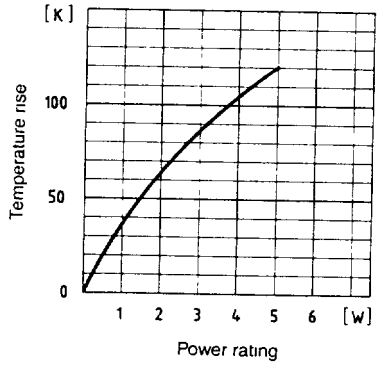


Type 306-3



Type 308-3