

0402  
0603

**TPI**

0805  
1206



## Features

Thin film technology

Full Wraparound

Nickel Barrier for excellent solderability

Resistance values from .022 ohm to 1 Megohm

Tolerances to 0.1 %

Standard TCR to 25 ppm/°C

10ppm/°C and 5 ppm/°C available as special order (TPI-0805, -1206 only)

**ims**

International  
Manufacturing  
Services, Inc.

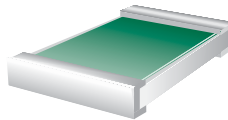
50 Schoolhouse Lane  
Portsmouth, RI 02871  
Tel (401) 683-9700  
Fax (401) 683-5571  
e-mail: [ims@ims-resistors.com](mailto:ims@ims-resistors.com)  
<http://www.ims-resistors.com>

# Thin Film Wraparound Surface Mount Chip Resistors

The ims TPI series of thin film wraparound surface mount chip resistors is ideal for applications requiring precision and reliability. Thin film technology ensures a precise, stable device at a very affordable price. The wraparound terminations include a nickel barrier layer that provides excellent solderability and mechanical integrity. These devices have the following features:

- Precision nichrome thin film resistor element
- 99.5% Al<sub>2</sub>O<sub>3</sub> substrate material
- Nickel barrier layer for excellent solderability and mechanical integrity
- Tolerances to ± 0.1%
- Ultra low noise resistor film
- Polyimide passivation of resistor element
- Available on tape and reel (TPI-0805 also available in bulk)

## Terminations



Full wraparound termination

Solder plated nickel barrier

## Resistance Ranges

### Standard

Part number	0.1%	0.5%
TPI-0402	N/A	10Ω to 100KΩ
TPI-0603	100Ω to 332KΩ	10Ω to 360KΩ
TPI-0805	100Ω to 1MΩ	10Ω to 1MΩ
TPI-1206	100Ω to 1MΩ	10Ω to 1MΩ

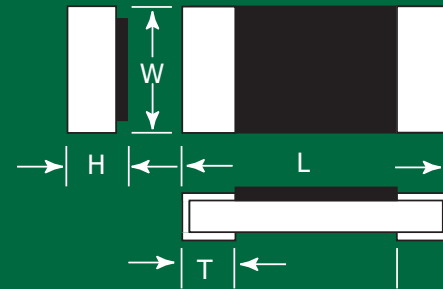
### Low Ohms

E-12 values only

Part number	1%	5%
TPI-0805	0.1Ω to 8.2Ω	0.022Ω to 0.082Ω

## Dimensions

Part Number	Length	Width	Height	Terminal
TPI-0402	0.039 ± .002	0.020 ± .002	0.016 max.	0.008 ± .004
TPI-0603	0.063 ± .008	0.031 ± .008	0.022 max.	0.012 ± .008
TPI-0805	0.079 ± .008	0.049 ± .008	0.026 max.	0.014 ± .010
TPI-1206	0.124 ± .010	0.063 ± .008	0.026 max.	0.020 ± .012



## Characteristics

Operating Temperature	-55°C to +125°C
Short time overload	± 0.5% + 0.05Ω Max.
Terminal strength	± 0.5% + 0.05Ω Max.
Solder Heat Resistance	± 0.5% + 0.05Ω Max.
Solderability	95% minimum coverage
Temperature Cycle	± 0.5% + 0.05Ω Max.
Load Life	± 0.5% + 0.05Ω Max.
Current Noise	-38 dB to -30 dB typical

## Specifications

Maximum Working Voltage	
0402	25VDC
0603	75 VDC
0805 Low ohms	1.3 VDC
0805	100 VDC
1206	150 VDC
Rated power (70°C)	
0402, 0603	63 mW
0805 (low ohms)	250 mW
0805 (standard)	100 mW
1206	125 mW
Resistance tolerances	
0805 Low ohms	1%, 5%
0402, 0603, 0805	0.5%, 0.1% (except 0402)
1206	0.1%

## Ordering Information

**Example: 97.6Ω , 0.5% 1206 resistor**

Thin-film Wraparound Nickel barrier 100% Matte Tin	<b>TPI -1206 - 97R6 D</b>	Tolerance B = 0.1% D = 0.5% F = 1% J = 5%
Form factor 0402 0603 0805* 1206* * Add "V" for 5 ppm Add "N" for 10 ppm (0805, 1206 size only)	Resistance value The first three digits are significant values. The fourth is the number of zeroes following. The R indicates a decimal point for values less than 10Ω.	

## TCR

### TPI-0402

100 ppm/°C	10Ω to 97.6Ω
25 ppm/°C	100Ω to 100KΩ

### TPI-0603

50 ppm/°C	10Ω to 97.6Ω
25 ppm/°C	100Ω to 360KΩ

### TPI-0805

50 ppm/°C	10Ω to 97.6Ω
25 ppm/°C	100Ω to 1MΩ
10 ppm/°C	100Ω to 100KΩ
5ppm/°C	100Ω to 33KΩ

### TPI-1206

50 ppm/°C	10Ω to 49.9Ω
25 ppm/°C	51Ω to 1MΩ
10 ppm/°C	100Ω to 200KΩ
5ppm/°C	511Ω to 200KΩ

*Visit us on  
the Web -  
[http://  
www.ims-  
resistors.com](http://www.ims-resistors.com)*

*Ask Us  
About  
Engineering  
Kits!*

**ims** International  
Manufacturing  
Services, Inc.

50 Schoolhouse Lane  
Portsmouth, RI 02871  
Tel (401) 683-9700  
Fax (401) 683-5571  
e-mail: [ims@ims-resistors.com](mailto:ims@ims-resistors.com)  
<http://www.ims-resistors.com>