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# SPECIFICATIONS

High Power Thick Film Chip Resistors

## HP-Serie

Version January 2013

# High Power Thick Film Chip Resistors

## Performance Specification

Temperature Coefficient	1Ω~10Ω ≤ ± 200PPM/°C 11Ω~10MΩ ≤ ± 100PPM/°C	Humidity (Steady State)	±5%: ±(3.0% + 0.1Ω)Max ±1%: ±(0.5% + 0.1Ω)Max
Short Time Overload	± 5%: ±(2.0% + 0.1Ω)Max ± 1%: ±(1.0% + 0.1Ω)Max	Load Life in Humidity	±5%: ±(3.0% + 0.1Ω)Max ±1%: ±(1.0% + 0.1Ω)Max
Terminal Bending	±(1.0%+0.05Ω)Max	Load Life	±5%: ±(3.0% + 0.1Ω)Max ±1%: ±(1.0% + 0.1Ω)Max
Soldering Heat	±(1.0%+0.05Ω)Max		
Solderability	Min. 95% coverage.		
Temperature Cycling	±5%: ±(1.0%+0.05Ω)Max ±1%: ±(0.5%+0.05Ω)Max		

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

**H P 0 5 W 3 J 0 1 0 J T 5 E**

Resistor Size:  
HP02 = 0402  
HP03 = 0603  
HP05 = 0805  
HP06 = 1206  
HP07 = 1210  
HP10 = 2010  
HP12 = 2512

Wattage:  
WA = 1/10W  
W5 = 1/5W  
W3 = 1/3W  
W2 = 1/2W  
1W = 1W  
WJ = 1.5W  
2W = 2W  
07 = 3/4W-S

Tolerance:  
F = ±1%  
J = ±5%

Resistance Value:

- E-24 series:  
1<sup>st</sup> digit is "0"  
2<sup>nd</sup> & 3<sup>rd</sup> digits are significant figures of the resistance  
4<sup>th</sup> indicates the number of zeros
- E-96 series:  
1<sup>st</sup> to 3<sup>rd</sup> digits are significant figures of the resistance  
4<sup>th</sup> digit indicates the number of zeros.  
"J" ~ 0.1, "K" ~ 0.01, "L" ~ 0.001  
**Ex.** 012J ~ 1Ω, 226K ~ 226Ω

Packing Type:  
T = Tape/Reel

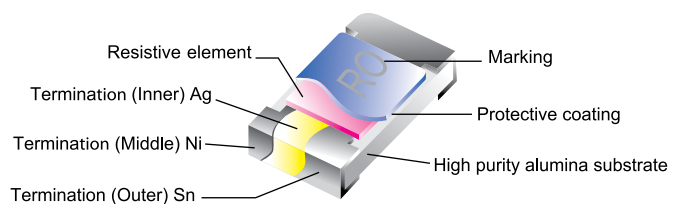
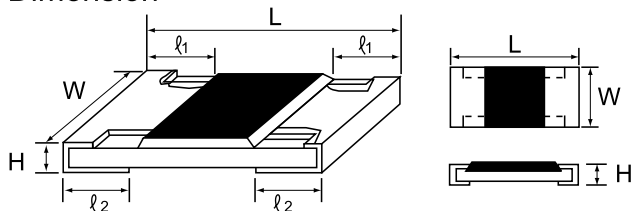
Packing Qty:  
4 = 4,000 pcs. 5 = 5,000 pcs.

Special Feature:  
E = Lead (Pb) Free Plating Type/  
RoHS compliant

## 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 Rang	Dimension (mm)				
							L	W	H	l <sub>1</sub>	l <sub>2</sub>
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 <sup>+0.15</sup> <sub>-0.10</sub>	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 <sup>+0.15</sup> <sub>-0.10</sub>	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 <sup>+0.15</sup> <sub>-0.10</sub>	0.55±0.10	0.45±0.20	0.45±0.20
HP07 (1210)	1/2W 3/4W-S	200V	500V	500V	±1% ±5%	1Ω~10MΩ 1Ω~10MΩ	3.10±0.10	2.60 <sup>+0.15</sup> <sub>-0.10</sub>	0.55±0.10	0.50±0.25	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 from 0.1Ω ~ 1Ω available, electrical performance same as above, TCR for HP03, HP05 at +/-200ppm, HP06 ~ HP12 at +/- 100 ppm