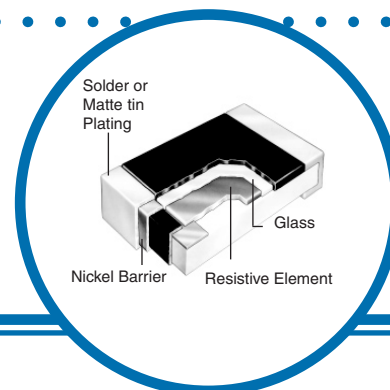


Precision Thin Film Nichrome Chip Resistor

PCF Series

- TCR to ± 5 ppm/ $^{\circ}\text{C}$
- Tolerances to $\pm 0.01\%$
- Wide ohmic range 1Ω to $2.0\text{M}\Omega$
- Available in seven industry standard sizes
- Both RoHS compliant Pb-free terminations and Sn/Pb terminations



Electrical Data

Size	Rated Power at 70°C (mW)	Max Working Voltage (volts)	Max Overload Voltage (volts)	Resistance Tolerance	Ohmic Range	TCR
0201	50	15	30	$\pm 1\%$ $\pm 0.5\%$	$10\Omega - 30\Omega$ $33\Omega - 22\text{K}\Omega$	± 100 ± 25
0402	62.5	25	50	$\pm 0.01\%, \pm 0.05\%, \pm 0.1\%, \pm 0.25\%, \pm 0.5\%$ $\pm 0.01\%, \pm 0.05\%, \pm 0.1\%, \pm 0.25\%, \pm 0.5\%$ $\pm 0.01\%, \pm 0.05\%$ $\pm 0.1\%, \pm 0.25\%, \pm 0.5\%, \pm 1\%$	$50\Omega - 2\text{K}\Omega$ $50\Omega - 12\text{K}\Omega$ $50\Omega - 12\text{K}\Omega$ $10\Omega - 200\text{K}\Omega$	± 5 $\pm 10, \pm 15$ $\pm 25, \pm 50$ $\pm 25, \pm 50$
0603	62.5	50	100	$\pm 0.01\%, \pm 0.05\%, \pm 0.1\%, \pm 0.25\%, \pm 0.5\%$ $\pm 0.01\%, \pm 0.05\%, \pm 0.1\%, \pm 0.25\%, \pm 0.5\%$ $\pm 0.01\%$ $\pm 0.05\%$ $\pm 0.1\%, \pm 0.25\%, \pm 0.5\%, \pm 1\%$ $\pm 0.25\%, \pm 0.5\%, \pm 1\%$	$50\Omega - 8\text{K}\Omega$ $25\Omega - 100\text{K}\Omega$ $25\Omega - 100\text{K}\Omega$ $4.7\Omega - 150\text{K}\Omega$ $4.7\Omega - 800\text{K}\Omega$ $2\Omega - 4.6\Omega$	± 5 $\pm 10, \pm 15$ $\pm 25, \pm 50$ $\pm 25, \pm 50$ $\pm 25, \pm 50$ $\pm 25, \pm 50$
0805	100	100	200	$\pm 0.01\%, \pm 0.05\%, \pm 0.1\%, \pm 0.25\%, \pm 0.5\%$ $\pm 0.01\%, \pm 0.05\%, \pm 0.1\%, \pm 0.25\%, \pm 0.5\%$ $\pm 0.01\%$ $\pm 0.05\%$ $\pm 0.1\%, \pm 0.25\%, \pm 0.5\%, \pm 1\%$ $\pm 0.25\%, \pm 0.5\%, \pm 1\%$	$50\Omega - 16\text{K}\Omega$ $25\Omega - 200\text{K}\Omega$ $25\Omega - 200\text{K}\Omega$ $4.7\Omega - 500\text{K}\Omega$ $4.7\Omega - 2\text{M}\Omega$ $1\Omega - 4.6\Omega$	± 5 $\pm 10, \pm 15$ $\pm 25, \pm 50$ $\pm 25, \pm 50$ $\pm 25, \pm 50$ $\pm 25, \pm 50$
1206	125	150	300	$\pm 0.01\%, \pm 0.05\%, \pm 0.1\%, \pm 0.25\%, \pm 0.5\%$ $\pm 0.01\%, \pm 0.05\%, \pm 0.1\%, \pm 0.25\%, \pm 0.5\%$ $\pm 0.01\%$ $\pm 0.05\%, \pm 0.1\%, \pm 0.25\%, \pm 0.5\%, \pm 1\%$ $\pm 0.25\%, \pm 0.5\%, \pm 1\%$ $\pm 0.25\%, \pm 0.5\%, \pm 1\%$	$50\Omega - 30\text{K}\Omega$ $25\Omega - 500\text{K}\Omega$ $25\Omega - 500\text{K}\Omega$ $4.7\Omega - 1\text{M}\Omega$ $1\Omega - 4.6\Omega$ $1\text{M}\Omega - 2\text{M}\Omega$	± 5 $\pm 10, \pm 15$ $\pm 25, \pm 50$ $\pm 25, \pm 50$ $\pm 25, \pm 50$ $\pm 25, \pm 50$
2010	250	150	300	$\pm 0.01\%, \pm 0.05\%, \pm 0.1\%, \pm 0.25\%, \pm 0.5\%$ $\pm 0.01\%, \pm 0.05\%, \pm 0.1\%, \pm 0.25\%, \pm 0.5\%$ $\pm 0.01\%$ $\pm 0.05\%, \pm 0.1\%, \pm 0.25\%, \pm 0.5\%, \pm 1\%$ $\pm 0.25\%, \pm 0.5\%, \pm 1\%$ $\pm 0.25\%, \pm 0.5\%, \pm 1\%$	$50\Omega - 30\text{K}\Omega$ $25\Omega - 500\text{K}\Omega$ $25\Omega - 500\text{K}\Omega$ $4.7\Omega - 1\text{M}\Omega$ $1\Omega - 4.6\Omega$ $1\text{M}\Omega - 2\text{M}\Omega$	± 5 $\pm 10, \pm 15$ $\pm 25, \pm 50$ $\pm 25, \pm 50$ $\pm 25, \pm 50$ $\pm 25, \pm 50$
2512	500	150	300	$\pm 0.01\%, \pm 0.05\%, \pm 0.1\%, \pm 0.25\%, \pm 0.5\%$ $\pm 0.01\%, \pm 0.05\%, \pm 0.1\%, \pm 0.25\%, \pm 0.5\%$ $\pm 0.01\%$ $\pm 0.05\%, \pm 0.1\%, \pm 0.25\%, \pm 0.5\%, \pm 1\%$ $\pm 0.25\%, \pm 0.5\%, \pm 1\%$ $\pm 0.25\%, \pm 0.5\%, \pm 1\%$	$50\Omega - 50\text{K}\Omega$ $25\Omega - 500\text{K}\Omega$ $25\Omega - 500\text{K}\Omega$ $4.7\Omega - 1\text{M}\Omega$ $1\Omega - 4.6\Omega$ $1\text{M}\Omega - 2\text{M}\Omega$	± 5 $\pm 10, \pm 15$ $\pm 25, \pm 50$ $\pm 25, \pm 50$ $\pm 25, \pm 50$ $\pm 25, \pm 50$

General Note

IRC reserves the right to make changes in product specification without notice or liability.
All information is subject to IRC's own data and is considered accurate at time of going to print.

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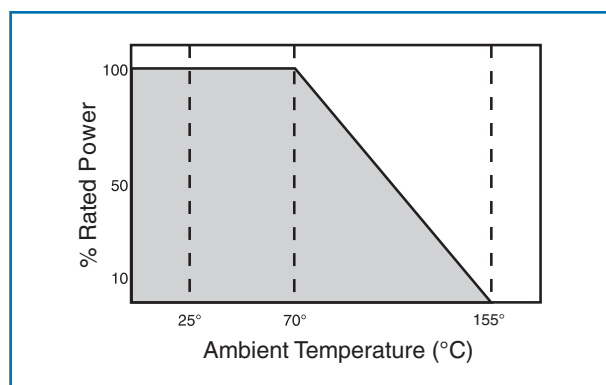
PCF Series Issue April 2007

Precision Thin Film Nichrome Chip Resistor

Environmental Performance

Test Conditions		Test Method	Performance	
			Tolerance $\leq 0.05\%$	Tolerance $> 0.05\%$
Short-time Overload		JIS-C-5202-5.5 5 Seconds at 2.5 X Rated Voltage (not to exceed 2 X Max Voltage)	$\pm 0.05\%$ (+0.05 Ω)	$\pm 0.5\%$ (+0.05 Ω)
Thermal Shock		MIL-STD-202 Method 107 100 Cycles -55°C to 150°C	$\pm 0.05\%$ (+0.05 Ω)	$\pm 0.25\%$ (+0.05 Ω)
Humidity (Steady State)		MIL-STD-202 Method 103 1000 Hours 40°C 90-95% RH 1.5 Hours On / 0.5 Hours Off Rated Voltage	$\pm 0.05\%$ (+0.05 Ω)	$\pm 0.3\%$ (+0.05 Ω)
Load Life	$R \leq 7.0K\Omega$	MIL-STD-202 Method 108 1000 Hours 70°C 1.5 Hours On / 0.5 Hours Off Rated Voltage, Rated Power	$\pm 0.05\%$ (+0.05 Ω)	$\pm 0.2\%$ (+0.05 Ω)
	$R > 7.0K\Omega$		$\pm 0.5\%$ (+0.05 Ω)	$\pm 0.5\%$ (+0.05 Ω)
High Temperature Exposure		JIS-C-5202-7.2 96 Hours 155°C	$\pm 0.05\%$ (+0.05 Ω)	$\pm 0.2\%$ (+0.05 Ω)
Low Temperature Operation		JIS-C-5202-7.2 96 Hours 155°C	$\pm 0.05\%$ (+0.05 Ω)	$\pm 0.2\%$ (+0.05 Ω)
Resistance to Solder Heat		MIL-STD-202 Method 108 10 \pm 1 Seconds 260°C	$\pm 0.05\%$ (+0.05 Ω)	$\pm 0.2\%$ (+0.05 Ω)
Solderability		3 \pm 0.5 Seconds 235°C	95% Min Coverage	

Power Derating

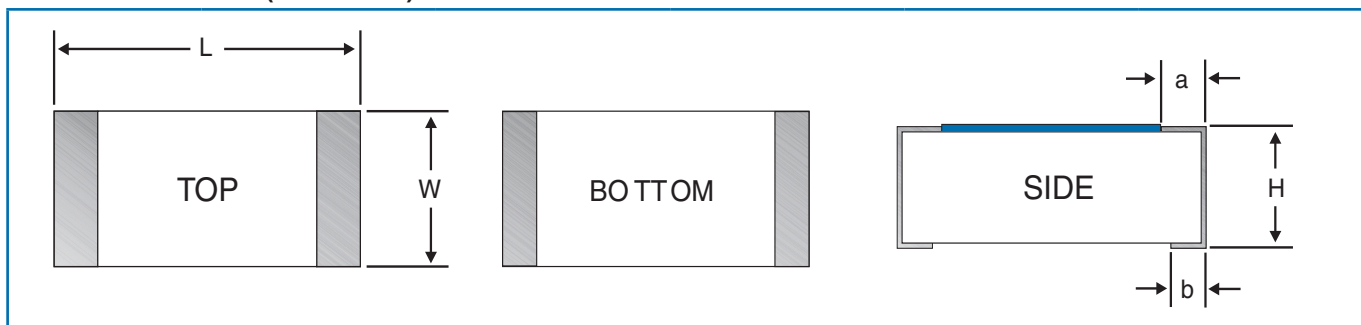


Packaging Data

Chip Size	Tape Type	Reel Quantity
0201	Paper	5,000
0402	Paper	10,000
0603	Paper	5,000
0805	Paper	5,000
1206	Paper	5,000
2010	Plastic	4,000
2512	Plastic	4,000

Precision Thin Film Nichrome Chip Resistor

Dimensions (inches)



Model	L	W	H	a	b
PCF0201	0.024±0.002	0.012±0.002	0.009±0.002	0.005±0.002	0.005±0.002
PCF0402	0.039±0.002	0.020±0.002	0.012±0.002	0.008±0.004	0.008±0.004
PCF0603	0.061±0.004	0.031±0.004	0.018±0.004	0.012±0.008	0.012±0.008
PCF0805	0.079±0.007	0.049±0.007	0.021±0.004	0.012±0.008	0.016±0.010
PCF1206	0.120±0.007	0.061±0.007	0.021±0.004	0.016±0.008	0.014±0.010
PCF2010	0.193±0.007	0.094±0.007	0.021±0.004	0.023±0.005	0.020±0.010
PCF2512	0.248±0.007	0.122±0.007	0.021±0.004	0.023±0.005	0.020±0.010

Ordering Data

Sample Part Number: **PCF** - **W1206LF** - **03** - **1001** - **B** - **P** - **LT**

Model

Sn/Pb Terminations:

W0402R, W0603R, W0805R, W1206R, W2010R, W2512R

100% Tin (Pb-free) terminations:

W0201LF, W0402LF, W0603LF, W0805LF, W1206LF, W2010LF, W2512LF

*Note: The 0201 is only available in Pb-free terminations.

TCR Characteristic

01 = ±100ppm/°C, 02 = ±50ppm/°C,

03 = ±25ppm/°C, 12 = ±10ppm/°C

13 = ±5ppm/°C

Resistance

Standard 4-digit resistance code. Examples: 1004 = 1.0MΩ, 1003 = 100KΩ, 51R0 = 51Ω

Tolerance

F = ±1%, D = ±0.5%, C = ±0.25%, B = ±0.1%, A = ±0.05%, T = ±0.01%

Tape Type

P = Paper, E = Plastic

Tape & Reel Packaging

For additional information or to discuss your specific requirements, please contact our Applications Team using the contact details below.