



INCERAM

**Advanced Ceramic Packaging
Solutions for Electronics**

- **INCERAM** is a technology-driven company with global expertise and strong Indian roots, backed by decades of engineering and business experience and a proven record of successful projects across Europe and Russia
- Built on the strong foundation of C-Component (Russia), whose well-established production and business model we expand further, INCERAM inherits excellence and reliability
- We are bringing this expertise to India, developing advanced local manufacturing to strengthen the country's fast-growing electronics industry

Our Team



Global Business & Technology Leader with over 25 years of leadership across software, semiconductors and advanced electronics. Driving localisation of advanced ceramic PCB and packaging solutions for automotive, semiconductors, optoelectronics, microwave, aerospace, and defense. Building strategic global manufacturing partnerships to strengthen supply-chain resilience and enable next-generation semiconductor packaging across India and international markets.

Ravi Sachdeva



Advanced Ceramics Solutions & Market Expert with 15+ years of experience across Eastern and Western Europe. Driving market adoption of advanced ceramic PCB & packaging solutions across automotive, semiconductors, optoelectronics, microwave, aerospace, & defense. Bridging deep technical expertise with commercial execution to solve complex customer challenges and advance next-generation electronics applications.

Alex Evzrezov



Experienced Management Consultant with over 15 years of experience and a proven track record of scaling high tech companies across India and international markets. Deep understanding of semiconductor packaging solutions across automotive, aerospace and defense.

Mukul Grover

Where it all started (C-Component Profile)



- Founded: 2008
- Head office: Moscow, Russia
- Manufacturing Facilities: production plant in Dubna, Moscow Region, Russia



- Awarded the status of a **National Champion** in 2024 – a prestigious national title, conferred by the **Ministry of Economic Development of Russia** with the support of Innopraktika and the Higher School of Economics, honoring the country's most dynamic and export-oriented technology leaders
- Qualified supplier to the nuclear sector
- Preferred supplier to the space sector
- Included in the registry of reliable suppliers for the automotive industry (Government of Russia)

Our Clientelé

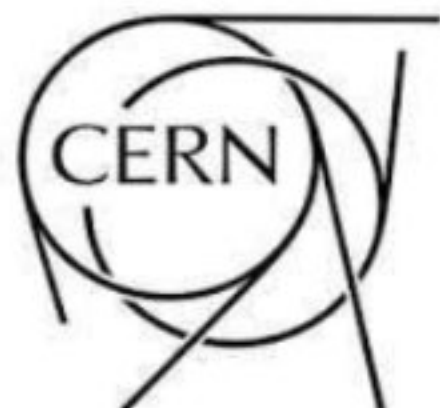


АВТОПРИБОР



ROSCOSMOS

BELAZ



THALES



Technologies Overview



Ceramic Substrates Processing

- **Wide choice of materials**
(96% and 99.6% Al₂O₃, AlN, Si₃N₄, ferrite etc.)
- **Precision laser processing**
(machining, drilling, cutting, scribing, ablation, marking)
- **Diamond dicing and profiling**
- **Lapping and polishing**

Metallization

- **Thick film** (conductors Ag, AgPd, AgPt, AgPdPt, Au, PtAu, Pt, resistors Ru, RuPdAg, glass coatings)
Includes R&D and manufacturing of technical glasses and thick film pastes
- **Thin film** (Cr, V, Ti, NiCr, Ni, Nb, Cu, Al, Au, Pt, Si alloys)
- **Direct Bonded Copper**
- **Electro- and electroless plating**
(Ni, Au, ENIG, ENIG, Ag), solder masking

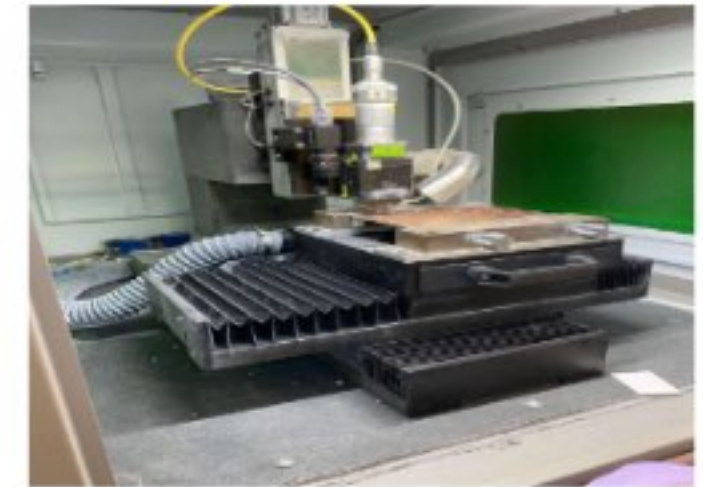
Assembly

- **Die attach** (epoxy, solder)
- **Wire bond** (Al, Au, Pt wire, ultrasonic or thermocompression bonding)
- **Sealing/encapsulation** (epoxy, solder, glass, laser welding)

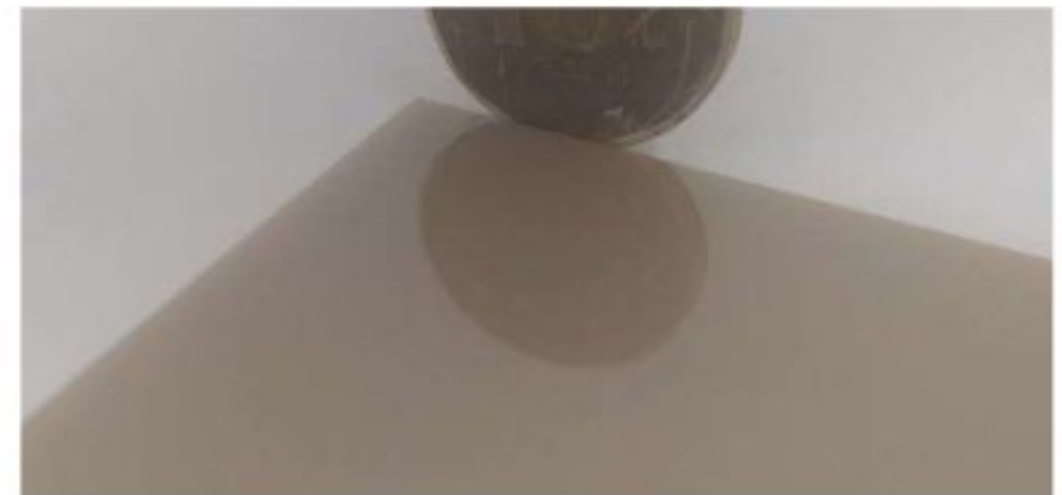
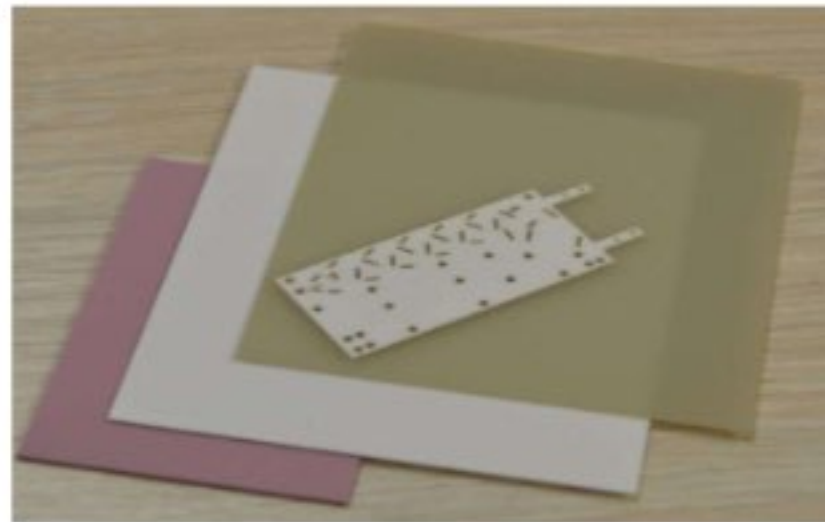
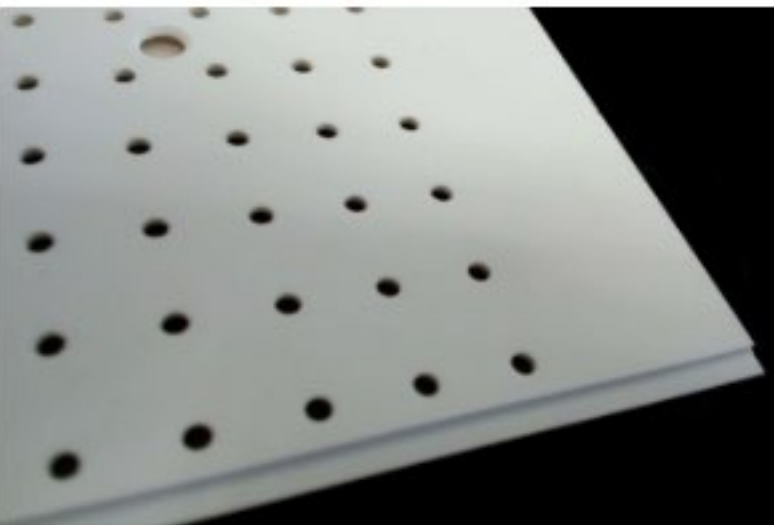
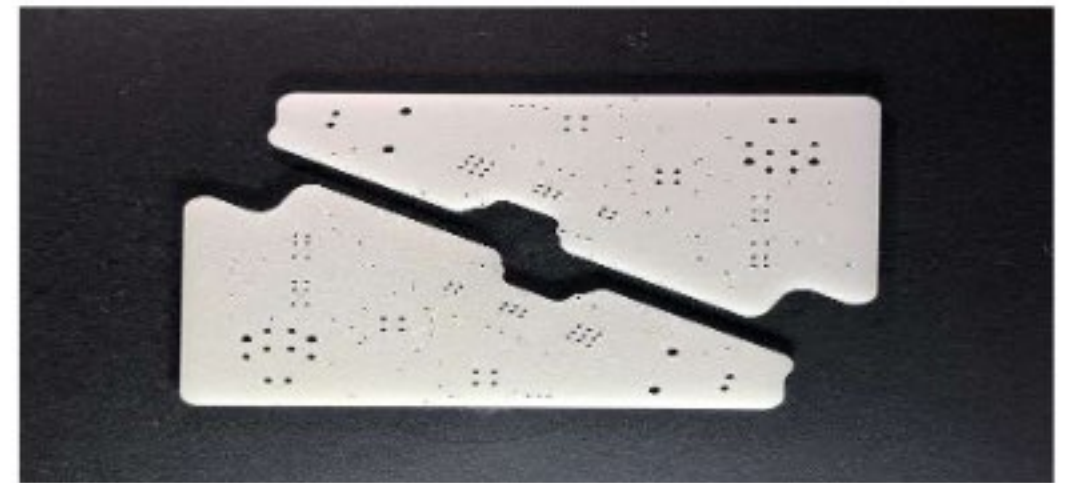
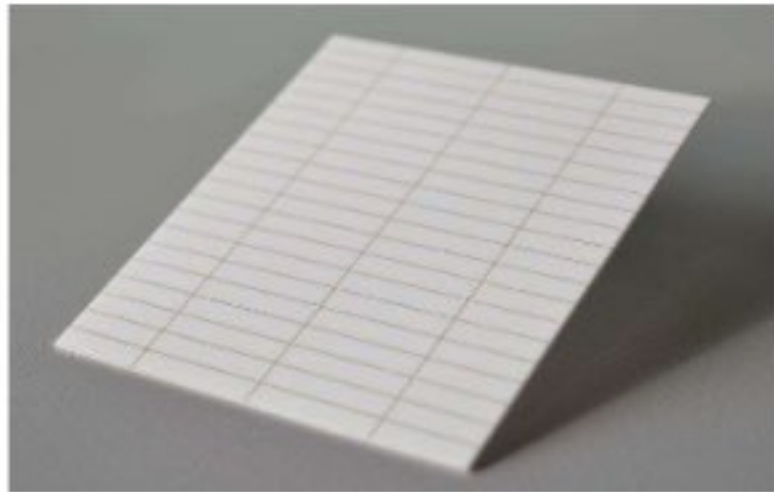
Facilities & Capabilities Ceramic Processing



- Lasers - 8 machines (CO2, solid-state, fiber)
- Diamond dicing machine; lapping/polishing equipment
- *Any shapes and 3D features (holes, grooves, slots, etc.); pulsed/continuous scribing; surface treatment, ablation, and marking; smooth edges; tolerances down to 10 um or lower*
- *Precise adjustments for geometry, parallelism, flatness, and thickness reduction to 100 um or less*
- *High-speed, very cost-effective processing for standard products, along with precision craftsmanship for complex military/aerospace/scientific tasks*



Insights into some of our LIVE projects



Facilities & Capabilities Thick Film. Metallization



- Screen printers (semi-automatic); conveyor furnaces (9-zone)
- *Cost-effective custom thick film circuits from simple one or two-print-sided substrates to high-complexity and fine line circuits with multilayers, metallised vias, plated through holes, integrated resistors, wraparounds and more special features; substrate size up to 270x270mm*
- *Conductor thickness from 6~8 to 40~50 μm ; fine line/gap width up to 50/50 μm*



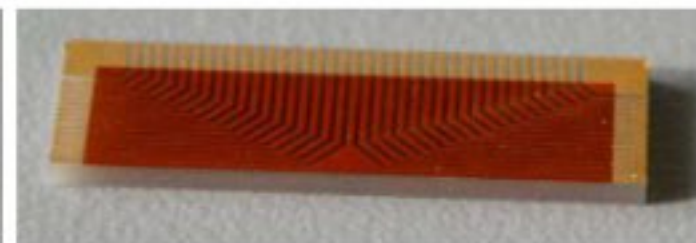
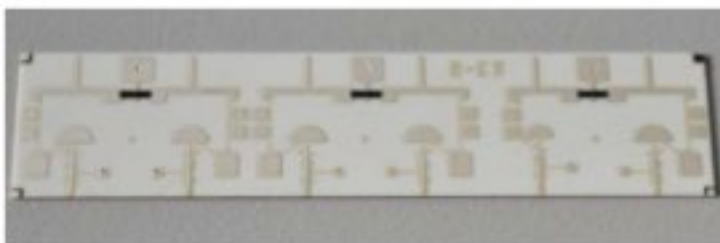
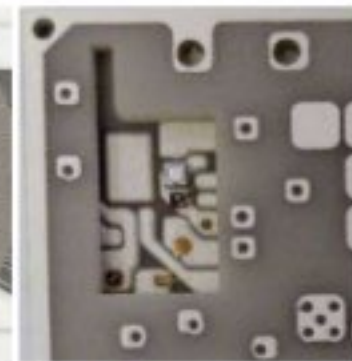
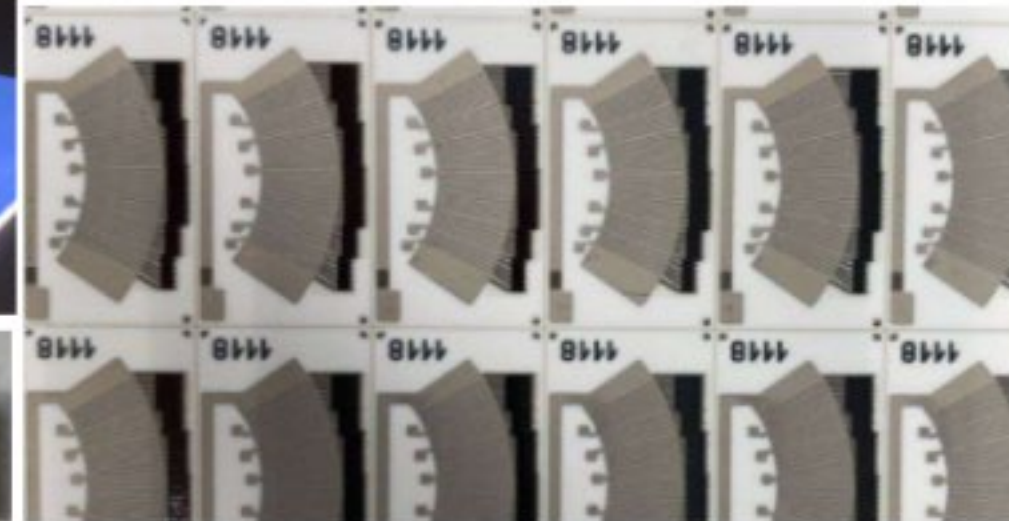
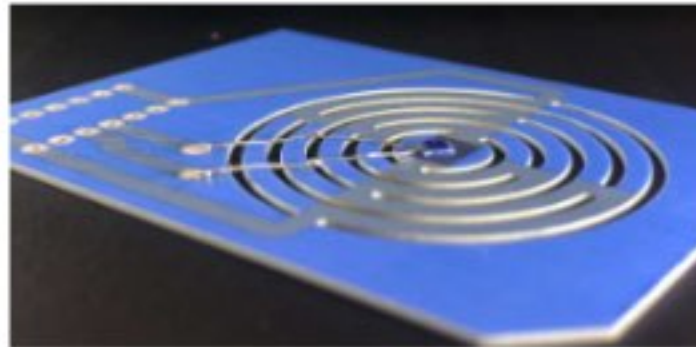
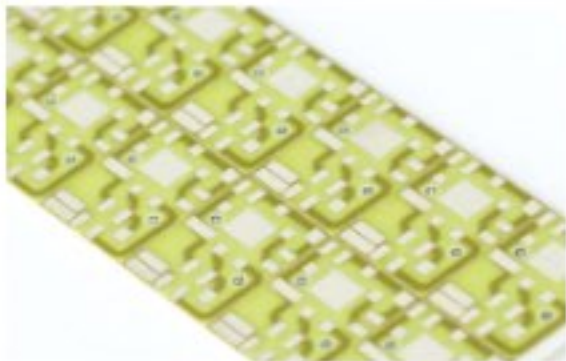
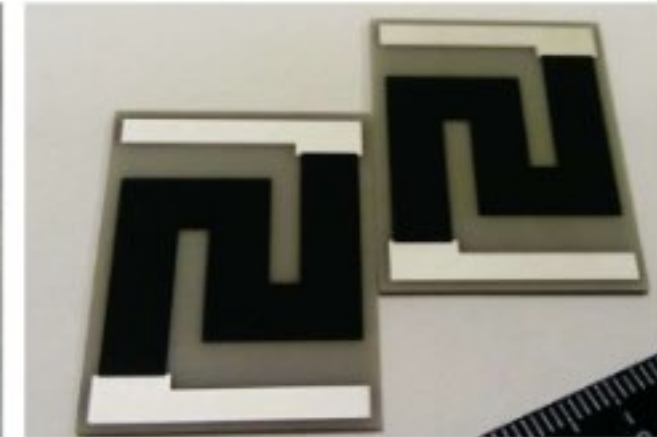
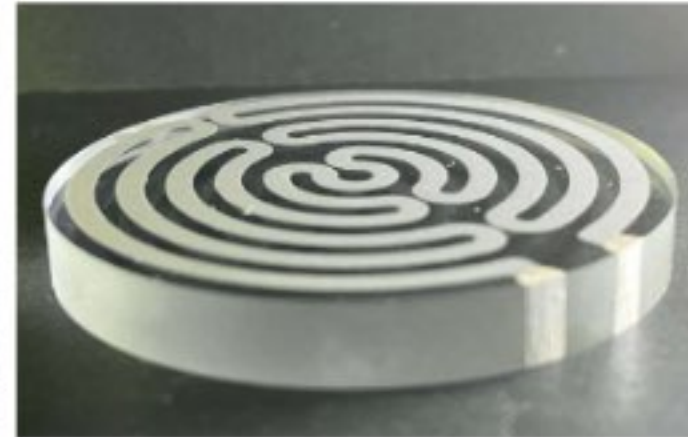
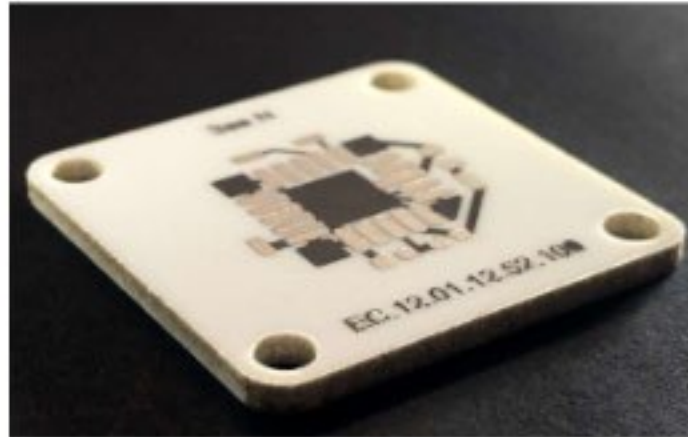
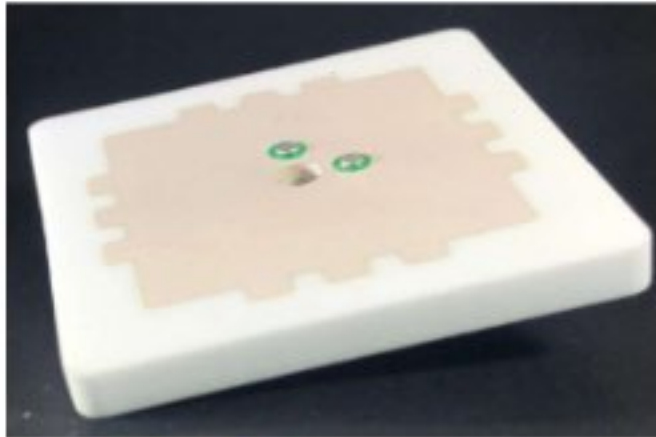
Facilities & Capabilities Thick Film. Postprocessing



- High-capacity laser resistor trimming machines (including developed and produced in-house)
 - various in-house equipment for sorting, marking, and other auxiliary tasks
- *High-performance, highly efficient processes with automated manual operations for standard products*



LIVE projects Overview : Thick Film



Facilities & Capabilities

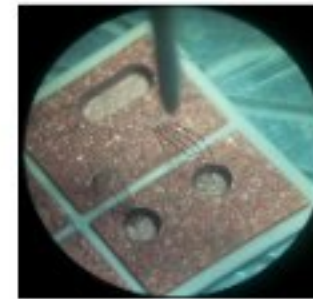
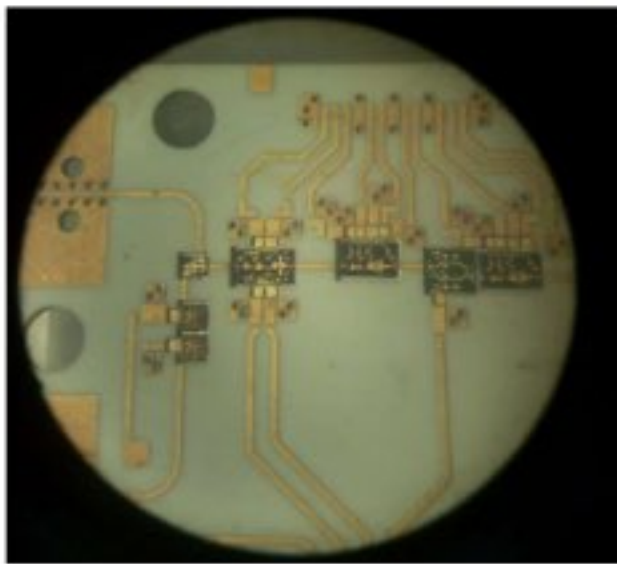
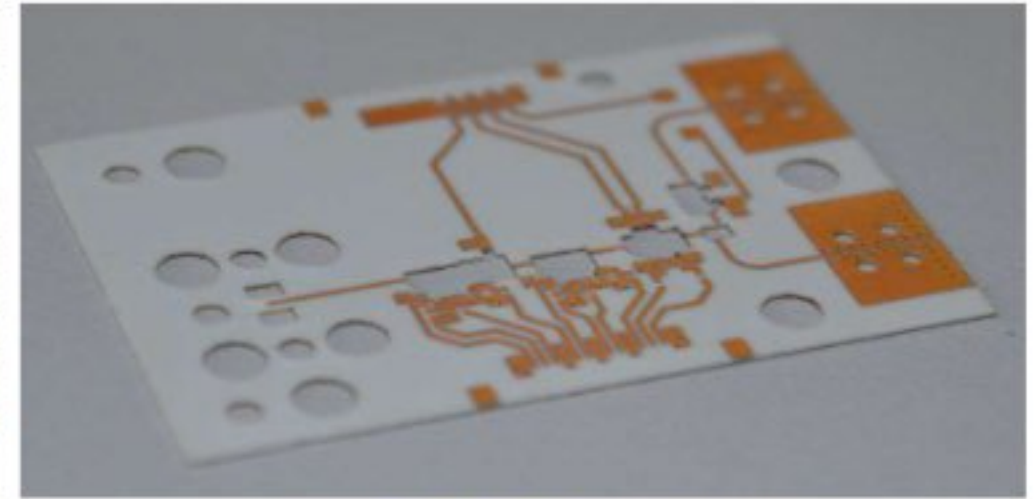
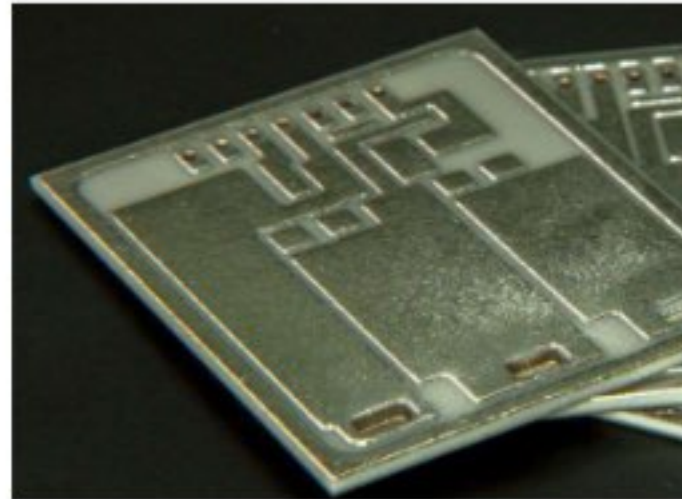
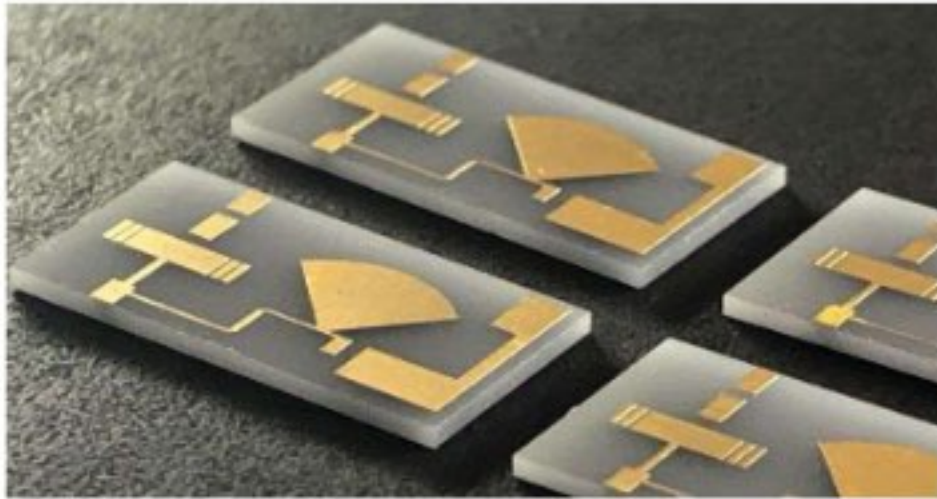
Other Processes



- **Thin Film Metallization** - for superior line resolution, high-density designs, and precise control of material properties
- **Direct Bonded Copper Metallization** - for high thermal conductivity, low thermal expansion, and high current-carrying capacity in power electronics
- **Electro- and electroless plating** - for enhancing surface conductivity, corrosion resistance, and solderability
- **Micro Assembly** (Die Attach, Wire Bonding, Encapsulation) - for miniaturisation, robust connections and environmental protection for long-term durability



LIVE projects overview (across technologies)



Facilities & Capabilities

Thick Film Pastes; Technical Glasses



- Technical Glasses and Thick-Film Pastes: synthesis, analysis, development, and manufacturing (including those without analogues)
- *Electrovacuum glasses for encapsulation , lead sealing (metal-to-metal and metal-to-ceramic), ceramic glazing, and thick film printing (Al_2O_3 , AlN , Si_3N_4 , ZrO_2 , etc.). Developed glass systems include $\text{PbO-V}_2\text{O}_5\text{-P}_2\text{O}_5$, $\text{Bi}_2\text{O}_3\text{-SiO}_2\text{-ZnO}$, $\text{SiO}_2\text{-CaO-Al}_2\text{O}_3$, and more, ensuring high reliability and performance in electronic components and ceramics*
- *Conductive Pastes (Ag, AgPd, AgPt, AgPdPt, Au, PtAu, Pt - including special pastes for RF, antennas, RFID), Resistor/Thermistor Pastes (Ru, RuPdAg, Pt - $1\Omega/\text{sq}$ ~ $100\text{G}\Omega/\text{sq}$), Dielectric Pastes, High-Temperature and Protective Pastes, Custom Formulations*

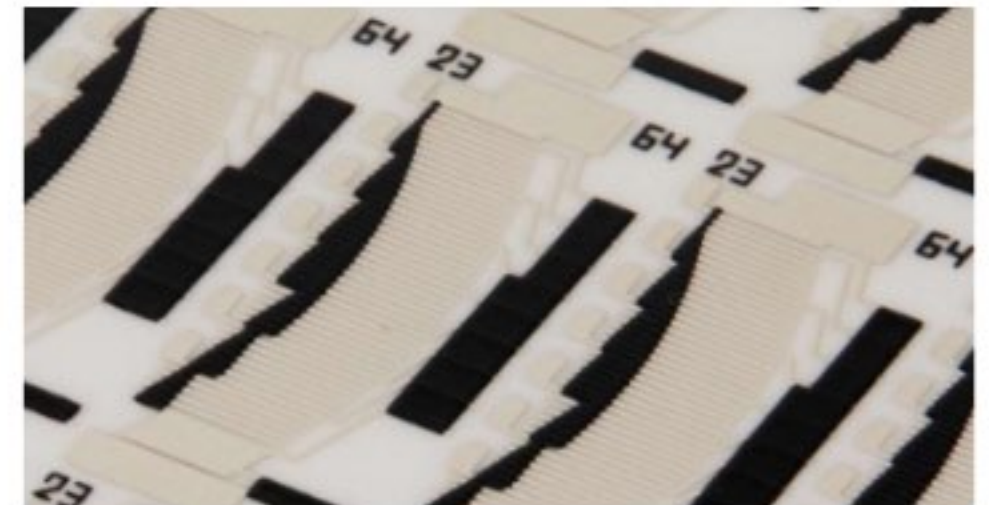
Product : Automotive Components



Product: **Ceramic Potentiometer Elements**

Applications:

- **Fuel Level Sensors**
- **Blower Motor Resistor Arrays**
- **Linear/Rotary Position Sensors**
- **Throttle Position Sensors (TPS)**
- **Mass Air Flow Sensors**



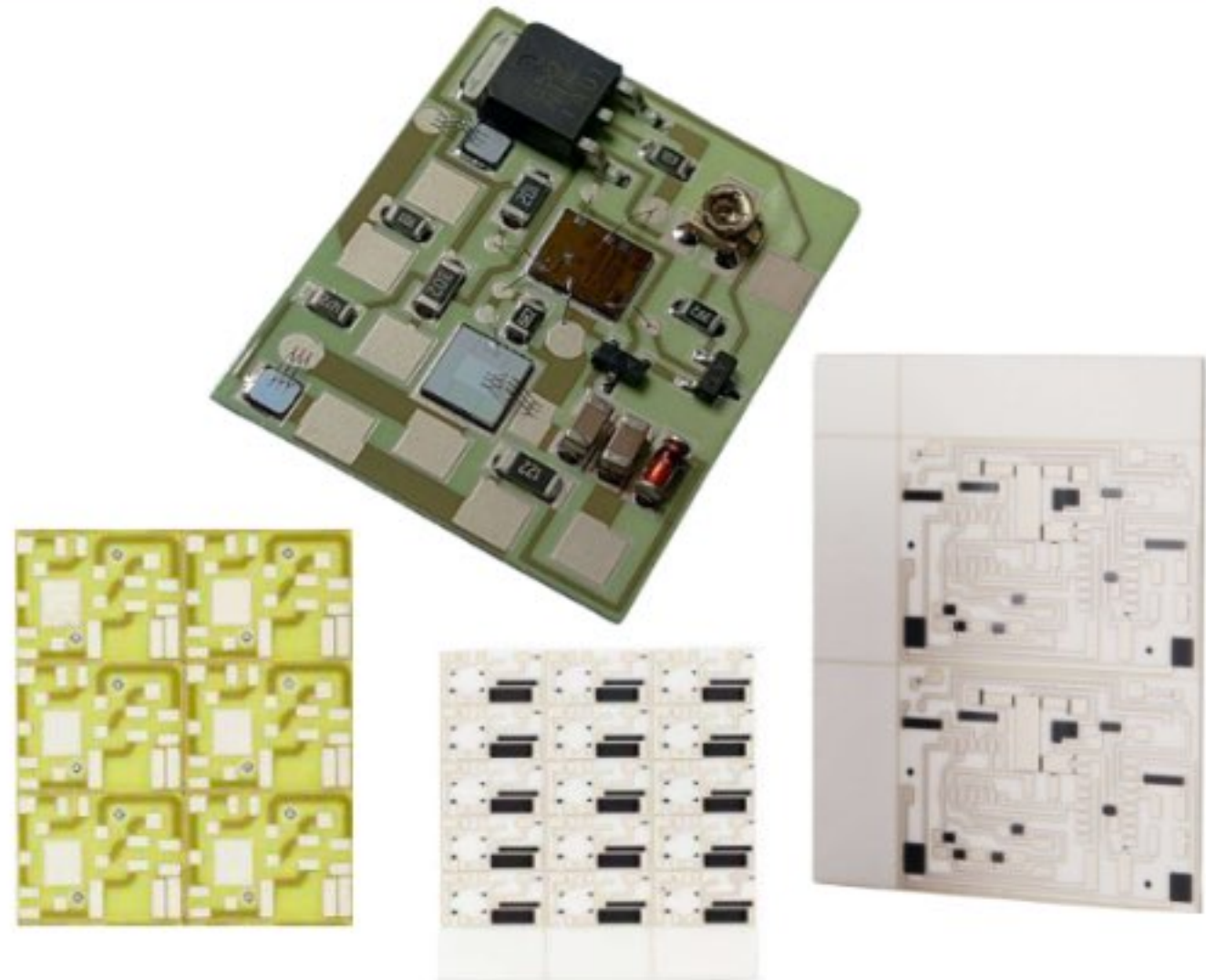
Product : Automotive Components



Product: Ceramic Hybrid Circuits

Applications:

- Ignition Modules
- Voltage Regulators
- Power Transmitter Modules



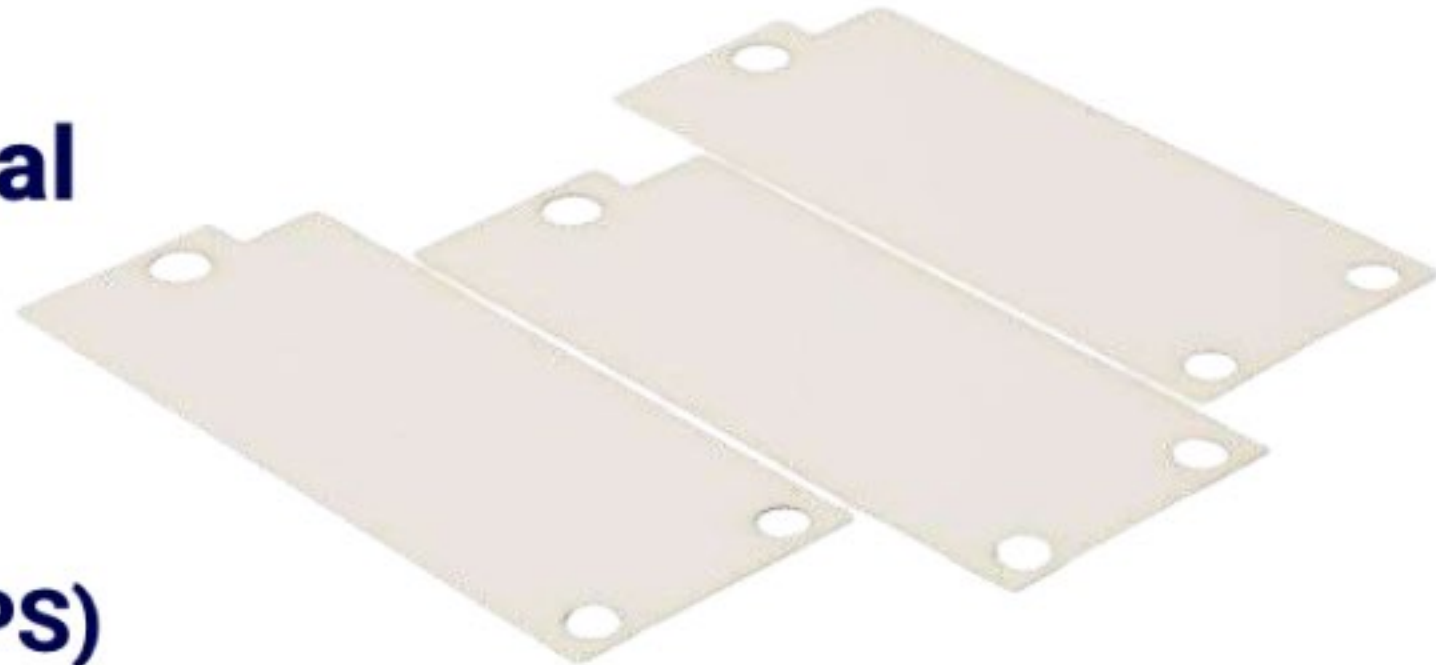
Product : Automotive Components



Product: **Ceramic Insulating Thermal Interfaces**

Applications:

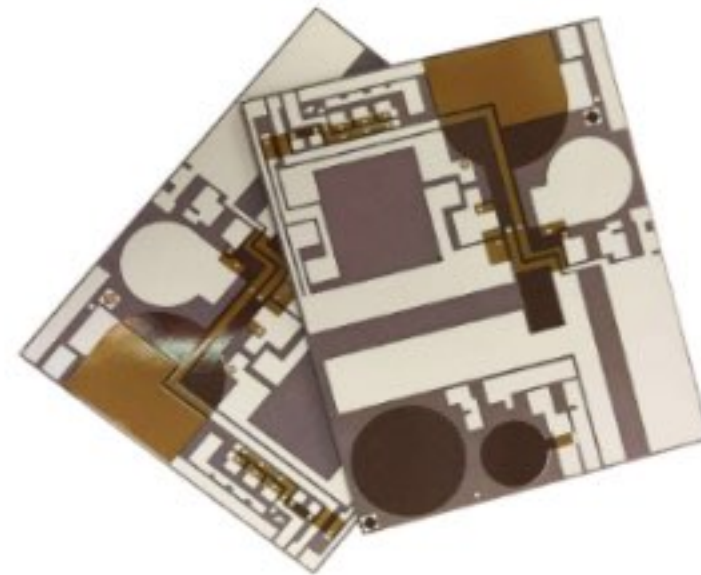
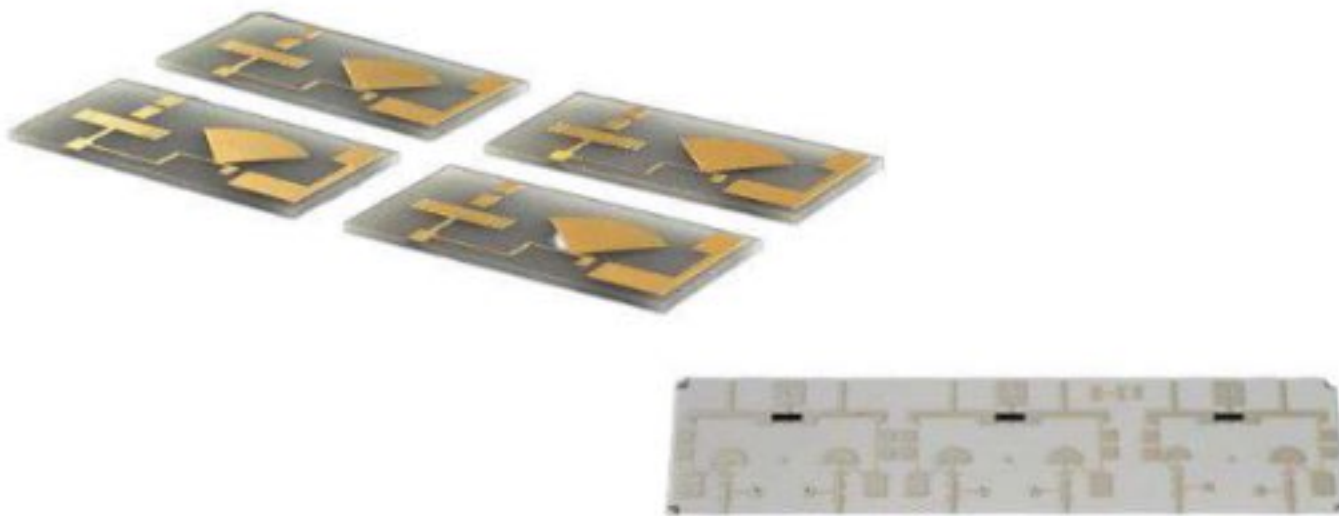
- **Electric Power Steering (EPS)**
- **Engine Compartment Thermal Management**



Product : Aerospace & Defence



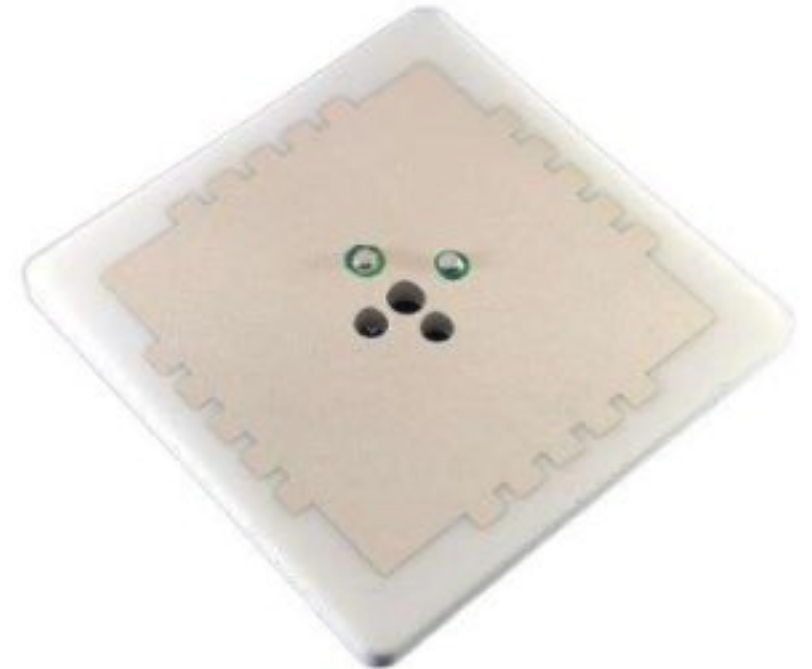
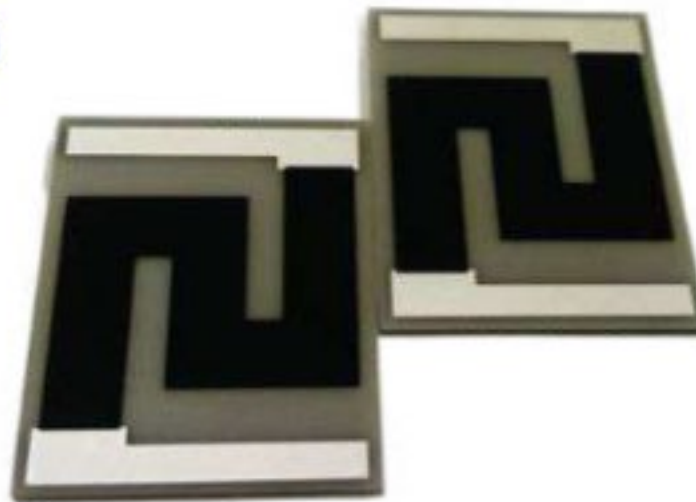
Product: Microcircuits for Radar, Missile Guidance, Electronic Warfare, Avionics and Satellite Communications



Product : Aerospace & Defence



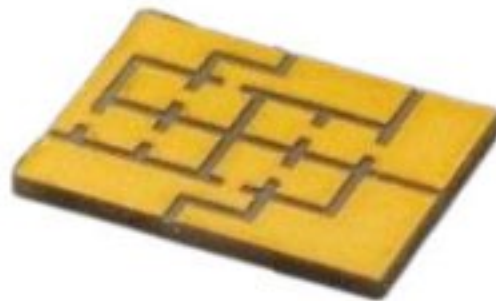
- **Ceramic Antennas and Resonators**
- **Custom Power Resistors, RF Termination Resistors for Antenna Arrays**
- **Hi-Rel Ceramic RFID**



Product : Optoelectronics and LED



- **Laser/Photodiode Submounts**
- **LED Substrates**
- **Submounts for Charge-coupled devices**



Product : Power Electronics



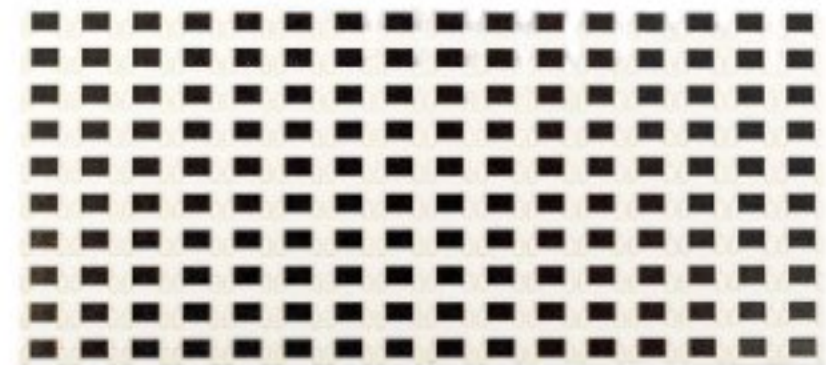
- Full range of substrates for high-power modules, inverters, converters, and other devices



Product : Ceramic Microheaters



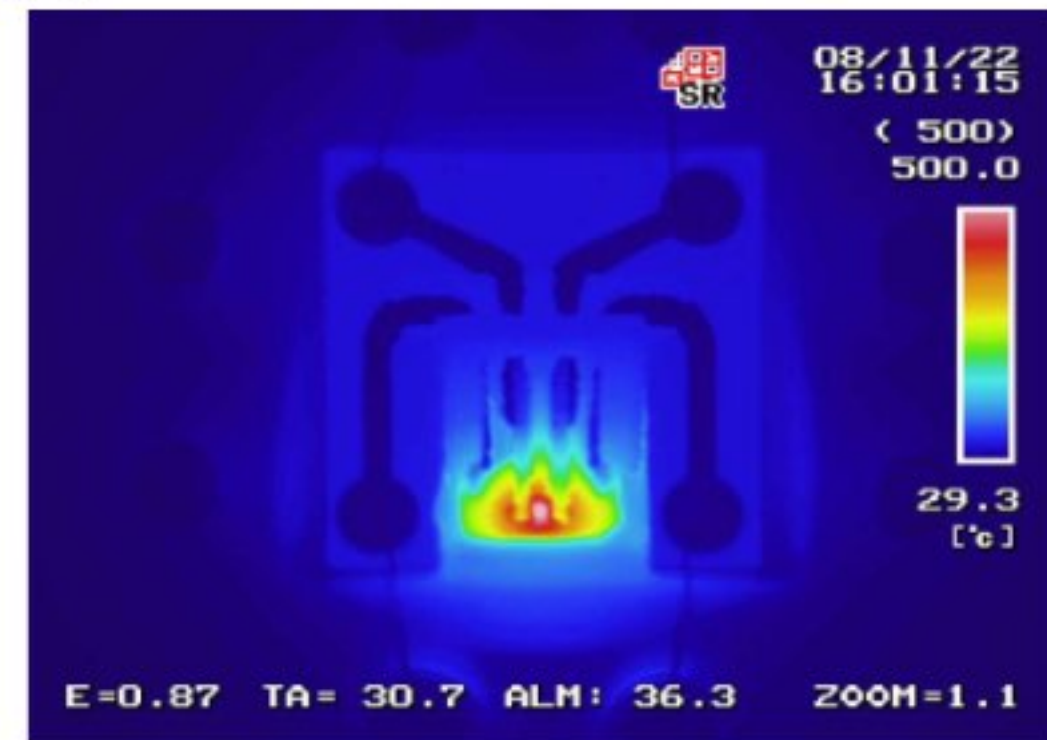
- **Thick Film Ceramic Heaters**
- **Special Heating Elements**



Product: Sensors and MEMS



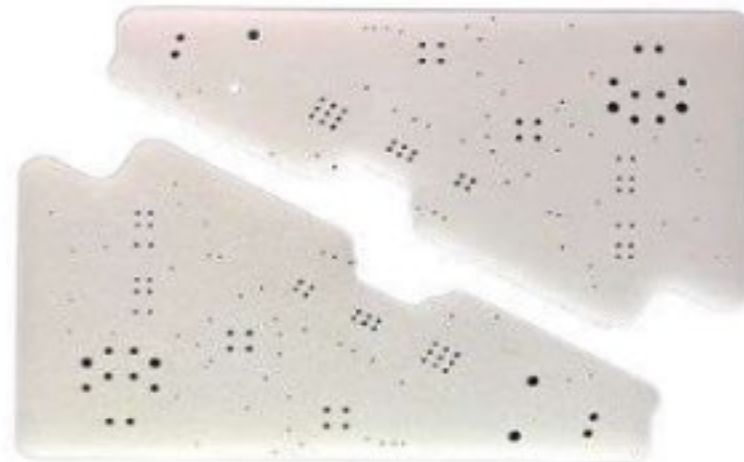
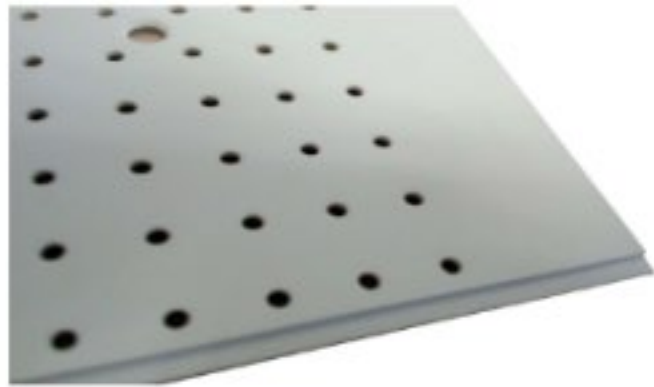
- Temperature, acceleration, electrical measurement, gas sensors and more
- Biosensors, X-ray, Medical



Product : Ceramic Components



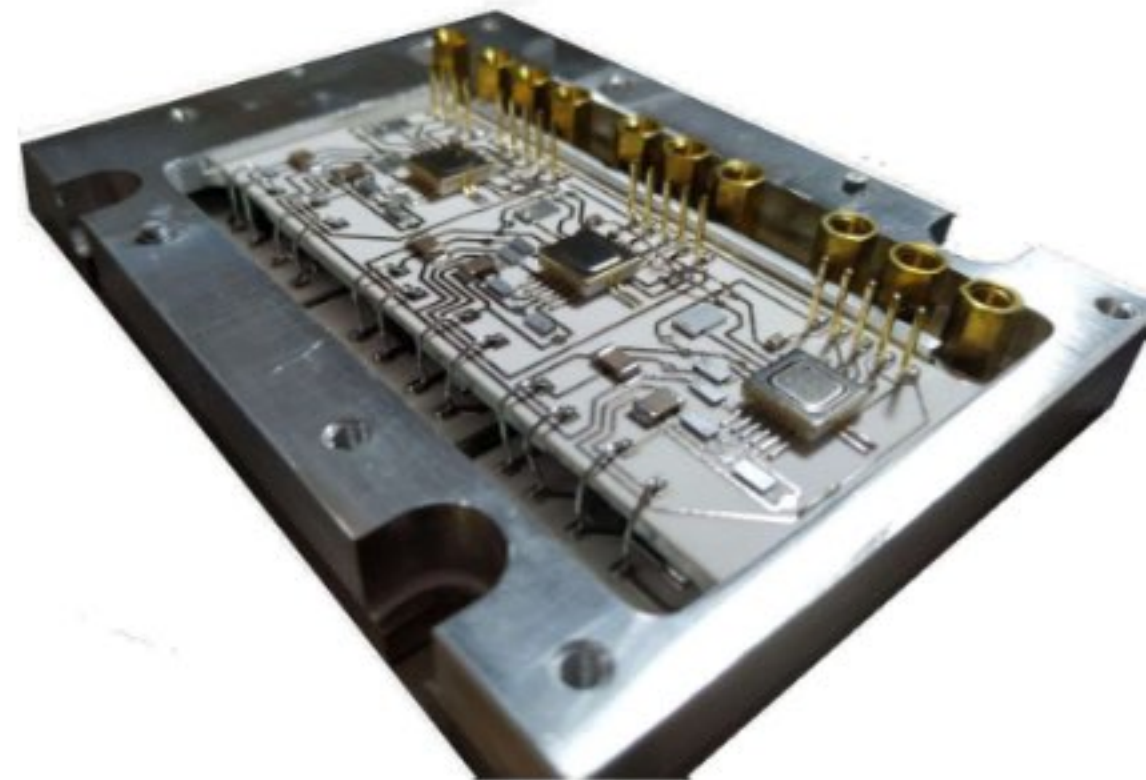
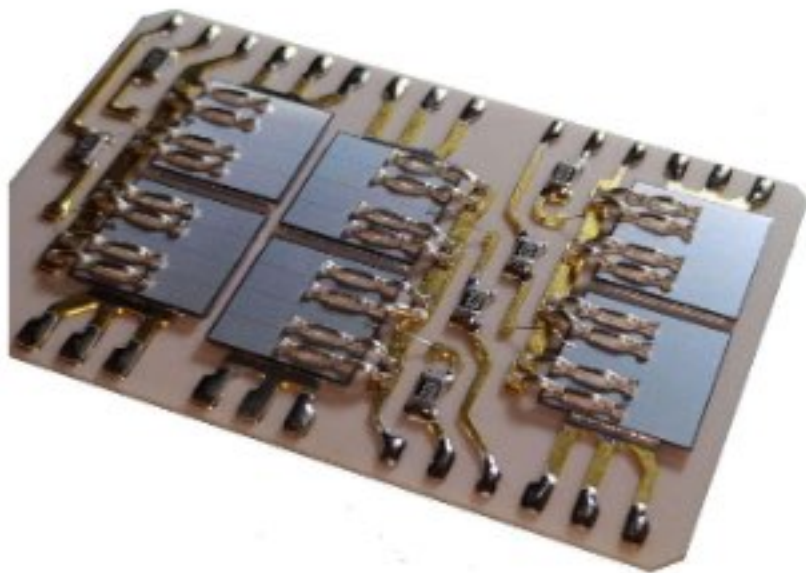
- **Ceramic Thermal Interfaces**
- **Custom Ceramic Components**



Product : Hybrid Assemblies



- **Custom Hybrid Micromodules**
- **Special Power Assemblies**



Thank You & Contact Us

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