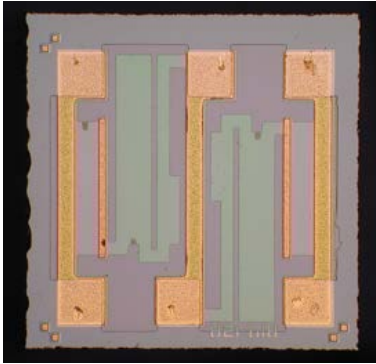


Thin Film Center-Tap Chip Resistors (.030 x .030 Series)

Chip resistors provide options in substrate, resistor material, temperature coefficient of resistance, resistance and tolerance.



Features

- Chip Size: .030" x .030"
- Silicon or alumina substrate
- Both sum and ratio of two resistors meet tolerance.
- Wire bond pads

Available Options Include:

- Resistor ratio tolerances to 0.01%
- TCR options available for 61AC series.

API Technologies **thin film center-tapped chip resistors .030 x .030 series** are available in a wide range of resistances and tolerances with values available from 2 ohms to 1 megohm. A center-tap is standard for values up to 500K, on a silicon or alumina substrate. The thin film resistor is made of Nickel-Chromium (NiCr) or Tantalum Nitride (TaN), with a gold conductor layer.

Applications for thin film center-tapped chip resistors include military and industrial hybrids, and medical, aerospace and communications equipment.

Center-tapped chip resistors are available with either passivated NiCr or TaN resistor metallization.

- Nickel-chromium provides excellent stability and temperature coefficient in hermetic applications.
- Tantalum-nitride provides superior moisture-resistance for non-hermetic applications.

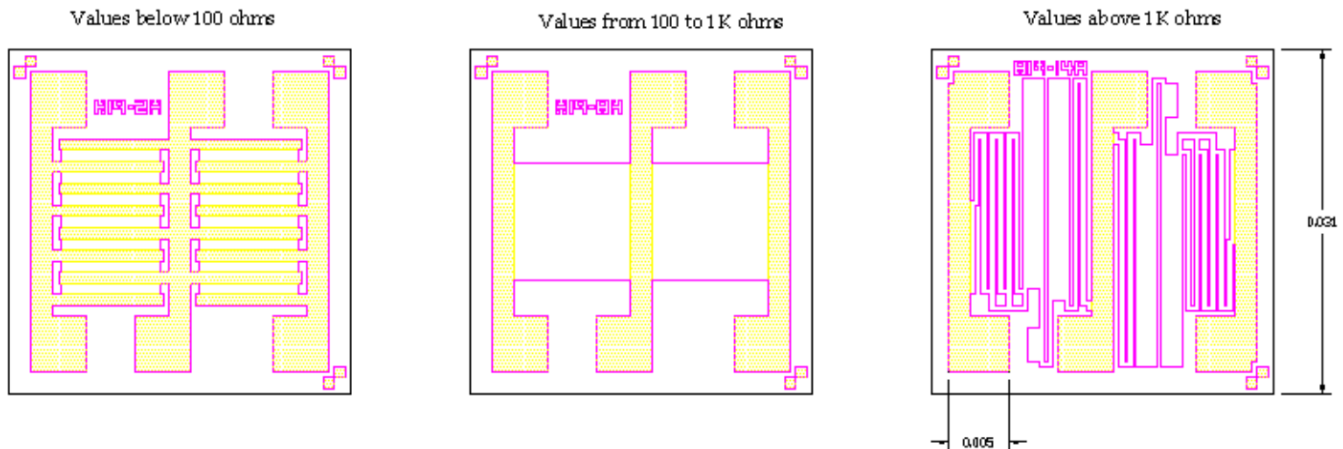
Electrical Specifications

Parameter	Limit	Test conditions
Power Rating (Silicon with conductive epoxy)	400 mW at 70°C	derated to 0 mW @ 150 °C
Power Rating (Silicon with non-conductive epoxy)	200 mW at 70°C	derated to 0 mW @ 150 °C
Power Rating (Alumina)	100 mW at 70°C	derated to 0 mW @ 150 °C
Life	+/-0.2% max	1000 hours @ 125 degrees C
Noise	-35 dB typ	MIL-STD-202 method 308
High Temp Exposure	+/-0.2% max	100 hours at 150 degrees C
TCR (NiCr)	+/-50 ppm/C	-55 to 125 degrees C
TCR (TaN)	-75 to -120 ppm/C	-55 to 125 degrees 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

Mechanical Specifications

Substrate	Silicon with thermal oxide or 99.6% alumina
Bond pad metalization	Bondable Gold
Size	.031 x .031 +/- .002 (0.78 x 0.78 mm +/- .05mm)
Thickness	.012 +/- .003 " for silicon, .010 +/- .001 for alumina
Bond pad dimensions	.004 x .004 minimum (0.1 x 0.1 mm)
Protective overcoat (passivation)	Silox glass on NiCr versions only
Back side	Lapped silicon or alumina

Typical Configurations



Packaging Options

- Waffle Pack (400 resistors per pack) - standard
- Waffle Pack (50 resistors per pack)
- Waffle Pack (100 resistors per pack)
- Tape and reel

Center-Tap .030 x .030 Series

Ordering Information

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.

Base part code	Ohm value (total of both halves)	Tolerance letter
61AC- (NiCr on Silicon)	NNNE	X
61ACT- (TaN on Silicon)	3 digits plus exponent	B=0.1% C=0.25%
1CBN- (NiCr on Alumina)	Parts under 100 ohms may drop the exponent and use an R to locate the decimal point.	D=0.5% F=1% G=2%
1CBT- (TaN on Alumina)		J=5% K=10% L=15% M=20%

Availability

- 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

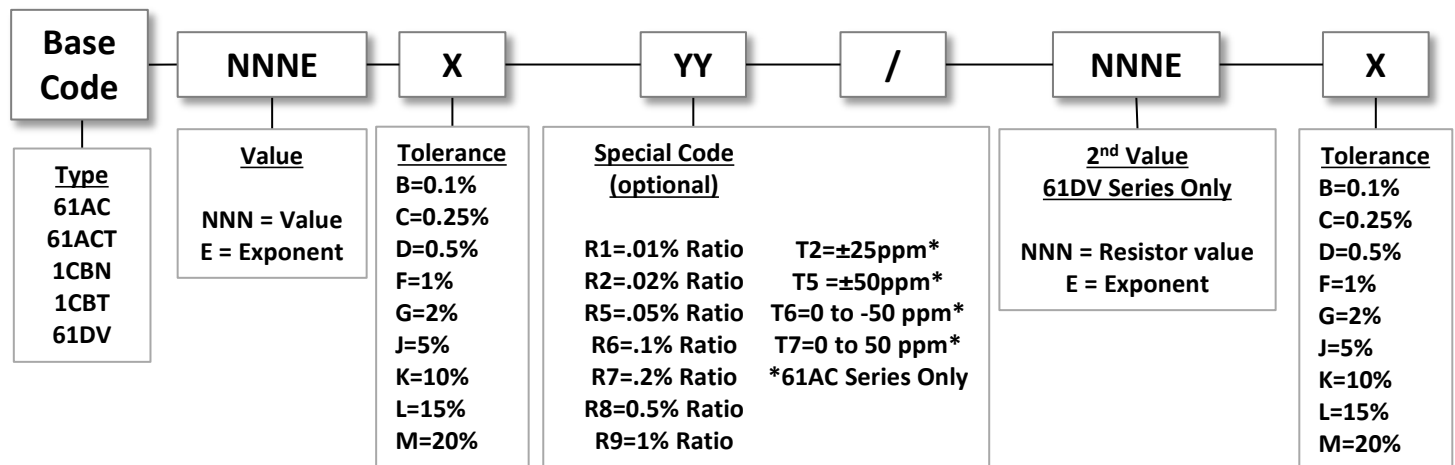
30x30 Center-Tap Options

- 61AC – NiCr on silicon/center tap
- 61ACT – TaN on silicon/center tap
- 1CBN – NiCr on alumina/center tap
- 1CBT – TaN on alumina/center tap
- 61DV – NiCr on silicon/center tap/dual value

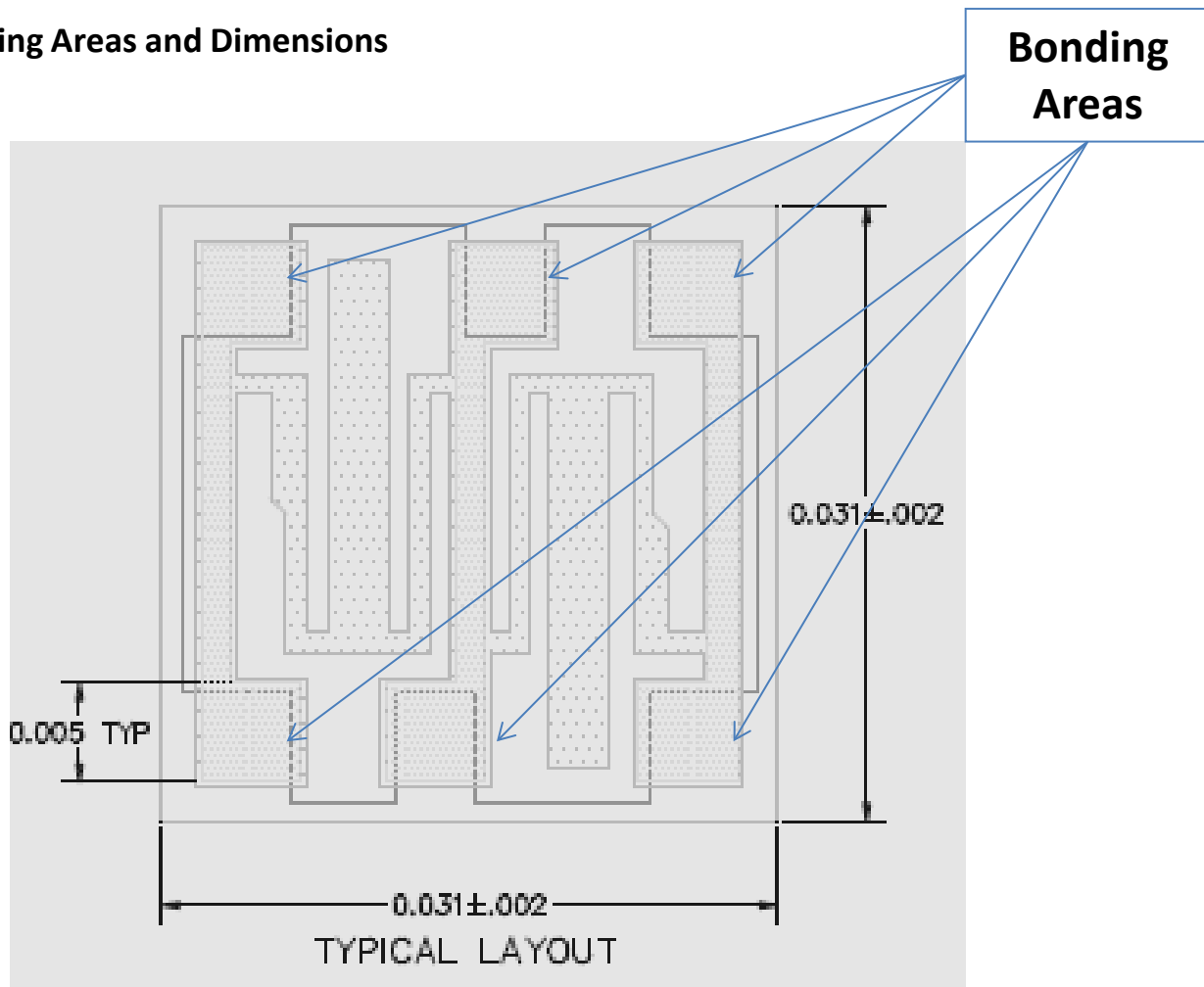
Ordering Examples

- 61AC-5002K is a 50 kohm 10% center-tapped resistor with NiCr resistor layer on Silicon.
- 1CBT-50R1F is a 50.1 ohm 1% center-tapped resistor with TaN resistor layer on Alumina

Part Number Breakout/Designation



Bonding Areas and Dimensions



Factory Information

API Technologies, 400 Nickerson Road, Marlborough, MA 01752

TEL: 508-251-6400

FAX: 508-251-6401

http://micro.apitech.com/thin_film.aspx