

# Anti Sulphur Chip Resistors

## ASC Series

- Special construction resists sulphide growth
- Withstands sulphur bearing fume environment
- Tested to ASTM-B809 ("Flowers-of-Sulphur")
- Suitable for industrial, automotive and roadside uses
- RoHS compliant matt tin finish terminations



 All parts are Pb-free and comply with EU Directive 2011/65/EU (RoHS2)

## Electrical Data

|                                  |        | 0402                                | 0603 | 0805  | 1206 | 1210 | 2010 | 2512 |
|----------------------------------|--------|-------------------------------------|------|-------|------|------|------|------|
| Power rating @ 70°C              | watts  | 0.063                               | 0.1  | 0.125 | 0.25 | 0.33 | 0.75 | 1    |
| Resistance range                 | ohms   | 1R0 - 10M                           |      |       |      |      |      |      |
| Current Rating (zero ohm jumper) | amps   | 1                                   | 1    | 2     | 2    | 2.5  | 3.5  | 4    |
| Limiting element voltage         | volts  | 50                                  |      | 150   | 200  |      |      | 250  |
| TCR                              | ppm/°C | <10R: 200 10R to 1M0: 100 >1M0: 200 |      |       |      |      |      |      |
| Resistance tolerance             | %      | 1                                   |      |       |      |      |      |      |
| Standard values                  |        | E24, E96                            |      |       |      |      |      |      |
| Ambient temperature range        | °C     | -55 to +155                         |      |       |      |      |      |      |

## Physical Data

| Dimensions (mm) and weight (mg) |           |           |            |           |          |          |
|---------------------------------|-----------|-----------|------------|-----------|----------|----------|
|                                 | L         | W         | T          | C         | A        | Wt. nom. |
| 0402                            | 1.0 ±0.05 | 0.5 ±0.05 | 0.35 ±0.05 | 0.2 ±0.1  | 0.2 ±0.1 | 0.62     |
| 0603                            | 1.6 ±0.1  | 0.8 ±0.1  | 0.45 ±0.1  | 0.3 ±0.2  | 0.3 ±0.2 | 2.04     |
| 0805                            | 2.0 ±0.1  | 1.25 ±0.1 | 0.5 ±0.1   | 0.35 ±0.2 | 0.4 ±0.2 | 4.37     |
| 1206                            | 3.1 ±0.1  | 1.55 ±0.1 | 0.55 ±0.1  | 0.5 ±0.25 | 0.5 ±0.2 | 8.95     |
| 1210                            | 3.2 ±0.2  | 2.6 ±0.15 |            |           |          | 16.0     |
| 2010                            | 5.0 ±0.2  | 2.5 ±0.15 |            | 0.6 ±0.25 |          | 24.2     |
| 2512                            | 6.35 ±0.2 | 3.2 ±0.15 |            |           |          | 39.4     |

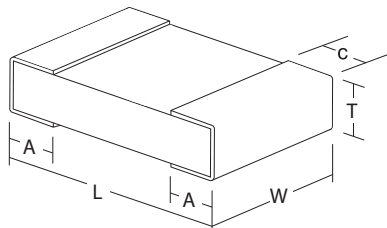


Diagram illustrating the dimensions (L, W, T, C, A) and weight (Wt. nom.) of the component, showing wrap-around terminations (3 faces).

## Construction

Conductors, resistive element, glass inner protection and epoxy outer protection are applied to a 96% alumina substrate. The chips are supplied with wrap-around terminations suitable for soldering. The terminations have an electroplated nickel barrier and 100% matt tin finish.

## Marking

Sizes larger than 0603 are individually marked with 4 digits. The first three digits are the significant figures and the fourth defines the number of added zeros.

Size 0603, E24 values are marked with 3 digits. The first two digits are the significant figures and the third defines the number of added zeros.

Size 0603, E96 values are marked with a standard 3 digit EIA96 code.

Size 0402 has no marking.

The body protection and marking are resistant to all normal cleaning solvents suitable for printed circuits.

## General Note

TT Electronics reserves the right to make changes in product specification without notice or liability.

All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

ASC Series

Performance Data

|                                                                       |      |                                         |
|-----------------------------------------------------------------------|------|-----------------------------------------|
|                                                                       |      | Maximum                                 |
| Load at rated power: 1000 hours cyclic load @ 70°C                    | ΔR%  | 2% + 0.1Ω                               |
| Short term overload: Lesser of 6.25 x rated power or 2 x LEV for s    | ΔR%  | 1% + 0.05Ω                              |
| Hydrogen Sulphide: 1000 hours 3-5ppm H2S, 50 ±2°C, 92 ±1% RH, no load | ΔR%  | 0.5% and no visual defects              |
| Derating from rated power at 70°C                                     |      | Linear to zero at 155°C                 |
| Dry heat: 1000 hours at 155°C                                         | ΔR%  | 1% + 0.05Ω                              |
| Damp heat 1000 hours 40°C 90-95% RH                                   | ΔR%  | 2% + 0.1Ω                               |
| Temperature rapid change -55 to 155°C, 5 cycles                       | ΔR%  | 0.5% + 0.05Ω                            |
| Resistance to solder heat: 260±5°C for 10s                            | ΔR%  | 0.5% + 0.05Ω                            |
| Solderability: 245±5°C for 3s                                         |      | ≥95% coverage                           |
| Solder leaching: 260±5°C for 30s                                      |      | Leached area ≤10% total, ≤5% individual |
| Board Flex: once for 5s, 2010 & 2512: 2mm, smaller sizes: 3mm         | ΔR%  | 1% +0.05Ω                               |
| Insulation resistance @ 2 x LEV for 60s                               | ohms | >10G                                    |

Packaging

ASC resistors are supplied taped and reeled on a 7 or 10” reel as per IEC 286-3. The tape is 12mm wide embossed plastic tape for 2010 and 2512 sizes and 8mm wide paper tape for the smaller sizes.

Ordering Procedure

Example: ASC1210 at 22 ohms and 1% tolerance on a reel of 5000 pieces -

ASC1210-22RF T5

Size

Value (use IEC62 code)

Tolerance (use IEC62 code)

F

1%

Packing

|     |      |                        |                  |          |
|-----|------|------------------------|------------------|----------|
| T10 |      | 0402                   | 10,000/reel (7") |          |
| T5  | Tape | 0603, 0805, 1206, 1210 | 5000/reel (10")  | Standard |
| T4  |      | 2010, 2512             | 4000/reel (7")   |          |

Note: For zero ohm jumper, substitute value and tolerance with the code R000

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