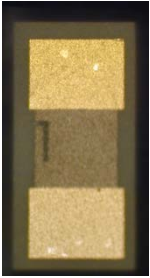


Thin Film Single-Tap Chip Resistors (.020 x .040 Series)

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



Features

- Chip Size: .020" x .040"
- Alumina Substrate
- Wire bond pads

Available Options Include:

- Resistor Tolerance to 0.5%
- Nickel Chrome or Tantalum Nitride Resistor Materials
- Back Gold Option

API Technologies **thin film single-tapped chip resistors .020 x .040 series** are available in a wide range of resistances and tolerances with values available from 10 ohms to 2000 ohms. The thin film resistor layer is made of Nickel-Chromium or Tantalum Nitride (TaN), with a gold or nickel-gold conductor layer.

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

Single-tapped chip resistors are available with either passivated nickel chrome or tantalum-nitride resistor metalization.

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

Electrical Specifications

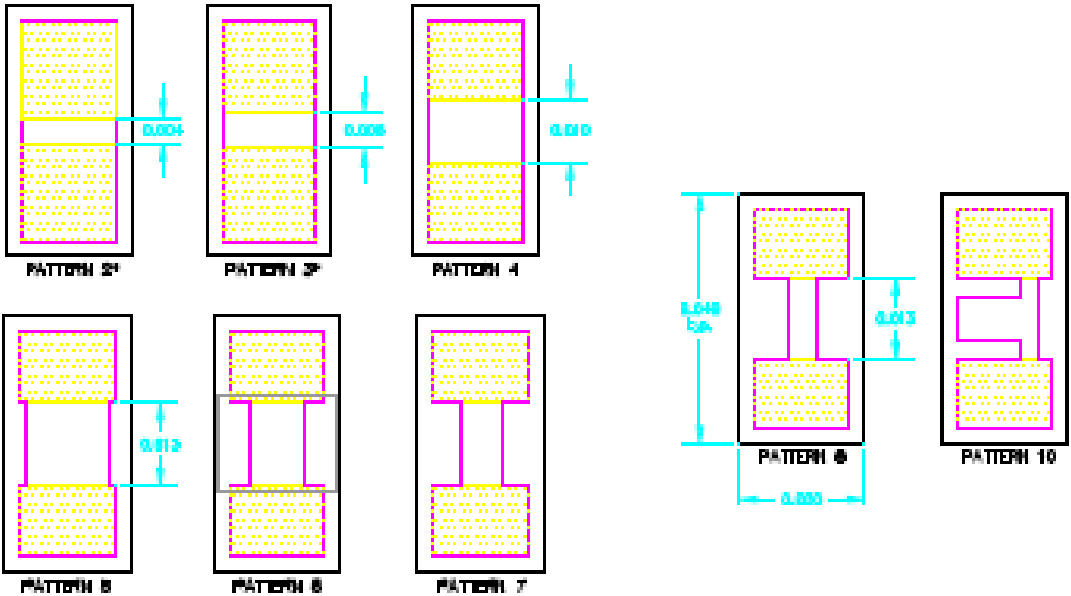
Parameter	Limit	Test conditions
Power Rating (Si with Conductive Epoxy)	75 mW	(70 C derated to 0 mW @ 150 C)
Life	+/-0.2% max	1000 hours @ 125 degrees C
Noise	-35 dB typ	MIL-STD-202 method 308
High Temp Exposure	+/-0.2% max	100 hours at 150 degrees C
TCR (Nickel Chrome)	+/-50 ppm/C	-55 to 125 degrees C for resistor values of 50 ohms or greater
TCR (Tantalum Nitride)	+/-125 ppm/C	-55 to 125 degrees C for resistor values of 50 ohms or greater
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
VSWR	<1.2 <1.4	From DC to 8 GHz From 8 GHz to 18 GHz

Single-Tap .020 x .040 Series

Mechanical Specifications

Substrate	Alumina
Bond pad metalization	Bondable Gold or Solderable Gold
Size	.020 x .040" typical (0.508 x 1.016 mm)
Thickness	.010 +/- 0.001"
Bond pad dimensions	Varies, .013 x 0.009" minimum
Protective overcoat (passivation)	Silox glass on NiCr versions only
Back side	AF alumina or gold.

Typical Configuration



Packaging Options

- Waffle Pack (500 resistors per pack) - standard
- Waffle Pack (50 resistors per pack)
- Waffle Pack (100 resistors per pack)
- Tape and reel

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
2MCB- (NiCr, no back metal)	NNNE	X
2MCG- (NiCr, Gold backed)	NNNE	X
2MCS- (NiCr, solder pads)	NNNE	X
2CBT- (TaN, no back metal)	NNNE	X
2CGT – (TaN, Gold backed)	NNNE	X
2MCN – (NiCr, solderable)	NNNE	X

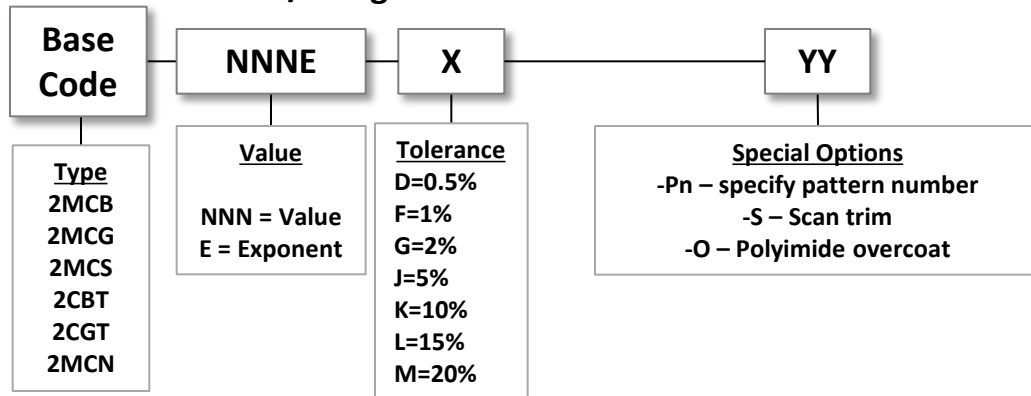
Availability

- NiCr series is available from 20 ohms to 2000 ohms
- TaN series is available from 10 ohms to 1000 ohms
- D tolerance available at greater than 50 ohms
- F tolerance available at greater than 25 ohms
- G tolerance available at greater than 12 ohms
- J tolerance available at greater than 5 ohms

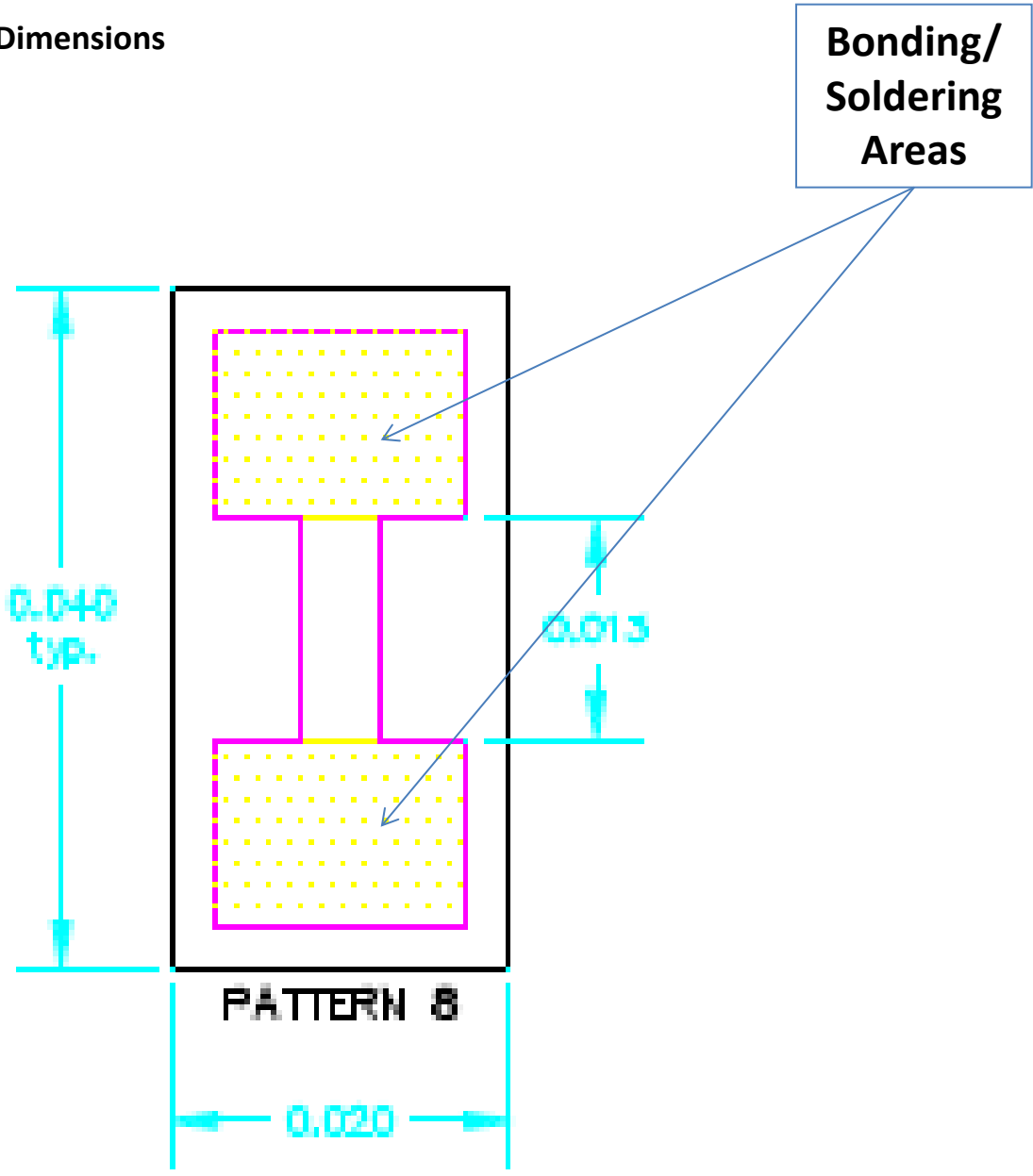
Ordering Examples

- 2MCG-1000J is a 100 ohm 5% resistor with nickel-chrome metallization and gold on back surface.

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