**Thin Film**

**Customized Networks & Etched Circuits**

_Metallized Al₂O₃ NiCrTiW-Au_

---

**Nichrome Thin Film**

Customized Networks

& Etched Circuits

---

**Features**

- High Film Adhesion
- Consistent Sheet Resistance
- Traceability
- Stability
- Smoothness both sides to < 1μ CLA (for 99.6% Al₂O₃)
- Flatness .002" per inch camber
- Ground Plane Identification

---

**Metallization Specifications**

- **Circuit Side Nichrome:**
  Standard values include 20 thru 350 ohms/square after heat treatment. Sheet resistivity will be ±10% of nominal value ordered when heat treated at 375°C for 2 hours. Uniformity ±5% area under substrate TCR = -25ppm/°C ±25ppm/°C, -55 to +150°C.

- Customized Substrates & Networks
- Filled Vias
- Metallized Through Holes
- Backside Metallization

---

**Sizes**

- Stock Material: 2" x 2", 2¼" x 2¼", 3¼" x 4"
- Other Customized Sizes Available

---

**Standard Thicknesses**

- .005", .010", .015", .025"
- Other Thicknesses Upon Request

---

Specifications subject to change without notice.

---

Other substrate materials available upon request:

AlN, Quartz, BeO, Garnet and Sapphire.

---

**FMI**

FILM MICROELECTRONICS INCORPORATED

A SatCon Company

Tel: 978.975.3005  Fax: 978.975.3506

530 Tampike Street, North Andover, MA 01845

e-mail: thinfilm@satc.com

0500
**TANTALUM NITRIDE**
Thin Film Metallized Substrates, Customized Networks & Etched Circuits

**FEATURES**
- High Film Adhesion
- Consistent Sheet Resistance
- Traceability
- Stability
- Smoothness both sides to < 1μ CLA (for 99.6% Al₂O₃)
- Flatness .002" per inch camber
- Ground Plane Identification

**SIZES**
- Stock Material: 2" x 2", 2¾" x 2¾", 3¾" x 4"
- Other Customized Sizes Upon Request

**STANDARD THICKNESSES**
- .005", .010", .015", .025"
- Other Thicknesses Upon Request

**METALLIZATION SPECIFICATIONS**
- Circuit Side, Tantalum Nitride:
  Values include 10 Ω/square thru 150 Ω/square after heat treatment. Sheet resistivity will be ±10% of nominal value ordered when heat treated at 400°C to 425°C Uniformity ±5% across substrate 
  TCR: -100ppm/°C, ±50ppm/°C, -55°C to +150°C
- Customized Substrates & Networks
- Filled Vias
- Metallized Through Holes
- Backside Metallization

Other substrate materials available upon request: AIN, Quartz, BeO, Garnet and Sapphire.

Specifications subject to change without notice.