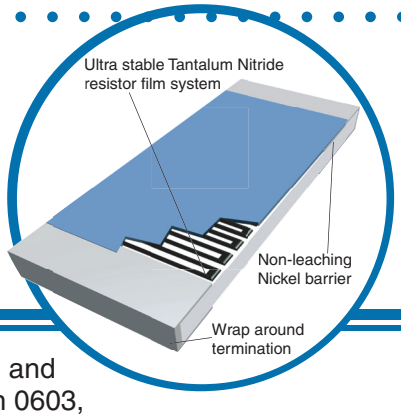
Precision Thin Film Chip Resistors

TT electronics
IRC Advanced Film Division

PFC Series

- Standard 60/40 Sn/Pb and Pb-free (RoHS compliant) terminations available
- Available in 0603, 0805, 1206, 1505, 2010 and 2512 chip sizes
- Tested for COTS applications
- Absolute TCR to ±10ppm/°C
- Mil screening available



The IRC TaNFilm® PFC chip resistor series provides the high precision and ultra stable performance of our Tantalum Nitride resistive film system in 0603, 0805, 1206, 1505, 2010 and 2512 sizes. The unique characteristics of the passivated Tantalum Nitride film insure long term life stability and stability in most environments.

Using the same manufacturing line as the PFC Military Series, IRC's precision chips maintain the same superior environmental performance. Specially selected materials and processes insure initial precision is maintained in the harshest surface mount soldering environment. Wrap-around terminations with leach-resistant nickel barriers insure high integrity solder connections.

Electrical Data

Model	Power Rating (70°C)	Max Voltage Rating ($\leq \sqrt{P \times R}$)	Temperature Range	ESD Sensitivity	Noise	Termination	Substrate
W0603	100mW	75V	-55°C to +150°C	2KV to 4KV (HBM)	<-25dB	60/40 Sn/Pb or 100% tin (RoHS compliant) plated over nickel barrier	99.5% Alumina
W0805	250mW	100V					
W1206	333mW	200V					
W1505	350mW	100V					
W2010	800mW	175V					
W2512	1.0W	200V					

Environmental Data

Environmental Test MIL-PRF-55342	Maximum ΔR per Characteristic E	Performance	
		Typical	Maximum
Thermal Shock	±0.10%	±0.02%	±0.10%
Low Temperature Operation	±0.10%	±0.01%	±0.05%
Short Time Overload	±0.10%	±0.01%	±0.05%
High Temperature Exposure	±0.10%	±0.03%	±0.10%
Effects of Solder	±0.20%	±0.01%	±0.10%
Moisture Resistance	±0.20%	±0.03%	±0.10%
Life	±0.50%	±0.03%	±0.10%

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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IRC
A subsidiary of
TT electronics plc
PFC Series Issue April 2006

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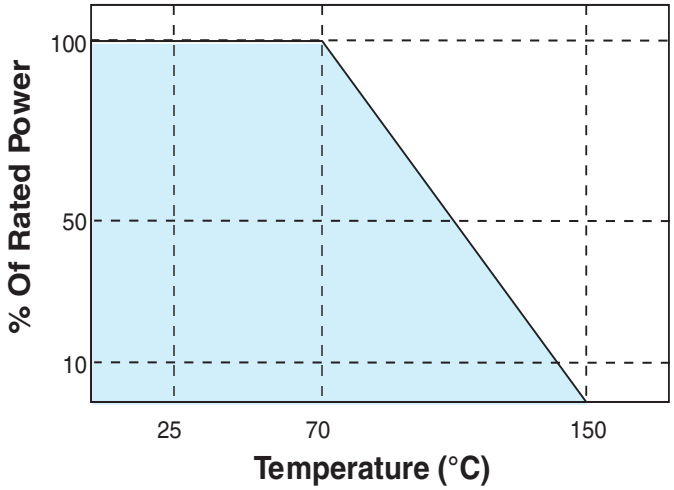
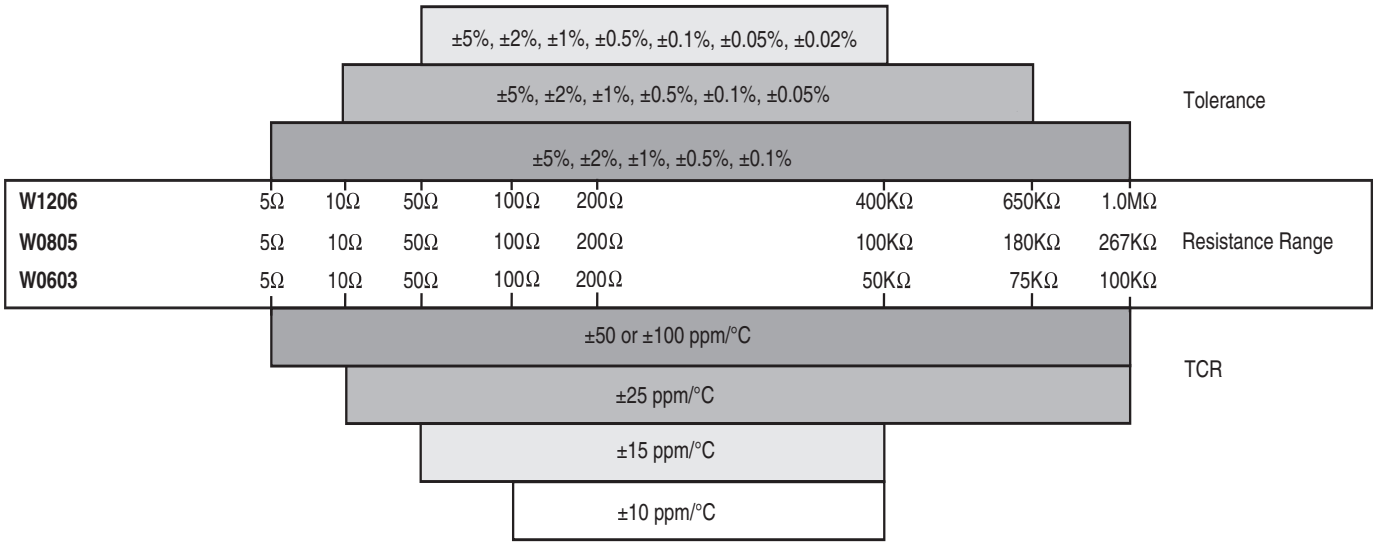
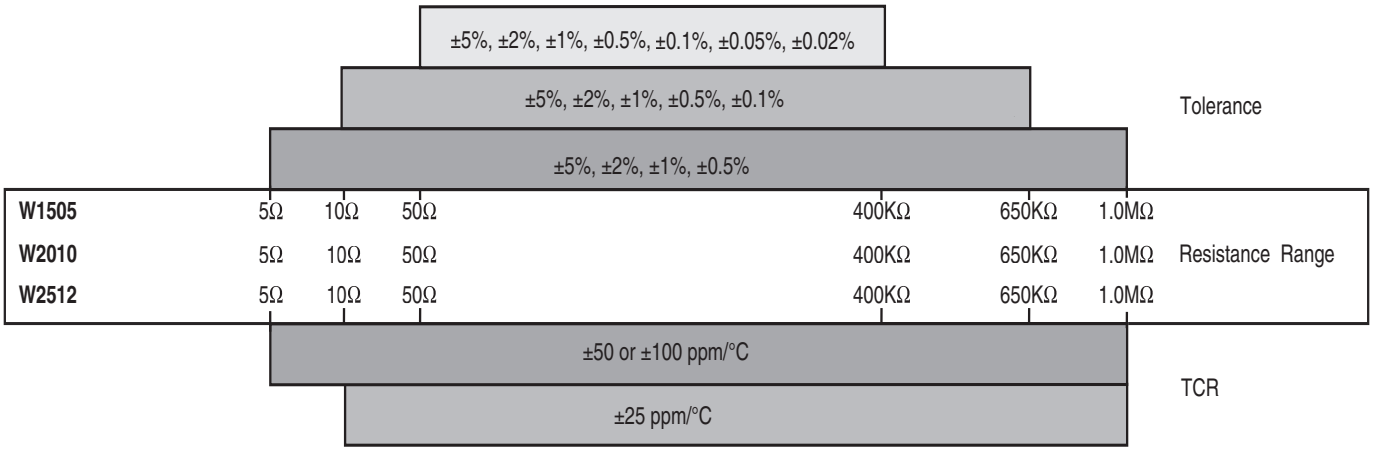
Power Derating Curve



Manufacturing Capabilities Data





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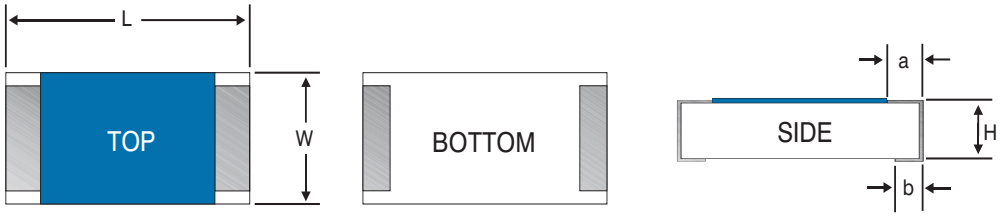
Physical Data



	L	W	H	a	b
W0603	0.063″ ±0.004	0.031″ ±0.004	0.020″ ±0.004	0.012″ ±0.005	0.015″ ±0.005
W0805	0.081″ ±0.005	0.050″ ±0.005	0.020″ ±0.006	0.015″ ±0.008	0.016″ ±0.008
W1206	0.126″ ±0.006	0.063″ ±0.005	0.024″ ±0.004	0.025″ ±0.010	0.025″ ±0.010
W1505	0.155″ ±0.007	0.050″ ±0.005	0.024″ ±0.004	0.020″ ±0.010	0.020″ ±0.010
W2010	0.203″ ±0.007	0.103″ ±0.005	0.024″ ±0.004	0.020″ ±0.008	0.020″ ±0.008
W2512	0.255″ ±0.007	0.124″ ±0.005	0.024″ ±0.004	0.020″ ±0.008	0.020″ ±0.008

Mil Screened Precision Chip Resistors

IRC's PFC chip resistors are available with Mil screening. These chips are manufactured on the same production line as our Mil-qualified chip resistors and screened in accordance with MIL-PRF-55342. These chips are identified with IRC's ordering information and not with Mil marking.

Commercial Ordering Data

Prefix PFC - W1206 R - 01 - 1001 - B

Model
W0603; W0805; W1206;
W1505; W2010; W2512

Termination
R = 60/40 Sn/Pb plated solder
LF = 100% tin plated (Pb-free)

TCR Code
01 = ±100ppm/°C; 02 = ±50ppm/°C; 03 = ±25ppm/°C;
11 = ±15ppm/°C; 12 = ±10ppm/°C

Resistance Code
4-Digit resistance code.
Ex: 10R0 = 10Ω; 1000 = 100Ω;
1001 = 1000Ω; 1002 = 10KΩ

Tolerance Code
J = ±5%; G = ±2%; F = ±1%; D = ±0.5%;
B = ±0.1%; A = ±0.05%; Q = ±0.02%

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

Mil Screened Ordering Data*

Prefix PFC - W1206 R - 04 - 1001 - B

Model
W0603; W0805; W1206;
W1505; W2010; W2512

Termination
R = 60/40 Sn/Pb plated solder

Mil-Screened TCR Code
04 = ±300ppm/°C; 05 = ±100ppm/°C; 06 = ±50ppm/°C;
07 = ±25ppm/°C; 14 = ±20ppm/°C; 15 = ±15ppm/°C;
16 = ±10ppm/°C

Resistance Code
4-Digit resistance code.
Ex: 10R0 = 10Ω; 1000 = 100Ω;
1001 = 1000Ω; 1002 = 10KΩ

Tolerance Code
J = ±5%; G = ±2%; F = ±1%; D = ±0.5%;
B = ±0.1%; A = ±0.05%; Q = ±0.02%

*Please refer to our PFC Military datasheet to order parts qualified to MIL-PRF-55342.

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