

### Thick film series – Standard - Automotive variant

Type: **ADF**

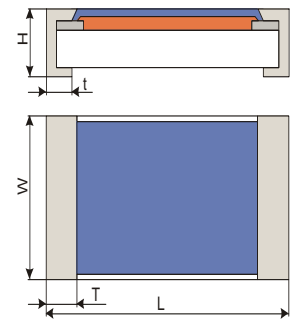
Sizes: **0402, 0603, 0805, 1206**

#### Characteristics:

- Chip resistors in thick film technology
- Resistance area coated with glass and varnish passivation
- High stability and reliability
- AEC Q200 qualified
- Tight tolerances ( $\geq 0,5\%$ ) – low temperature coefficient
- RoHS-conform
- Customer specific barcodes available - also in 2D
- All sizes can be manufactured with the following contact variants  
⇒ Electroplated pure tin

#### 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  |
| <b>0402</b> | 0,95        | 1,10 | 0,45       | 0,60 | 0,25       | 0,40 | 0,10                 | 0,35 | 0,05                  | 0,35 |
| <b>0603</b> | 1,50        | 1,70 | 0,75       | 0,95 | 0,35       | 0,55 | 0,10                 | 0,50 | 0,10                  | 0,50 |
| <b>0805</b> | 1,85        | 2,15 | 1,10       | 1,40 | 0,35       | 0,65 | 0,15                 | 0,60 | 0,15                  | 0,60 |
| <b>1206</b> | 2,90        | 3,35 | 1,45       | 1,75 | 0,35       | 0,65 | 0,25                 | 0,75 | 0,15                  | 0,75 |



#### Packaging units:

| Reel<br>Ø          | Card tape<br>acc. EN 60286-3        |
|--------------------|-------------------------------------|
| <b>180 mm</b>      | 5 T pcs.<br>10 T pcs. for size 0402 |
| <b>330 mm</b>      | 10 T pcs.<br>20 T pcs.              |
| Samples on request |                                     |

#### Ordering information:

| ADF  |                            | 0603                         | 10k             | 1%          | 50ppm/K   | K   | P                       | 5<br>(optional)                             |
|------|----------------------------|------------------------------|-----------------|-------------|-----------|---|-------------------------|---|
| Type | Contact                    | Size                         | R-<br>Value     | ± Tolerance | ± TCR     | Marking   | Packaging               | pcs. / Reel<br>(T pcs.)                     |
| ADF  | Standard (without<br>add.) | 0402<br>0603<br>0805<br>1206 | 1R<br>to<br>10M | 0,5<br>1,0  | 50<br>100 | K- with<br>(from size 0603)<br>N- without<br>(only size 0402) | P- Card tape<br>S- Bulk | Depends<br>on size and<br>packaging<br>unit |

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**Technical data – depending on size:**

| Size | Nominal voltage<br>$U_{max}$ (V) | Load<br>$P_{70}$ (W) | R-Range  | R-Tolerance<br>(± %) | TCR<br>(± ppm/K) | Packaging |   |   |
|------|----------------------------------|----------------------|----------|----------------------|------------------|-----------|---|---|
|      |                                  |                      |          |                      |                  | P         | B | S |
| 0402 | 50                               | 0,063                | 1R - 10M | 1,0                  | 50 / 100         | x         |   | x |
| 0603 | 75                               | 0,100                | 1R - 10M | 0,5 / 1,0            | 50 / 100         | x         |   | x |
| 0805 | 150                              | 0,125                | 1R - 10M | 0,5 / 1,0            | 50 / 100         | x         |   | x |
| 1206 | 200                              | 0,250                | 1R - 10M | 0,5 / 1,0            | 50 / 100         | x         |   | x |

**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 $P_{70}$ / 70°C / 1000h            | ± ( 0,5% + 0,05R )             |
| Damp heat, steady state (56d / 40°C / 93%)   | ± ( 1,0% + 0,05R )             |
| Biased humidity (1000h / 85°C / 85%)         | ± (2% +0,05R)                  |

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