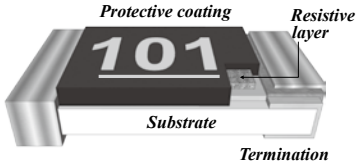
# FNF

## ■ Anti-Surge Lead Free & Halogen Free Chip Resistors




### FEATURES

- High reliability and compact size.
- Suitable for withstanding surge voltage.
- Suitable for lead free soldering.
- RoHS compliant & Halogen Free.
- Meet AEC-Q200

### APPLICATION

- Power supply.
- Automotive industry.
- Digital meter, Consumer electronics, M/B.
- LED Lighting.
- Industry control board.

### PART NUMBER

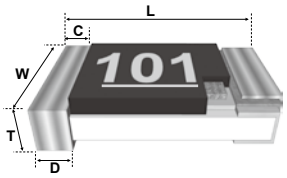
| FNF | 25 | J | P | - | 103_ | - | M |
|---|---|---|---|---|---|---|---|
| Type<br>□□□ | Size<br>□□ | Tolerance<br>□ | Packing<br>□ | Watt<br>□ | R Value<br>□□□□ | TCR | Special Code |
| **FNF**<br>Thick Film<br>Anti-Surge | **03** 0603<br>**05** 0805<br>**06** 1206<br>**12** 1210<br>**20** 2010<br>**25** 2512 | **J** =±5%<br>**K** =±10%<br>**L** =± 15%<br>**M** =± 20% | **T** =Paper tape – 5 Kpcs<br>**V** =Paper tape – 10 Kpcs<br>**W** =Paper tape – 20 Kpcs<br>**P** =Plastic tape – 4 Kpcs<br>**X** =Plastic tape – 8 Kpcs<br>**Y** =Plastic tape – 16Kpcs | **"–"** Standard | **XXXX**<br><br>**>=1R**<br>**1%** 4 digit<br>**5%** 3 digit<br>("_" means a blank) | No special code- Null<br>special code- "–" | **"Null"**<br>Standard<br><br>**M:**<br>Meet<br>AEC-Q200 |

### RATING

| Type | | Normal Type Power Rating @ 70℃ | Max. RCWV | Max. Overload Voltage | Resistance Tolerance (%) | Temperauture Coefficient of Resistance (ppm/℃) | Resistance Range | | Standard Resistance Values |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Min. | Max. | |
| **FNF03** | **0603** | 1/10W | 50V | 100V | ±5%(J)<br>±10%(K)<br>±15%(L)<br>±20%(M) | ±100 | 1Ω | 1MΩ | E-24 |
| **FNF05** | **0805** | 1/8W | 150V | 300V | | | | | |
| **FNF06** | **1206** | 1/4W | 200V | 400V | | | | | |
| **FNF12** | **1210** | 1/3W | 200V | 400V | | | | | |
| **FNF20** | **2010** | 3/4W | 200V | 400V | | | | | |
| **FNF25** | **2512** | 1W | 200V | 400V | | | | | |

Note :
• RCWV = $(P \times R)^{1/2}$ or Max. RCWV listed above, whichever is lower. (RCWV：Rated Continue Working Voltage(V)，P：Rated Power(W)，R：Resistance Value(Ω))

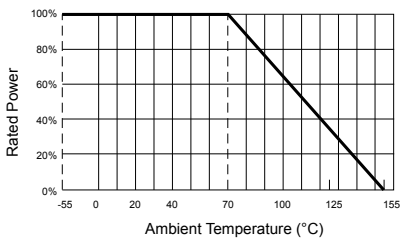
### DIMENSIONS




unit: mm

| Size | L | W | C | D | T |
|---|---|---|---|---|---|
| 0603 | 1.60±0.10 | 0.80±0.10 | 0.30±0.20 | 0.30±0.20 | 0.45±0.10 |
| 0805 | 2.00±0.10 | 1.25±0.10 | 0.40±0.20 | 0.40±0.20 | 0.50±0.10 |
| 1206 | 3.10±0.10 | 1.60±0.10 | 0.50±0.25 | 0.50±0.25 | 0.55±0.10 |
| 1210 | 3.10±0.10 | 2.60±0.10 | 0.50±0.25 | 0.50±0.25 | 0.55±0.10 |
| 2010 | 5.00±0.20 | 2.50±0.20 | 0.60±0.25 | 0.60±0.25 | 0.60±0.10 |
| 2512 | 6.40±0.20 | 3.20±0.20 | 0.60±0.25 | 0.90±0.25 | 0.60±0.15 |

### POWER DE-RATING CURVE




### MARKING/SOLDERING

Resistance value identify
E24 ±5%：3 Digits marking with underline to identify the resistance value
0603/0805/1206/1210/2010/2512


301 → $30 \times 10^{1} = 300\Omega$

### SURGE PERFORMANCE