



THIN FILM CHIP RESISTORS

61 Series 0.030" x 0.030"

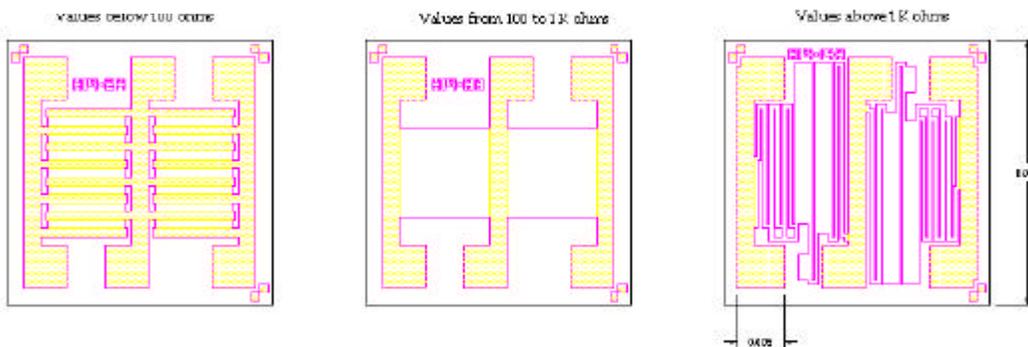
Spectrum Microwave 61 Series 0.030 x 0.030 Thin-film Resistor Chips are available in a wide range of resistances and tolerances. Values are available from 1.25 ohms to 1 megohm. Center-tapped resistors are standard for values up to 500 K. Applications include military and industrial hybrids, and medical, aerospace and communications equipment.

61 Series resistor chips are available with either passivated nichrome or tantalum-nitride resistor metalization. Nichrome provides excellent stability and temperature coefficient in hermetic applications while tantalum-nitride provides superior moisture-resistance for non-hermetic applications.

Electrical Specifications

Parameter	Limit	Test Conditions
Power Rating	200 mW	(derated at 70° to 0 mW @ 150°)
Life	±0.2% max	1000 hours @ 125° C
Noise	-35 dB typ	MIL-STD-202 method 308
High Temp Exposure	±0.2% max	100 hours at 150° C
TCR (61AC, 61AL)	±50 ppm/°C	-55° to 125° C
TCR (61ACT)	-50 to -120 ppm/°C	-55° to 125° C
Operating voltage	100 VDC max	
Moisture resistance	±0.5% max	MIL-STD-202 method 106
Thermal shock	±0.5% max	MIL-STD-202 method 107

Typical Configurations



Mechanical Specifications

Substrate	Silicon with 1 micron thermal oxide
Bond pad metalization	Gold, 100 microinches
Size	0.031 x 0.031 ±0.002 (0.78 x 0.78 mm ±0.05 mm)
Thickness	0.013 ±0.003 (0.33 ±0.07 mm)
Bond pad dimensions	0.004 x 0.004 minimum (0.1 x 0.1 mm)
Protective overcoat (passivation)	0.6 microns SiO ₂ (61AC & 61AL versions only)
Back side	Lapped silicon

Spectrum Microwave

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All parts are 100% electrically tested, sample tested per MIL-STD-38534 section 3.4, and visually inspected to MIL-STD-883 requirements. Chips are supplied in standard 2" x 2" matrix tray packaging.

Ordering Information

<u>Base Part Code</u>	<u>Value (3 digits plus exponent)</u>	<u>Tolerance Letter</u>
61xxx-	NNNE	X
61AC (Nichrome center-tapped)	(Under 100 ohms, an R indicates the decimal point location.)	B = 0.1%
61AL (Nichrome, no center-tap, values above 500K only)		C = 0.25%
61ACT (Tantalum-nitride center-tapped)		D = 0.5%
		F = 1%
		G = 2%
		J = 5%
		K = 10%
		M = 20%

Ordering examples:

61AC-5002K is a 50 kilohm 10% center-tapped resistor with nichrome metalization.

61AL-1004J is a 1 megohm 5% resistor with nichrome metalization.

61ACT-50R1F is a 50.1 ohm 1% center-tapped resistor with tantalum-nitride metalization.

Availability and Limitations:

61AC series is available from 2.5 ohms to 600 kohms.

61AL series is available from 250 kohms to 1 megohm.

61ACT series is available from 1.25 ohms to 300 kohms.

B tolerance is available above 250 ohms.

C tolerance is available above 100 ohms.

D tolerance is available above 50 ohms.

F tolerance is available above 25 ohms.

G tolerance is available above 12 ohms.

J tolerance is available above 5 ohms.

(Specifications subject to change without notice.)

Spectrum Microwave also manufactures Custom Substrates on a variety of materials, a wide range of Microwave, PIN Diode Drivers, and Custom Hybrid Circuits. Please contact the factory or your local representative for more information.

