

# DATA SHEET

## ANTI-SULFURATED CHIP RESISTORS

### AUTOMOTIVE GRADE

AF series

5%, 1%, 0.5%, 0.1% (FOR 0201 AND 0402)  
sizes 0100/0201/0402/0603/0805/1206/1210/1218/2010/2512

RoHS compliant & Halogen free



**YAGEO**

Product specification – February 03, 2026 V.12



SCOPE

This specification describes AF0100 to AF2512 chip resistors with anti-sulfuration capabilities.

APPLICATIONS

- Industrial Equipment
- Power Application
- Networking Application
- High-end Computer & Multimedia Electronics in high sulfur environment
- Automotive electronics

FEATURES

- AEC-Q200 qualified for size 0201~2512
- Superior resistance against sulfur containing atmosphere
- Halogen free product and production
- RoHS compliant
- Reduces environmentally hazardous waste
- High component and equipment reliability
- Saving of PCB space
- Moisture sensitivity level: MSL 1
- 50ppm available

ORDERING INFORMATION - GLOBAL PART NUMBER

Part number is identified by the series name, size, tolerance, packaging type, temperature coefficient, taping reel and resistance value.

GLOBAL PART NUMBER

**AF XXXX X X X XX XXXX L**

(1) (2) (3) (4) (5) (6) (7)

(1) SIZE

0100/0201/0402/0603/0805/1206/1210/1218/2010/2512

(2) TOLERANCE

B =  $\pm 0.1\%$  (For 0201 and 0402)

D =  $\pm 0.5\%$

F =  $\pm 1\%$

J =  $\pm 5\%$  (for jumper ordering, use code of J)

(3) PACKAGING TYPE

R = Paper taping reel

K = Embossed plastic tape reel

(4) TEMPERATURE COEFFICIENT OF RESISTANCE

– = Base on spec

E =  $\pm 50 \text{ ppm}/^\circ\text{C}$

(5) TAPING REEL

07 = 7 inch dia. Reel

13 = 13 inch dia. Reel

7W = 7 inch dia. Reel & 2 x standard power

(6) RESISTANCE VALUE

There are 2~4 digits indicated the resistance value. Letter R/K/M is decimal point.

Detailed resistance rules are displayed in the table of "Resistance rule of global part number".

(7) DEFAULT CODE

Letter L is system default code for ordering only (Note)

| Resistance rule of global part number |   |
|---------------------------------------|---|
| Resistance coding rule                | Example   |
| XRXX<br>(1 to 9.76 $\Omega$ )         | IR = 1 $\Omega$<br>IR5 = 1.5 $\Omega$<br>9R76 = 9.76 $\Omega$ |
| XXRX<br>(10 to 97.6 $\Omega$ )        | 10R = 10 $\Omega$<br>97R6 = 97.6 $\Omega$                     |
| XXXR<br>(100 to 976 $\Omega$ )        | 100R = 100 $\Omega$   |
| XKXX<br>(1 to 9.76 K $\Omega$ )       | 1K = 1,000 $\Omega$<br>9K76 = 9760 $\Omega$                   |
| XMXX<br>(1 to 9.76 M $\Omega$ )       | 1M = 1,000,000 $\Omega$<br>9M76 = 9,760,000 $\Omega$          |

ORDERING EXAMPLE

The ordering code for an AF0402 chip resistor, value 100 K $\Omega$  with  $\pm 1\%$  tolerance, supplied in 7-inch tape reel with 10Kpcs quantity is: AF0402FR-07100KL.

NOTE

1. All our R-Chip products are RoHS compliant and Halogen free. "LFP" of the internal 2D reel label states "Lead-Free Process"
2. On customized label, "LFP" or specific symbol can be printed

## MARKING

AF0100 / AF0201 / AF0402



No marking

Fig. 1

AF0603 / AF0805 / AF1206 / AF1210 / AF2010 / AF2512



E-24 series: 3 digits,  $\pm 5\%$ ,  $\geq 10\Omega$

First two digits for significant figure and 3rd digit for number of zeros

Fig. 2 Value = 10 K $\Omega$



E-24 series: 3 digits,  $\pm 1\%$

One short bar under marking letter

Fig. 3 Value = 24  $\Omega$



E-96 series: 3 digits,  $\pm 1\%$

First two digits for E-96 marking rule and 3rd letter for number of zeros

Fig. 4 Value = 12.4 K $\Omega$



Both E-24 and E-96 series: 4 digits,  $\pm 1\%$

First three digits for significant figure and 4th digit for number of zeros

Fig. 5 Value = 10 K $\Omega$

## AF1218



E-24 series: 3 digits,  $\pm 5\%$

First two digits for significant figure and 3rd digit for number of zeros

Fig. 6 Value = 10 K $\Omega$



Both E-24 and E-96 series: 4 digits,  $\pm 1\%$

First three digits for significant figure and 4th digit for number of zeros

Fig. 7 Value = 10 K $\Omega$

## NOTE

For further marking information, please see special data sheet "Chip resistors marking". Marking of AF series is the same as RC series

## CONSTRUCTION

The resistors are constructed on top of a high grade ceramic body. Internal metal electrodes are added at each end and connected by a resistive glaze. The resistive glaze is covered by a glass.

The composition of the glaze is adjusted to give the approximate required resistance value and laser trimming of this resistive glaze achieves the value within tolerance. The whole element is covered by a protective overcoat. Size 0603 and bigger is marked with the resistance value on top. Finally, the two external terminations (Ni / matte tin) are added. See fig.8

## DIMENSIONS

Table I For outlines see fig. 8

| TYPE   | L (mm)    | W (mm)    | H (mm)    | I <sub>1</sub> (mm) | I <sub>2</sub> (mm) |
|--------|-----------|-----------|-----------|---------------------|---------------------|
| AF0100 | 0.40±0.02 | 0.20±0.02 | 0.14±0.02 | 0.10±0.03           | 0.10±0.03           |
| AF0201 | 0.60±0.03 | 0.30±0.03 | 0.23±0.03 | 0.12±0.05           | 0.15±0.05           |
| AF0402 | 1.00±0.05 | 0.50±0.05 | 0.35±0.05 | 0.20±0.10           | 0.25±0.10           |
| AF0603 | 1.60±0.10 | 0.80±0.10 | 0.45±0.10 | 0.25±0.15           | 0.25±0.15           |
| AF0805 | 2.00±0.10 | 1.25±0.10 | 0.50±0.10 | 0.35±0.20           | 0.35±0.20           |
| AF1206 | 3.10±0.10 | 1.60±0.10 | 0.55±0.10 | 0.45±0.20           | 0.50±0.20           |
| AF1210 | 3.10±0.10 | 2.60±0.15 | 0.57±0.10 | 0.45±0.20           | 0.50±0.20           |
| AF1218 | 3.10±0.10 | 4.60±0.10 | 0.57±0.10 | 0.45±0.20           | 0.50±0.20           |
| AF2010 | 5.00±0.10 | 2.50±0.15 | 0.57±0.10 | 0.55±0.20           | 0.55±0.20           |
| AF2512 | 6.35±0.10 | 3.20±0.15 | 0.57±0.10 | 0.60±0.20           | 0.60±0.20           |

## OUTLINES

For dimensions see Table I

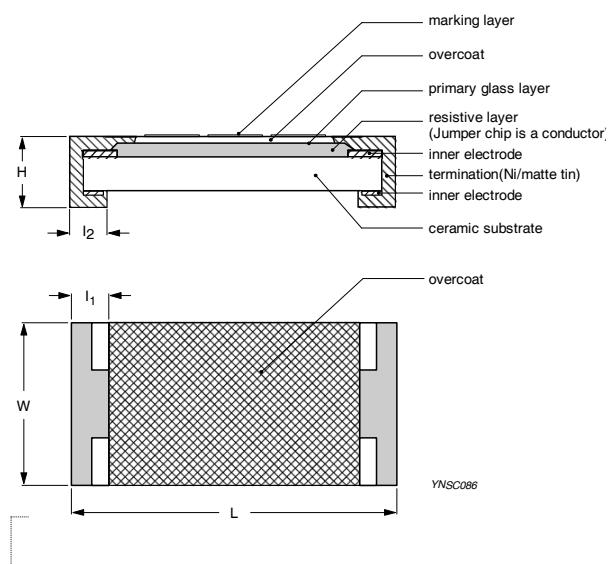


Fig. 8 Chip resistor outlines

## ELECTRICAL CHARACTERISTICS

Table 2

| TYPE   | POWER  | CHARACTERISTICS             |                      |                       |                                 |  |  |   |
|--------|--------|-----------------------------|----------------------|-----------------------|---------------------------------|--|--|---|
|        |        | Operating Temperature Range | Max. Working Voltage | Max. Overload Voltage | Dielectric Withstanding Voltage | Resistance Range   | Temperature Coefficient  | Jumper Criteria                         |
| AF0100 | 1/32 W | -55 °C to 125°C             | 15V                  | 30V                   | 30V                             | 5% (E24)<br>10Ω ≤ R ≤ 1MΩ<br>1% (E24/E96)<br>10Ω ≤ R ≤ 1MΩ<br>Jumper < 50mΩ  | 10Ω ≤ R < 100Ω<br>±300 ppm/°C<br>100Ω ≤ R ≤ 1MΩ<br>±200 ppm/°C   | Rated Current 0.5A<br>Max. Current 1.0A |
| AF0201 | 1/20 W |                             | 25V                  | 50V                   | 50V                             | 5% (E24)<br>1Ω ≤ R ≤ 10MΩ<br>0.1%, 0.5%, 1% (E24/E96)<br>1Ω ≤ R ≤ 10MΩ<br>Jumper < 50mΩ                                    | 1Ω ≤ R ≤ 10Ω<br>-100/+350 ppm/°C<br>10Ω < R ≤ 10MΩ<br>±200 ppm/°C  | Rated Current 0.5A<br>Max. Current 1.0A |
| AF0402 | 1/16 W |                             | 50V                  | 100V                  | 100V                            | 5% (E24)<br>1Ω ≤ R ≤ 100MΩ<br>1% (E24/E96)<br>1Ω ≤ R ≤ 100MΩ<br>0.1%, 0.5%, 1% (E24/E96)<br>1Ω ≤ R ≤ 10MΩ<br>Jumper < 50mΩ | 1Ω ≤ R ≤ 10Ω<br>±200 ppm/°C<br>10Ω < R ≤ 10MΩ<br>±100 ppm/°C<br>10MΩ < R ≤ 100 MΩ<br>±200 ppm/°C<br>100Ω ≤ R ≤ 1MΩ<br>±50 ppm/°C | Rated Current 1A<br>Max. Current 2A     |
| AF0603 | 1/8W   |                             | 75V                  | 100V                  | 100V                            | 5% (E24)<br>1Ω ≤ R ≤ 10MΩ<br>0.5%, 1%, (E24/E96)<br>1Ω ≤ R ≤ 10MΩ  | 1Ω ≤ R < 10Ω<br>±200 ppm/°C<br>10Ω ≤ R ≤ 10MΩ<br>±100 ppm/°C   | Rated Current 1A<br>Max. Current 2A     |
| AF0805 | 1/5 W  | -55 °C to 155 °C            | 75V                  | 150V                  | 150V                            | 5% (E24)<br>1Ω ≤ R ≤ 10MΩ<br>0.5%, 1%, (E24/E96)<br>1Ω ≤ R ≤ 10MΩ  | 1Ω ≤ R < 10Ω<br>±200 ppm/°C<br>10Ω ≤ R ≤ 10MΩ<br>±100 ppm/°C   | Rated Current 2A<br>Max. Current 5A     |
| AF1206 | 1/8 W  |                             | 150V                 | 300V                  | 300V                            | 5% (E24)<br>1Ω ≤ R ≤ 22MΩ<br>0.5%, 1% (E24/E96)<br>1Ω ≤ R ≤ 10MΩ<br>Jumper < 50mΩ  | 1Ω ≤ R < 10Ω<br>±200 ppm/°C<br>10Ω ≤ R ≤ 10MΩ<br>±100 ppm/°C<br>10MΩ < R ≤ 22MΩ<br>±200 ppm/°C<br>100Ω ≤ R ≤ 10MΩ<br>±50 ppm/°C  | Rated Current 2A<br>Max. Current 5A     |
|        | 1/4 W  |                             | 150V                 | 300V                  | 300V                            | 5% (E24)<br>1Ω ≤ R ≤ 10MΩ<br>0.5%, 1%, (E24/E96)<br>1Ω ≤ R ≤ 10MΩ  | 1Ω ≤ R < 10Ω<br>±200 ppm/°C<br>10Ω ≤ R ≤ 10MΩ<br>±100 ppm/°C   | Rated Current 2A<br>Max. Current 5A     |
|        | 1/4 W  |                             | 200V                 | 400V                  | 500V                            | 5% (E24)<br>1Ω ≤ R ≤ 22MΩ<br>0.5%, 1% (E24/E96)<br>1Ω ≤ R ≤ 10MΩ<br>Jumper < 50mΩ  | 1Ω ≤ R < 10Ω<br>±200 ppm/°C<br>10Ω ≤ R ≤ 10MΩ<br>±100 ppm/°C<br>10MΩ < R ≤ 22MΩ<br>±200 ppm/°C<br>100Ω ≤ R ≤ 10MΩ<br>±50 ppm/°C  | Rated Current 2A<br>Max. Current 10A    |
|        | 1/2 W  |                             | 200V                 | 400V                  | 500V                            | 5% (E24)<br>1Ω ≤ R ≤ 10MΩ<br>0.5%, 1%, (E24/E96)<br>1Ω ≤ R ≤ 10MΩ  | 1Ω ≤ R < 10Ω<br>±200 ppm/°C<br>10Ω ≤ R ≤ 10MΩ<br>±100 ppm/°C   | Rated Current 2A<br>Max. Current 10A    |

ELECTRICAL CHARACTERISTICS

Table 3

| TYPE   | POWER | CHARACTERISTICS             |                      |                       |   |   |  |                 |
|--------|-------|-----------------------------|----------------------|-----------------------|---|---|--|-----------------|
|        |       | Operating Temperature Range | Max. Working Voltage | Max. Overload Voltage | Dielectric Withstanding Voltage   | Resistance Range  | Temperature Coefficient                    | Jumper Criteria |
| AF1210 | 1/2 W | 200V                        | 500V                 | 500V                  | 5% (E24)<br>1Ω ≤ R ≤ 10MΩ<br>0.5%, 1% (E24/E96)<br>1Ω ≤ R ≤ 10MΩ<br>Jumper < 50mΩ | 1Ω ≤ R < 10Ω<br>±200 ppm/°C<br>10Ω ≤ R ≤ 10MΩ<br>±100 ppm/°C<br>100Ω ≤ R ≤ 1MΩ<br>±50 ppm/°C  | Rated Current<br>2A<br>Max. Current<br>10A |                 |
|        |       |                             |                      |                       |   |   |  |                 |
| AF1218 | 1 W   | 200V                        | 500V                 | 500V                  | 5% (E24)<br>1Ω ≤ R ≤ 10MΩ<br>0.5%, 1% (E24/E96)<br>1Ω ≤ R ≤ 10MΩ                  | 1Ω ≤ R < 10Ω<br>±200 ppm/°C<br>10Ω ≤ R ≤ 10MΩ<br>±100 ppm/°C                                  | Rated Current<br>2A<br>Max. Current<br>10A |                 |
|        |       |                             |                      |                       |   |   |  |                 |
| AF2010 | 1.5 W | -55 °C to 155 °C            | 200V                 | 500V                  | 5% (E24)<br>1Ω ≤ R ≤ 1MΩ<br>0.5%, 1% (E24/E96)<br>1Ω ≤ R ≤ 1MΩ                    | 1Ω ≤ R < 10Ω<br>±200 ppm/°C<br>10Ω ≤ R ≤ 1MΩ<br>±100 ppm/°C                                   | Rated Current<br>2A<br>Max. Current<br>10A |                 |
|        |       |                             |                      |                       |   |   |  |                 |
| AF2512 | 3/4 W | 200V                        | 500V                 | 500V                  | 5% (E24)<br>1Ω ≤ R ≤ 10MΩ<br>0.5%, 1% (E24/E96)<br>1Ω ≤ R ≤ 10MΩ<br>Jumper < 50mΩ | 1Ω ≤ R < 10Ω<br>±200 ppm/°C<br>10Ω ≤ R ≤ 10MΩ<br>±100 ppm/°C<br>100Ω ≤ R ≤ 10MΩ<br>±50 ppm/°C | Rated Current<br>2A<br>Max. Current<br>10A |                 |
|        |       |                             |                      |                       |   |   |  |                 |
|        | 1.25W | 200V                        | 500V                 | 500V                  | 5% (E24)<br>1Ω ≤ R ≤ 10MΩ<br>0.5%, 1% (E24/E96)<br>1Ω ≤ R ≤ 10MΩ                  | 1Ω ≤ R < 10Ω<br>±200 ppm/°C<br>10Ω ≤ R ≤ 10MΩ<br>±100 ppm/°C                                  | Rated Current<br>2A<br>Max. Current<br>10A |                 |
|        |       |                             |                      |                       |   |   |  |                 |
|        | 1 W   | 500V                        | 1000V                | 1000V                 | 5% (E24)<br>1Ω ≤ R ≤ 10MΩ<br>0.5%, 1% (E24/E96)<br>1Ω ≤ R ≤ 10MΩ<br>Jumper < 50mΩ | 1Ω ≤ R < 10Ω<br>±200 ppm/°C<br>10Ω ≤ R ≤ 10MΩ<br>±100 ppm/°C<br>100Ω ≤ R ≤ 10MΩ<br>±50 ppm/°C | Rated Current<br>2A<br>Max. Current<br>10A |                 |
|        |       |                             |                      |                       |   |   |  |                 |
|        | 2 W   | 500V                        | 1000V                | 1000V                 | 5% (E24)<br>1Ω ≤ R ≤ 10MΩ<br>0.5%, 1% (E24/E96)<br>1Ω ≤ R ≤ 10MΩ                  | 1Ω ≤ R < 10Ω<br>±200 ppm/°C<br>10Ω ≤ R ≤ 10MΩ<br>±100 ppm/°C                                  | Rated Current<br>2A<br>Max. Current<br>10A |                 |
|        |       |                             |                      |                       |   |   |  |                 |

FOOTPRINT AND SOLDERING PROFILES

For recommended footprint and soldering profiles of AF-series is the same as RC-series. Please see the special data sheet "Chip resistors mounting".

PACKING STYLE AND PACKAGING QUANTITY

Table 4 Packing style and packaging quantity

| PACKING STYLE            | REEL DIMENSION | AF0100 | AF0201        | AF0402        | AF0603<br>AF0805<br>AF1206 | AF1210 | AF1218<br>AF2010<br>AF2512 |
|--------------------------|----------------|--------|---------------|---------------|----------------------------|--------|----------------------------|
| Paper taping reel (R)    | 7" (178 mm)    | 20,000 | 10,000/20,000 | 10,000/20,000 | 5,000                      | 5,000  | --                         |
|                          | 13" (330 mm)   | --     | 50,000        | 50,000        | 20,000                     | 20,000 | --                         |
| Embossed taping reel (K) | 7" (178 mm)    | --     | --            | --            | --                         | --     | 4,000                      |

**NOTE**

I. For paper/embossed tape and reel specification/dimensions, please see the special data sheet "Chip resistors packing".

FUNCTIONAL DESCRIPTION**OPERATING TEMPERATURE RANGE**

AF0100 Range: -55°C to + 125°C

AF0201 - AF2512 Range: -55°C to + 155°C

**POWER RATING**

Each type rated power at 70°C:

AF0100=1/32W (0.03125W)

AF0201=1/20W (0.05W)

AF0402=1/16 W (0.0625W); 1/8W (0.125W)

AF0603=1/10 W (0.1W); 1/5W (0.2W)

AF0805=1/8 W (0.125W); 1/4W (0.25W)

AF1206=1/4 W (0.25W); 1/2W (0.5W)

AF1210=1/2W (0.5W); 1W

AF1218=1W; 1.5W

AF2010=3/4W (0.75W); 1.25W

AF2512=1W, 2W

**RATED VOLTAGE**

The DC or AC (rms) continuous working voltage corresponding to the rated power is determined by the following formula:

$$V = \sqrt{(P \times R)}$$

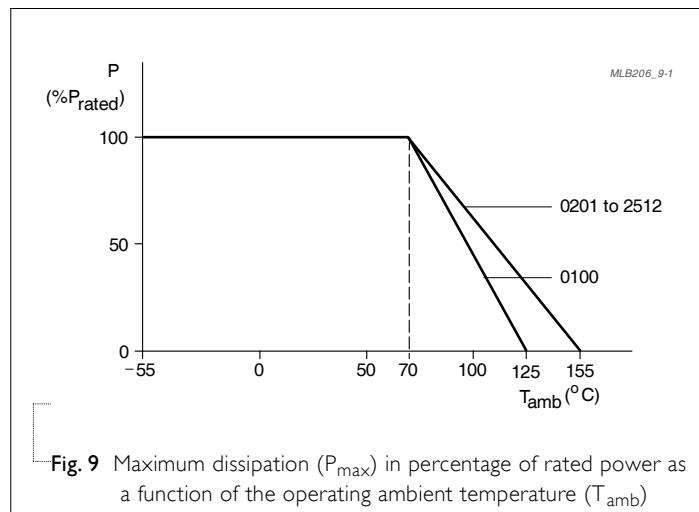
or max. working voltage whichever is less

Where

V = Continuous rated DC or AC (rms) working voltage (V)

P = Rated power (W)

R = Resistance value ( $\Omega$ )



TESTS AND REQUIREMENTS

Table 5 Test condition, procedure and requirements

| TEST                         | TEST METHOD   | PROCEDURE  | REQUIREMENTS   |
|------------------------------|---|--|--|
| High Temperature Exposure    | AEC-Q200 Test 3<br>MIL-STD-202 Method 108                     | 0100: 1,000 hours at 125 °C<br>Others: 1,000 hours at 155± 3 °C unpowered  | 0100: $\pm(2.0\%+0.05\Omega)$<br><50 mΩ for Jumper<br>Others: $\pm(1.0\%+0.05\Omega)$<br><100 mΩ for Jumper  |
| Moisture Resistance          | MIL-STD-202 Method 106  | Each temperature / humidity cycle is defined at 8 hours, 3 cycles / 24 hours for 10d. with 25 °C / 65 °C 95% R.H, without steps 7a & 7b, unpowered                 | 0100: $\pm(2.0\%+0.05\Omega)$<br><50 mΩ for Jumper<br>Others:<br>$\pm(0.5\%+0.05\Omega)$ for 0.1%, 0.5%, 1% tol.<br>$\pm(1.0\%+0.05\Omega)$ for 5% tol.<br><100 mΩ for Jumper                        |
| Biased Humidity              | AEC-Q200 Test 7<br>MIL-STD-202 Method 103                     | 1,000 hours; 85 °C / 85% RH<br>10% of operating power<br>Measurement at 24±4 hours after test conclusion.  | 0100: $\pm(5\%+0.05\Omega)$<br><50 mΩ for Jumper<br>Others:<br>$1\Omega \leq R \leq 1M\Omega$ : $\pm(3\%+0.05\Omega)$<br>$1M\Omega < R \leq 10M\Omega$ : $\pm(5\%+0.05\Omega)$<br><100 mΩ for Jumper |
| Operational Life             | AEC-Q200 Test 8<br>IEC 60115-1 4.25<br>MIL-STD-202 Method 108 | 1,000 hours at 70 °C for 01005, 125 °C for others, derated voltage applied for 1.5 hours on, 0.5 hour off, still-air required                                      | $\pm(3.0\%+0.05\Omega)$<br><100 mΩ for Jumper  |
| Resistance to Soldering Heat | AEC-Q200 Test 15<br>MIL-STD-202 Method 210                    | Condition B, no pre-heat of samples<br>Lead-free solder, 260±5 °C, 10±1 seconds immersion time<br>Procedure 2 for SMD: devices fluxed and cleaned with isopropanol | 0100: $\pm(1.0\%+0.05\Omega)$<br>Others:<br>$\pm(0.5\%+0.05\Omega)$ for 0.1%, 0.5%, 1% tol.<br>$\pm(1.0\%+0.05\Omega)$ for 5% tol.<br><50 mΩ for Jumper<br>No visible damage                         |
| Thermal Shock                | MIL-STD-202 Method 107  | -55/+125 °C<br>Number of cycles is 300. Devices mounted<br>Maximum transfer time is 20 seconds.<br>Dwell time is 15 minutes. Air – Air                             | 0100: $\pm(1.0\%+0.05\Omega)$<br><50 mΩ for Jumper<br>Others:<br>$\pm(0.5\%+0.05\Omega)$ for 0.1%, 0.5%, 1% tol.<br>$\pm(1\%+0.05\Omega)$ for 5% tol.<br><100 mΩ for Jumper                          |
| ESD                          | AEC-Q200 Test 17<br>AEC-Q200-002                              | Human Body Model,<br>$I_{pos.} + I_{neg.}$ discharges<br>0201: 500V<br>0402/0603: 1KV<br>0805 and above: 2KV   | $\pm(3.0\%+0.05\Omega)$<br><50 mΩ for Jumper   |

| TEST   | TEST METHOD                      | PROCEDURE  | REQUIREMENTS   |
|--|----------------------------------|--|--|
| Solderability<br>- Wetting                           | AEC-Q200 Test 18<br>J-STD-002    | Electrical Test not required Magnification 50X<br>SMD conditions:<br>(a) Method B, aging 4 hours at 155 °C dry heat, dipping at 235±3 °C for 5±0.5 seconds.<br>(b) Method B, steam aging 8 hours, dipping at 215±3 °C for 5±0.5 seconds.<br>(c) Method D, steam aging 8 hours, dipping at 260±3 °C for 30±0.5 seconds.                                   | Well tinned (≥95% covered)<br>No visible damage  |
| Board Flex   | AEC-Q200 Test 21<br>AEC-Q200-005 | Chips mounted on a 100mm x 40mm glass epoxy resin PCB (FR4)<br>Bending for 01005/0201/0402: 5 mm<br>0603/0805: 3 mm<br>1206 and above: 2 mm<br>Holding time: minimum 60 seconds  | ±(1.0%+0.05Ω)<br><50 mΩ for Jumper   |
| Temperature<br>Coefficient of<br>Resistance (T.C.R.) | MIL-STD-202 Method 304           | At +25/-55 °C and +25/+125 °C<br><br>Formula:<br>$T.C.R = \frac{R_2 - R_1}{R_1(t_2 - t_1)} \times 10^6 \text{ (ppm/°C)}$<br>Where<br>$t_1 = +25 \text{ °C}$ or specified room temperature<br>$t_2 = -55 \text{ °C}$ or +125 °C test temperature<br>$R_1$ = resistance at reference temperature in ohms<br>$R_2$ = resistance at test temperature in ohms | Refer to table 2   |
| Short Time<br>Overload                               | IEC60115-1 8.1                   | 2.5 times of rated voltage or maximum overload voltage whichever is less for 5 sec at room temperature   | 0100: ±(2.0%+0.05Ω)<br>Others: ±(1.0%+0.05Ω)<br><50 mΩ for Jumper<br>No visible damage |
| FOS  | ASTM-B-809-95*<br>* Modified     | Sulfur 750 hours, 105 °C, unpowered  | 0100: ±(5.0%+0.05Ω)<br>Others: ±(4.0%+0.05Ω)<br><100 mΩ for Jumper                     |

REVISION HISTORY

| REVISION   | DATE          | CHANGE NOTIFICATION | DESCRIPTION   |
|------------|---------------|---------------------|---|
| Version 12 | Feb. 03, 2026 | -                   | - Extend AF0402 resistance range to 100Mohm   |
| Version 11 | Oct. 18, 2024 | -                   | - Upgrade the working voltage of 2512 to 500V.  |
| Version 10 | Jun. 17, 2024 | -                   | - Add $\pm 0.1\%$ tol for sizes 0201 and 0402   |
| Version 9  | Jan. 03, 2023 | -                   | - 10ohm TCR upgrade to 100ppm, for 0603~2512 normal power and 0402~2512 double power.<br>Upgrade the working voltage of 0402 double power to 75V. |
| Version 8  | Mar. 26, 2021 | -                   | - Add TCR 50ppm and size 01005 extend   |
| Version 7  | Nov. 1, 2019  | -                   | - Add in AF double power  |
| Version 6  | Sep. 05, 2019 | -                   | - Updated dimensions  |
| Version 5  | Jun. 21, 2016 | -                   | - Update test and requirement   |
| Version 4  | Dec. 24, 2015 | -                   | - Update Dielectric Withstanding Voltage& Resistance value  |
| Version 3  | Apr. 01, 2015 | -                   | - Modified test and requirements  |
| Version 2  | Nov. 20, 2014 | -                   | - Tests and requirement update  |
| Version 1  | Sep. 27, 2013 | -                   | - Size 0201/1210/1218/2010/2512 extend  |
| Version 0  | Jan. 07, 2011 | -                   | - First issue of this specification   |

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