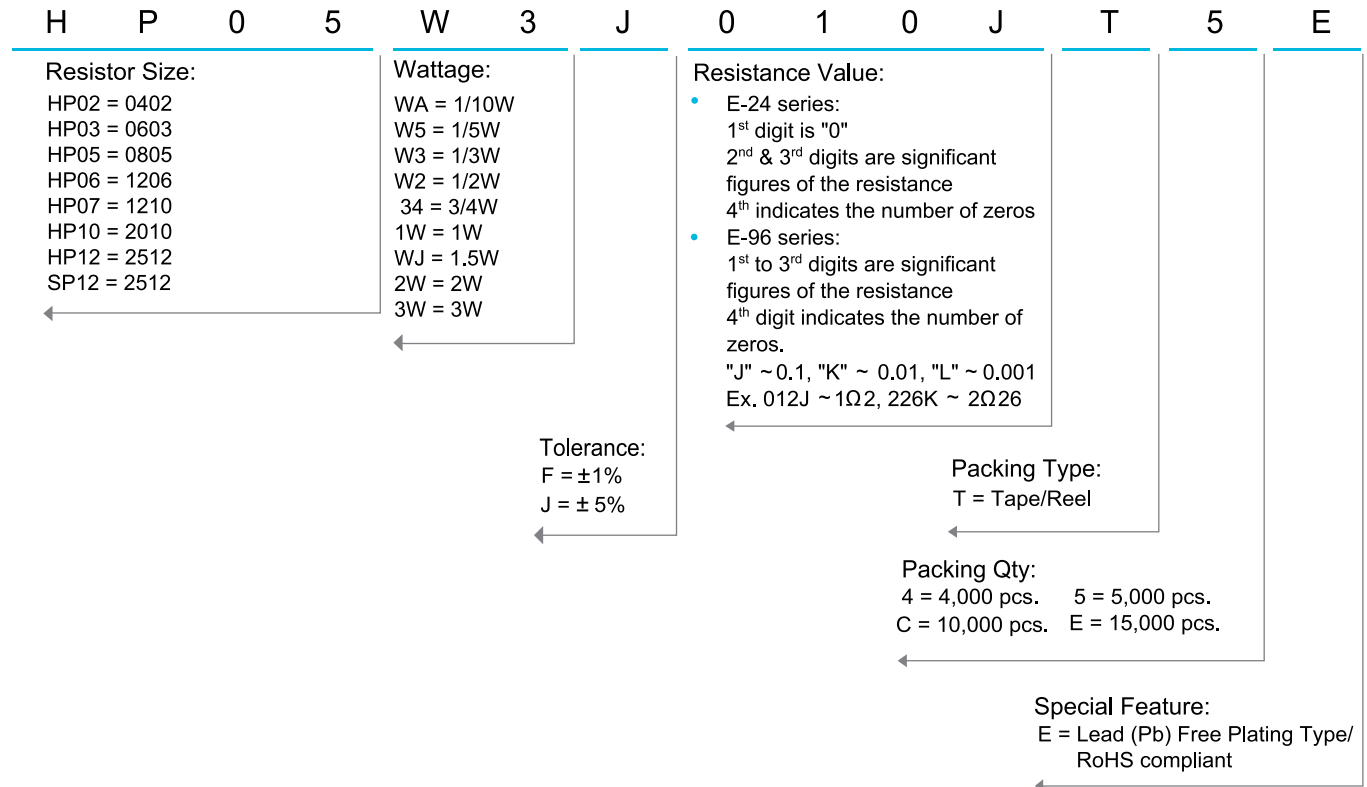


High Power Thick Film Chip Resistors

Performance Specification

| | | | |
|---------------------------------|--|--------------------|--------------|
| Temperature Coefficient | HP02 : | 1Ω ~ 10Ω | ± 400PPM/°C |
| | | 10.1Ω ~100 Ω | ± 200PPM/°C |
| | | >100Ω | ± 100PPM/°C |
| | HP03~ HP12, SP12 : | 1Ω ~ 10Ω | ≤± 200PPM/°C |
| | | 10.1Ω ~ 10MΩ | ≤±100PPM/°C |
| Short Time Overload | ±5%: | ±(2.0% + 0.1Ω)Max | |
| | ±1%: | ±(1.0% + 0.1Ω)Max | |
| Terminal Bending | ±(1.0% + 0.05Ω)Max | | |
| Soldering Heat | ±(1.0% + 0.05Ω)Max | | |
| Solderability | Min. 95% coverage. | | |
| Humidity (Steady State) | ±5%: | ±(3.0% + 0.1Ω)Max | |
| | ±1%: | ±(0.5% + 0.1Ω)Max | |
| Load Life in Humidity | ±5%: | ±(3.0% + 0.1Ω)Max | |
| | ±1%: | ±(1.0% + 0.1Ω)Max | |
| Load Life | ±5%: | ±(3.0% + 0.1Ω)Max | |
| | ±1%: | ±(1.0% + 0.1Ω)Max | |
| Temperature Cycling | ±5%: | ±(1.0% + 0.05Ω)Max | |
| | ±1%: | ±(0.5% + 0.05Ω)Max | |
| Insulation Resistance | Min. 1,000 Mega Ohm | | |
| Dielectric Withstanding Voltage | No evidence of flashover, mechanical damage, arcing or insulation breakdown. | | |

Ordering Procedure: Ex.: HP05, 1/3W, +/-5%, 1Ω T/R-5000

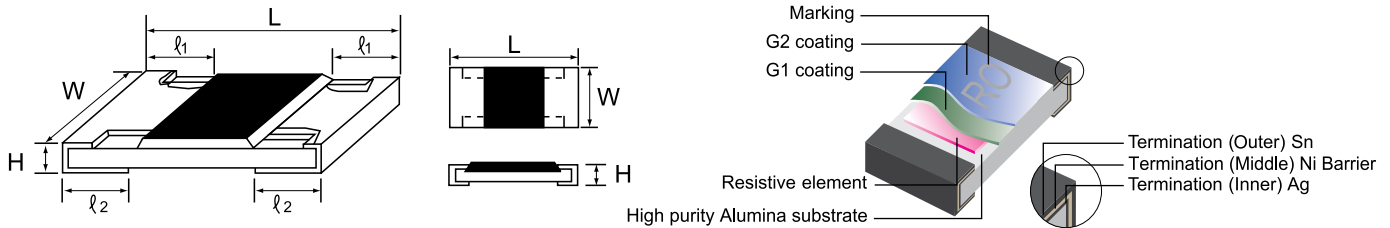


High Power Thick Film Chip Resistors

Features

- High power in standard size
- Suitable for both wave and reflow soldering
- Application: AV adapters, LCD back light, Camera strobe

Dimension



| Type | Power Rating at 70°C | Max Working Voltage | Max Overload Voltage | Dielectric Withstanding Voltage | Tol % | Resistance Range | Dimension (mm) | | | | |
|-------------|----------------------|---------------------|----------------------|---------------------------------|------------|----------------------|----------------|--------------------------------|-----------|----------------|----------------|
| | | | | | | | L | W | H | l ₁ | l ₂ |
| HP02 (0402) | 1/10W | 50V | 100V | 100V | ±1% ±5% | 1Ω ~10MΩ 1Ω ~10MΩ | 1.00±0.10 | 0.50±0.05 | 0.35±0.05 | 0.20±0.10 | 0.25±0.10 |
| HP03 (0603) | 1/5W | 50V | 100V | 300V | ±1% ±5% | 1Ω ~10MΩ 1Ω ~10MΩ | 1.60±0.10 | 0.80 ^{+0.15} -0.10 | 0.45±0.10 | 0.30±0.20 | 0.30±0.20 |
| HP05 (0805) | 1/3W | 150V | 300V | 500V | ±1% ±5% | 1Ω ~10MΩ 1Ω ~10MΩ | 2.00±0.15 | 1.25 ^{+0.15} -0.10 | 0.55±0.10 | 0.40±0.20 | 0.40±0.20 |
| HP06 (1206) | 1/2W | 200V | 400V | 500V | ±1% ±5% | 1Ω ~10MΩ 1Ω ~10MΩ | 3.10±0.15 | 1.55 ^{+0.15} -0.10 | 0.55±0.10 | 0.45±0.20 | 0.45±0.20 |
| HP07 (1210) | 3/4W | 200V | 500V | 500V | ±1% ±5% | 1Ω ~10MΩ 1Ω ~10MΩ | 3.10±0.10 | 2.60 ^{+0.15} -0.10 | 0.55±0.10 | 0.50±0.20 | 0.50±0.20 |
| HP10 (2010) | 1W | 200V | 500V | 500V | ±1% ±5% | 1Ω ~10MΩ 1Ω ~10MΩ | 5.00±0.10 | 2.50±0.15 | 0.55±0.10 | 0.60±0.25 | 0.50±0.20 |
| HP12 (2512) | 2W | 250V | 500V | 500V | ±1% ±5% | 1Ω ~10MΩ 1Ω ~10MΩ | 6.35±0.10 | 3.20±0.15 | 0.55±0.10 | 0.60±0.25 | 0.50±0.20 |

Note:

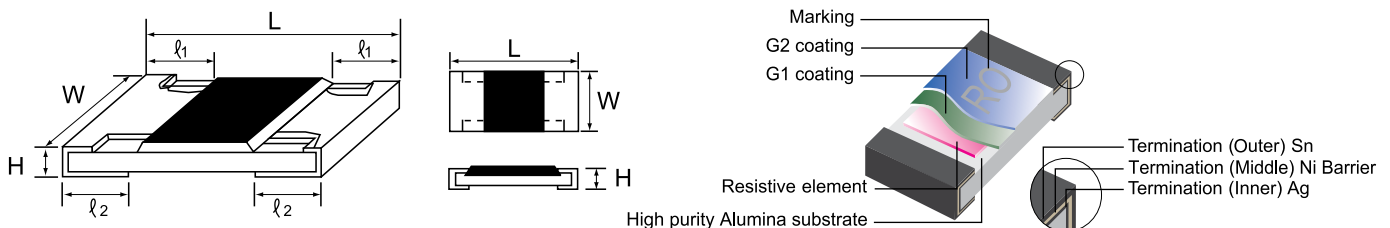
- 1.) Standard Operating Temp (°C): -55 ~+155 2.) Standard : E-96 series : 1% & E-24 series : 5%
- 2.) HP12 1Ω ~ 10MΩ Low TCR available case by case on basis.
- 3.) HP low resistance range : 0.1Ω ~ 1Ω available,
TCR for HP03, HP05 at +/-200ppm°C, HP06 ~ HP12 at +/-100ppm°C,
Electrical performance same as above.

Extra High Power Thick Film Chip Resistors

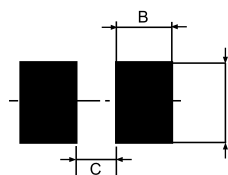
Features

- High power in standard size
- Suitable for both wave and reflow soldering
- Application: AV adapters, LCD back light, Camera strobe

Dimension



Recommended solder pad



| Size | A Width (mm) | B Pad (mm) | C Spacing (mm) |
|--------------|--------------|------------|----------------|
| HP12 SP12 | 3.70 | 2.80 | 2.70 |

4 layers PCB specification:

- 1) Outside 2 layers (Top and Bottom) with copper foil thickness at 2oz.
- 2) Inside 2 layers (Middle layers) with copper foil thickness at 4 oz.

| Type | Power Rating at 70°C | Max Working Voltage | Max Overload Voltage | Dielectric Withstanding Voltage | Tol % | Resistance Range | Dimension (mm) | | | | |
|-------------|----------------------|---------------------|----------------------|---------------------------------|------------|--------------------|----------------|-----------|-----------|----------------|----------------|
| | | | | | | | L | W | H | l ₁ | l ₂ |
| SP12 (2512) | 3W | 250V | 500V | 500V | ±1% ±5% | 1Ω~10MΩ 1Ω~10MΩ | 6.35±0.10 | 3.20±0.15 | 1.10±0.10 | 0.60±0.25 | 1.80±0.20 |

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