

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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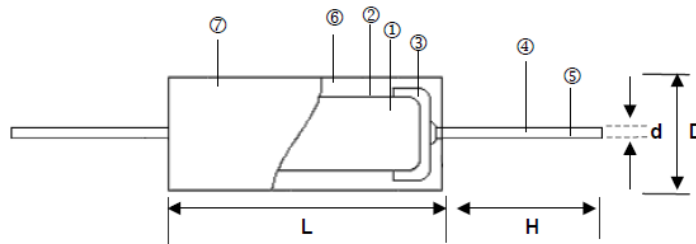
■ Features

- Very tight tolerance down to $\pm 0.02\%$
- Extremely low TCR down to $\pm 5\text{PPM}/^\circ\text{C}$
- High precision
- Excellent stability

■ Applications

- Precision Equipment
- Measurement Equipment

■ Construction



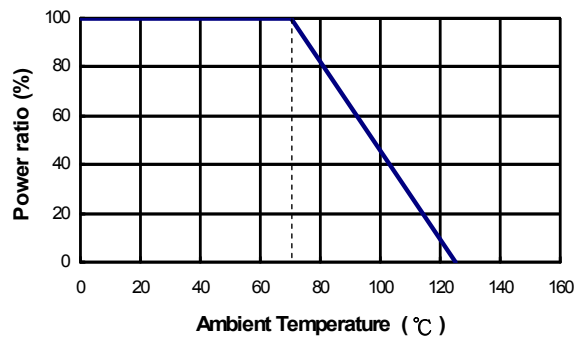
| | |
|-----------------------------------|---|
| ① Ceramic Core (Alumina ceramic) | ⑤ Lead Wire (Tinned annealed copper wire) |
| ② Resistor Element (Nickel alloy) | ⑥ Molding (Expose) |
| ③ Terminal (Tinned iron cap) | ⑦ Marking (Expose based ink) |
| ④ Connection | |

■ Dimensions

Unit : mm

| Type | L | D | H | d | Weight (g) (1000pcs) |
|-------|----------------|---------------|------------|----------------|-------------------------|
| UPF25 | 7.0 \pm 0.3 | 2.7 \pm 0.4 | 26 \pm 3 | 0.6 \pm 0.05 | 230 |
| UPF50 | 10.2 \pm 0.3 | 4.0 \pm 0.4 | 25 \pm 3 | 0.6 \pm 0.05 | 430 |

■ Derating Curve



Part Numbering

| | | | | |
|-----|----|---|-----|---|
| UPF | 50 | B | 1K0 | V |
|-----|----|---|-----|---|

| Product Type | Power Rating | Tolerance | Resistance | TCR |
|--------------|----------------------|-----------|--|-----------|
| UPF | 25 : ¼ W 50 : ½ W | B : ±0.1% | 1R0 : 1Ω 100R : 100Ω 1K0 : 1,000Ω 100K : 100,000Ω | V : ±5PPM |

Standard Electrical Specifications

| Item Type | Power Rating | Operating Temp. Range | Max. Operating Voltage | Max. Overload Voltage | Resistance Range | | | TCR (PPM/°C) |
|--------------|--------------|--------------------------|------------------------------|-----------------------------|------------------|--------|-------|-----------------|
| | 70°C | | | | ±0.02% | ±0.05% | ±0.1% | |
| 25 | 1/4W | -55 ~ +125°C | 250V | 500V | 10Ω -500KΩ | | | ±5 |
| 50 | 1/2W | | 300V | 600V | 10Ω -500KΩ | | | ±5 |

Operating Voltage $V = \sqrt{P \cdot R}$

Environmental Characteristics

| Item | Requirement | Test Method |
|--|---|--|
| Temperature Coefficient of Resistance (T.C.R.) | As Spec. | Resistance value at room temperature and room temperature+60°C |
| Short Time Overload | ±(0.05%+0.05Ω) | JIS-C-5201-1 5.5 RCWV*2.5 or Max. overload voltage for 5 seconds |
| Insulation Resistance | > 1,000MΩ | MIL-STD-202F Method 302 Apply 500V _{DC} for 1 minute |
| Endurance | ±(0.2%+0.05Ω) | MIL-STD-202F Method 108A 70±2°C, Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF" |
| Damp Heat with Load | ±(0.2%+0.05Ω) | MIL-STD-202F Method 103B 40±2°C, 90~95% R.H. Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF" |
| Solderability | 95% min. Coverage | MIL-STD-202F Method 208H 245±5°C for 5 seconds |
| Resistance to Soldering Heat | ±(0.05%+0.01Ω) | 350±10°C for 3 seconds or 260±5°C for 10 seconds |
| Terminal Strength | Tensile: ≥2.5kg | Tensile strength: for 10 sec. Torsional strength: Rotated through 360°, 5 rotations. |
| Pulse Overload | ±(0.1%+0.01Ω) | JIS-C-5201-1 5.8 4 times RCWV for 10000 cycles with 1second "ON" and 25 seconds "OFF" |
| Temperature Cycle | ±(0.05%+0.05Ω) | -25°C (30min)/+85°C (30min), 5 cycles |
| Resistance to Solvent | No deterioration of coatings and markings | JIS-C-5201-1 6.9 Trichroethane for 3 min. with ultrasonic |

Storage Temperature: 25±3°C; Humidity < 80%RH