

- Precision resistor networks for wire bonding applications
- Singular resistors, voltage dividers, current dividers & resistor arrays
- Wide variety of configurations achievable
- 5Ω to 10MΩ resistance range
- Excellent ratio and tracking data
- Relative data (TCR, tolerance & stability) tighter than using singular resistors
- Thin film (NiCr) applied on passivated Silicon or Alumina substrate
- 100V working voltage with Silicon, 1kV with Alumina
- Suitable for active laser trimming
- Standard and custom networks available
- Sizes: 0.5 x 0.5mm<sup>2</sup> to 6 x 10mm<sup>2</sup>



### Technical Data - Depending on Size

Table 1

Power rating P <sub>70</sub> (W) (P <sub>125</sub> = 0W)	0.25W/mm <sup>2</sup> 0.10W/mm <sup>2</sup> for ultra precision applications	
Resistance range	5R to 10MΩ (Depending on chip size)	
Operating voltage U <sub>-</sub> , U <sub>eff</sub>	On silicon substrate: 100VDC, on alumina substrate: 1000VDC	
Tolerance (%)	absolute	±0.05; ±0.1; ±0.25; ±0.5; ±1 %
	relative	<0.025; <0.05; <0.1 %
Temperature coefficient TCR (ppm/k)	absolute	±5; ±10; ±25; ±50 ppm/°C
	relative	<0.5 <sup>1</sup> ; <1 <sup>1</sup> ; <2; <5; <10 ppm/°C
<sup>1</sup> ) Temperature range 0°C to 75°C		

### Technical Data - General

Operating temperature range	-55°C to +125°C		
Climatic category acc. to EN 60068-1	25, 125, 56		
Condition for application	Polymer passivation or hermetic sealing		
Long term stability		<b>Tolerance ≤0.25%</b>	<b>Tolerance &gt; 0.25%</b>
Storage 125°C/1000h	absolute	< 0.02%	< 0.05%
	relative	<0.005%	<0.01%
The networks are to protect from environmental impacts in the application			

### Dimensions (mm)

Table 2

Size	Thickness	Bondpad size	Bondpad material
Minimum: 0.50 x 0.50 mm <sup>2</sup> Maximum: Up to 6 x 10 mm <sup>2</sup>	Alumina: 0.38±0.05 mm Silicon: 0.26±0.05 mm	Minimum 0.10 x 0.10 mm <sup>2</sup>	Aluminium or Gold (US-/TS-/TC-bondable)
Detailed drawing and layout upon request			

### Packaging

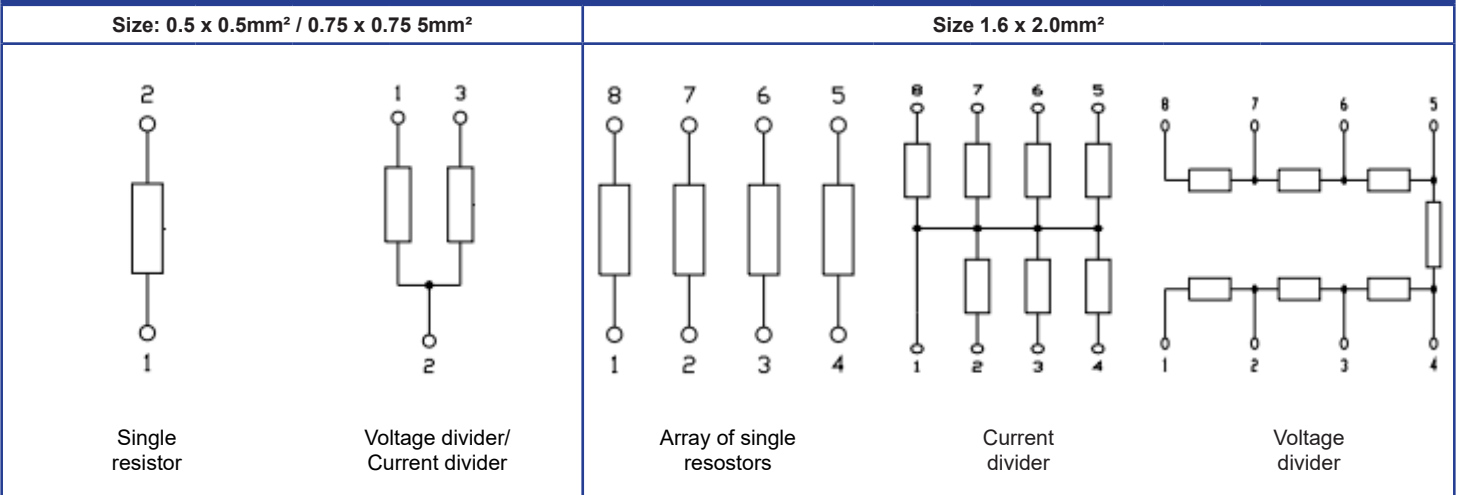
- Chip tray (waffle pack)
  - Wafer / linked
  - Wafer diced and linked on foil
- [Contact Durakool for minimum order quantities](#)

### Customised Designs

- Any circuit design is possible.
- Resistor parameters are supplied by the customer.
- For applications above 100kHz, the use of ceramic substrate is recommended.

### Sample Circuits

Fig. 1



Standard versions: Resistor bridges, single resistors, voltage and current dividers

### Enquiry and Ordering Data

- Dimensions
- Resistance values
- Number and connection of resistors (circuitry)
- Tolerance and TCRs (absolute and relative)
- Power rating
- Packaging
- Special requirements
- Quantity