

## High Power Resistors

### Type ER/ERV Series

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A tough silicone coated power resistor. The coating and marking are resistant to Trichloroethene VG, Genklene LV Hot and Cold, Freon TE, Arklone A, Flourosil E, Freon TMS, Arklone L Hot and Cold and Arklone F Hot. If the resistor is in contact with the PCB the maximum dissipation to avoid damage to the PCB may be ascertained by reference to the hot spot temperature graph. Vertical mounting style is available. The ER series is suited to a wide range of industrial, control, medical and consumer applications.

#### Key Features

- High Power Dissipation
- Tough Silicone Coating
- Special Pulse Styles Available
- 0.5% Tolerance Available
- Resistant to Most Solvents
- Vertical Mount Styles Available
- Custom Designs Welcomed
- Widely Available via Distribution

#### Characteristics - ER Series Electrical

|                           | ER74    | ER58      | ER16    | ER17     |
|---------------------------|---------|-----------|---------|----------|
| Power Rating (W) at 40°C: | 3W      | 7W        | 11W     | 14W      |
| Power Rating (W) at 70°C: | 2.5W    | 6W        | 9W      | 12W      |
| Resistance Range:         | R03-10K | R05 - 20K | R13-68K | R20-100K |
| Maximum Element Volts:    | 100V    | 200V      | 500V    | 750V     |

#### Characteristics - ERV Series Electrical

|                            | ERV74   | ERV58   | ERV16   |
|----------------------------|---------|---------|---------|
| Power Rating (W) at 20°C*: | 3W      | 7W      | 11W     |
| Power Rating (W) at 70°C*: | 1.5W    | 3W      | 5W      |
| Resistance Range:          | R10-3K9 | R10-6K8 | R15-27K |
| Maximum Element Volts:     | 100V    | 200V    | 500V    |

\* When mounted in the horizontal and vertical plane only - inverted mounting may result in heat damage of the PCB  
- Consult Technical Department

#### Characteristics - Environmental

|   |  |
|---|--|
| Temperature Category:   | -55°C to 200°C   |
| Humidity Classification:  | 56 days  |
| Standard Tolerances:  | ER Series < 1 ohm ± 10% ~ > 1 ohm ± 5%<br>ERV Series E24 - 5% ~ E12 10%              |
| Tolerances of down to:  | ± 0.5% are available   |
| Load Life Stability:  | ± 5%   |
| Temperature Coefficient*:   | < 1 ohm 0 ± 200ppm/°C maximum<br>> 1 ohm 0 + 60 ppm/°C typical                       |
| *Very low temperature coefficients to ± 20ppm/°C are available to special order |  |
| Solderability conforms to:  | BS 2011 Test 2.1 Ta Solder bath method (IEC 68-2-20) Wets in < 2 seconds             |
| Termination Robustness:   | BS 2011 Test 2.1 Ua withstands 0.5 kg tensile load and double bend with 0.25 kg load |
| Endurance - 1000hrs @ 200°C:  | ΔR -0 +2%  |
| Overload:   | 10 time rated dissipation for 5 seconds ΔR ± 0.5%                                    |
| Humidity:   | 56 days/95% R.H./ +_45°C -0 +5%  |
| Temperature Rapid Change:   | ΔR ± 0.03%   |

#### Power Ratings Dissipation / Ambient Temperature



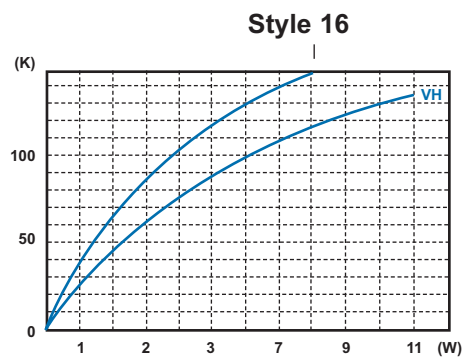
#### Power Ratings Hot Spot Temperature @ 40°C



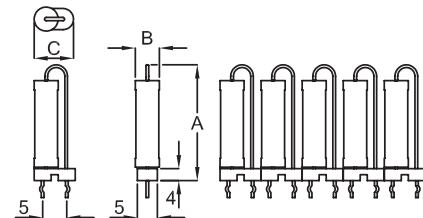
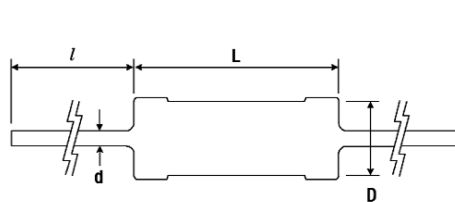
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### Power Ratings (continued)



### Dimensions



| Type | L    | D   | l    | d   |
|------|------|-----|------|-----|
| ER74 | 13.5 | 6.0 | 38.0 | 0.8 |
| ER58 | 22.2 | 8.0 | 38.0 | 0.8 |
| ER16 | 38.1 | 8.0 | 38.0 | 0.8 |
| ER17 | 53.5 | 8.0 | 38.0 | 0.8 |

| Type  | A    | B   | C    |
|-------|------|-----|------|
| ERV74 | 19.0 | 5.6 | 9.7  |
| ERV58 | 29.0 | 8.0 | 10.6 |
| ERV16 | 43.0 | 8.0 | 10.6 |

- Resistance measured 6mm either side of body.
- Supplied in standard packs in arrays of 5 resistors with snap links for handling.

### Taping Specification



| Type | A Max | B ± 2.0 | C ± 2.0 | D Max |
|------|-------|---------|---------|-------|
| ER74 | 13.50 | 76.00   | 88.00   | 1.00  |
| ER58 | 22.20 | 86.00   | 98.00   | 1.00  |
| ER16 | 38.10 | 82.50   | 100.50  | -     |
| ER17 | 53.50 | 97.00   | 115.00  | -     |

### How to Order

| ER                                   | 74                          | 100R                            | J                | T  |
|--------------------------------------|-----------------------------|---------------------------------|------------------|--|
| <b>Common Part</b>                   | <b>Power Rating at 40°C</b> | <b>Resistance Value</b>         | <b>Tolerance</b> | <b>Pack Style</b>                            |
| ER - Silicone Coated                 | 74 - 3W                     | 0.1 ohm<br>(100 milli ohms) R10 | D - ±0.5%        | T - Ammo Packed                              |
| ERV - Silicone Coated Vertical Mount | 58 - 7W                     | 1 ohm<br>(1000 milli ohms) 1R0  | F - ±1%          | 6P - 6mm Boot<br>(Boots on ERV Only)         |
|                                      | 16 - 11W                    | 1K ohm<br>(1000) ohms) 1K0      | G - ±2%          | L - Loose<br>(Standard for ER16 / ER17 only) |
|                                      | 17 - 14W                    |                                 | J - ±5%          |  |
|                                      | ER17 not available in ERV   |                                 | K - ±10%         |  |