

### High ohmic series

Type: CHF

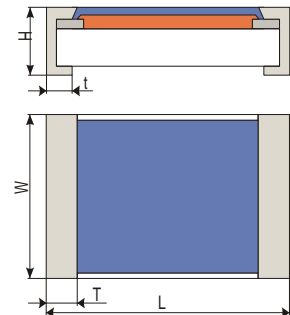
Sizes: 0402, 0603, 0805, 1206, 1210, 1218, 2010, 2512

#### Characteristics:

- Chip resistors in thick film technology
- Very high ohmic resistor layers
- Resistance area coated with glass and varnish passivation
- High stability and reliability
- Tight tolerances
- RoHS-conform
- Standard measuring voltage: 50V
- Application-specific measuring voltage acc. customer specifications available
- Customer specific barcodes available - also in 2D
- All sizes can be manufactured with the following contact variants
  - ⇒ Electroplated alloy resistant tinned
  - ⇒ Contact with low rest permeability -N, suitable only for reflow soldering method
  - ⇒ Epoxy bondable contact -K
  - ⇒ Special corrosive gas resistant contact -S, Sulfur resistance verified according to ASTM B 809

#### Dimensions (in mm):

| Size | L<br>Length |      | W<br>Width |      | H<br>Depth |      | t<br>Contact<br>back |      | T<br>Contact<br>front |      |
|------|-------------|------|------------|------|------------|------|----------------------|------|-----------------------|------|
|      | Min         | Max  | Min        | Max  | Min        | Max  | Min                  | Max  | Min                   | Max  |
| 0402 | 0,95        | 1,10 | 0,45       | 0,60 | 0,25       | 0,40 | 0,10                 | 0,35 | 0,05                  | 0,35 |
| 0603 | 1,50        | 1,70 | 0,75       | 0,95 | 0,35       | 0,55 | 0,10                 | 0,50 | 0,10                  | 0,50 |
| 0805 | 1,85        | 2,15 | 1,10       | 1,40 | 0,35       | 0,65 | 0,15                 | 0,60 | 0,15                  | 0,60 |
| 1206 | 2,90        | 3,35 | 1,45       | 1,75 | 0,35       | 0,65 | 0,25                 | 0,75 | 0,15                  | 0,75 |
| 1210 | 3,00        | 3,30 | 2,35       | 2,65 | 0,50       | 0,75 | 0,35                 | 0,85 | 0,25                  | 0,85 |
| 1218 | 3,00        | 3,30 | 4,50       | 4,80 | 0,50       | 0,75 | 0,35                 | 0,85 | 0,25                  | 0,85 |
| 2010 | 4,80        | 5,20 | 2,30       | 2,70 | 0,50       | 0,75 | 0,35                 | 0,85 | 0,25                  | 0,85 |
| 2512 | 6,10        | 6,50 | 3,00       | 3,30 | 0,50       | 0,75 | 0,35                 | 0,85 | 0,25                  | 0,85 |



#### Packaging units:

| Reel<br>Ø                            | Card tape                           | Blister tape          |
|--------------------------------------|-------------------------------------|-----------------------|
|                                      | acc. EN 60286-3                     |                       |
| 180 mm                               | 5 T pcs.<br>10 T pcs. for size 0402 | 4 T pcs.              |
| 330 mm                               | 10 T pcs.<br>20 T pcs.              | 8 T pcs.<br>16 T pcs. |
| Samples possible up to 50 pcs./value |                                     |                       |

#### Ordering information:

| CHF  | - S   | 0805               | 500M            | 10%          | 250ppm/K          | N                  | P  | 5<br>(optional)                             | 10V   |
|------|---|--------------------|-----------------|--------------|-------------------|--------------------|--|---|---|
| Type | Contact   | Size               | R-<br>Value     | ± Tolerance  | ± TCR             | Marking            | Packaging                                  | pcs. / Reel<br>(T pcs.)                     | Measuring<br>voltage [V]  |
| CHF  | Standard (without<br>add.)<br>-N (non magnetic)<br>-K (epoxy bondable)<br>-S (corrosive gas<br>resistant) | 0402<br>to<br>2512 | 10M<br>to<br>1G | 1<br>5<br>20 | 100<br>250<br>500 | N- only<br>without | P- Card tape<br>B- Blister tape<br>S- Bulk | Depends on<br>size and<br>packaging<br>unit | Variable acc.<br>customer<br>specifications<br>(Standard:<br>50V) |

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**Technical data – depending on size:**

| Size        | Nominal voltage<br>U <sub>max</sub> (V) | Load<br>P <sub>70</sub> (W) | R-Range <sup>1)</sup> | R-Tolerance<br>(± %)    | TCR<br>(± ppm/K)        | Packaging       |   |   |
|-------------|---|-----------------------------|-----------------------|-------------------------|-------------------------|-----------------|---|---|
|             |   |                             |                       |                         |                         | P               | B | S |
| 0402        | 50                                      | $P = \frac{U^2}{R}$         | >10M0 - 330M          | 1 / 2 / 5 / 10          | 100 <sup>2)</sup> / 250 | x               |   | x |
|             |   |                             | >330M - 500M          | 5 / 10 / 20             | 250                     | x               |   | x |
|             |   |                             | >500M - 1G00          | 5 / 10 / 20             | 500                     | x               |   | x |
| 0603        | 75                                      |                             | >10M0 - 330M          | 1 / 2 / 5 / 10          | 100 <sup>2)</sup> / 250 | x               |   | x |
|             |   |                             | >330M - 500M          | 5 / 10 / 20             | 250                     | x               |   | x |
|             |   |                             | >500M - 1G00          | 5 / 10 / 20             | 500                     | x               |   | x |
| 0805        | 150                                     |                             | >10M0 - 330M          | 1 / 2 / 5 / 10          | 100 <sup>2)</sup> / 250 | x               |   | x |
|             |   |                             | >330M - 500M          | 5 / 10 / 20             | 250                     | x               |   | x |
|             |   |                             | >500M - 1G00          | 5 / 10 / 20             | 500                     | x               |   | x |
| 1206        | 200                                     |                             | >10M0 - 330M          | 1 / 2 / 5 / 10          | 100 <sup>2)</sup> / 250 | x               |   | x |
|             |   |                             | >330M - 500M          | 5 / 10 / 20             | 250                     | x               |   | x |
|             |   |                             | >500M - 1G00          | 5 / 10 / 20             | 500                     | x               |   | x |
| 1210 / 1218 | 200                                     | >10M0 - 330M                | 1 / 2 / 5 / 10        | 100 <sup>2)</sup> / 250 | x <sup>3)</sup>         | x <sup>3)</sup> | x |   |
|             |   | >330M - 500M                | 5 / 10 / 20           | 250                     | x <sup>3)</sup>         | x <sup>3)</sup> | x |   |
|             |   | >500M - 1G00                | 5 / 10 / 20           | 500                     | x <sup>3)</sup>         | x <sup>3)</sup> | x |   |
| 2010        | 300                                     | >10M0 - 330M                | 1 / 2 / 5 / 10        | 100 <sup>2)</sup> / 250 |                         | x               | x |   |
|             |   | >330M - 500M                | 5 / 10 / 20           | 250                     |                         | x               | x |   |
|             |   | >500M - 1G00                | 5 / 10 / 20           | 500                     |                         | x               | x |   |
| 2512        | 500                                     | >10M0 - 330M                | 1 / 2 / 5 / 10        | 100 <sup>2)</sup> / 250 |                         | x               | x |   |
|             |   | >330M - 500M                | 5 / 10 / 20           | 250                     |                         | x               | x |   |
|             |   | >500M - 1G00                | 5 / 10 / 20           | 500                     |                         | x               | x |   |

Higher resistor values on request

<sup>1)</sup> Measuring voltage 50 V

<sup>2)</sup> >10M to 100M TCR ±100

<sup>3)</sup> Size 1210 card tape

**Technical data - general:**

| Technical data                               |                                |
|--|--------------------------------|
| Operating temperature range                  | -55°C ... +155°C               |
| Climatic category acc. EN 60068              | 55 / 155 / 56                  |
| Solderability acc. EN 60068-2-58             | 245°C 3s                       |
| Soldering heat resistance acc. EN 60068-2-58 | ±( 0,5% + 0,05R ) at 260°C 10s |
| Long time stability                          |                                |
| Storage 155°C / 1000h                        | ± ( 1,0% + 0,05R )             |
| Endurance P <sub>70</sub> / 70°C / 1000h     | ± ( 0,5% + 0,05R )             |
| Damp heat, steady state (56d / 40°C / 96%)   | ± ( 1,0% + 0,05R )             |

Data, unless specified, acc. EN 140401-802.