Ceramic substrates produced by TPC technology

Description of Thick Printed Copper technology

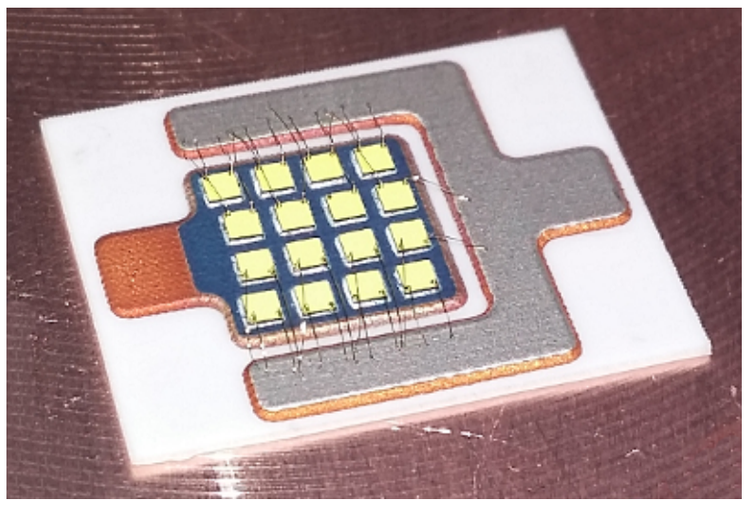
- Substrate is made from 96% alumina with thick printed copper (TPC technology)
- Technology is intended for high-power applications where high heat removal, reliability, mechanical stability and electrical insulation are required
- It allows die and wire bonding of high power semiconductors (LED, IGBT, MOSFET etc.) directly onto substrate and their integration with other electronic components (active / passive, sensors) and Thick Film Resistors
- Conductive layers are screen printed and fired in nitrogen atmosphere
- Thickness can vary from 20 to 300 µm depending on current carying capacity requirement
- One PCB can have variable conductor thickness
- Substrate allows soldering / sintering or using of heat conductive glues to fix onto heatsink

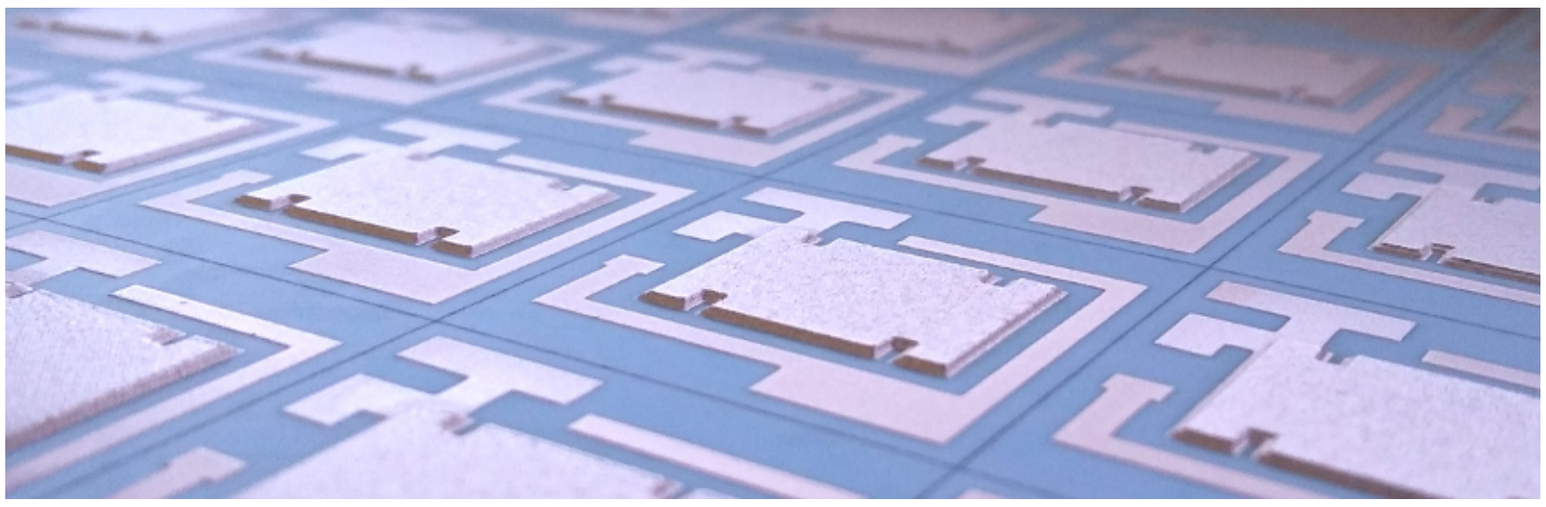
Benefits

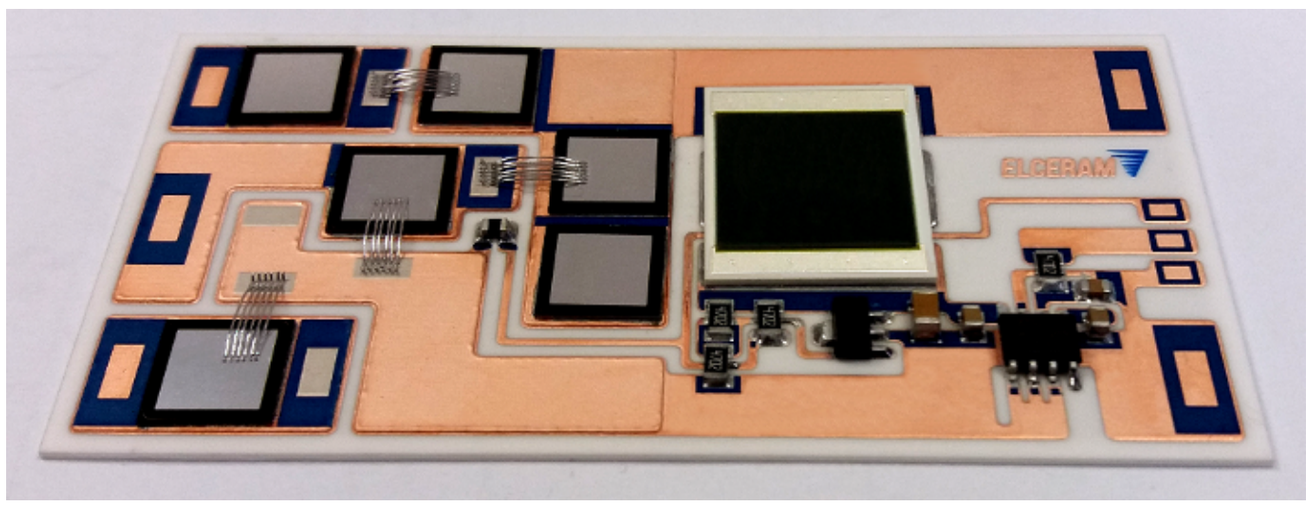
- High printing resolution (100 µm line / gap)
- Additive technology - no etching
- Excelent heat conductivity
- High current carrying capacity
- High mechanical stability and reliability
- Allows combination of encased and unencased components
- ENIG surface coating (Ni/Au) is possible
- Higher immunity against cyclic heat shocks compared to DBC technology
- Allows conductive fill of vias
- With screen printed dielectric allows designing of multilayer circuitry

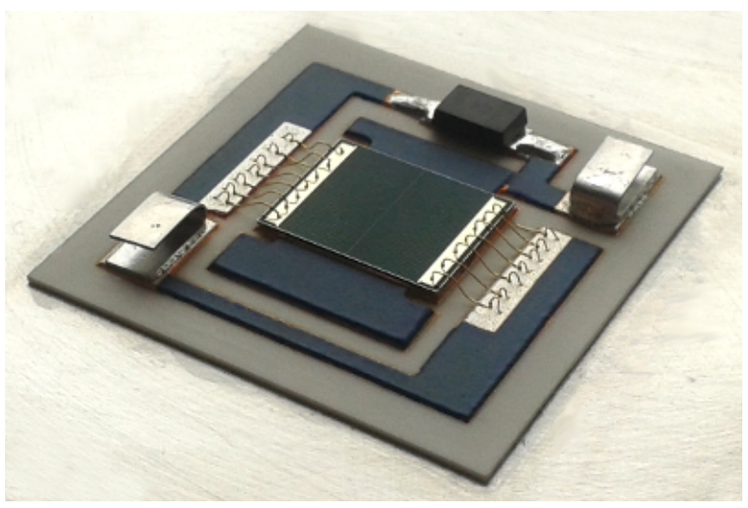
Applications

- Rectifiers
- Solar modules (conventional or CPV)
- LED lamps
- Switching converters
- Chargers
- Single or multilayer ceramic PCBs for high reliable applications
- Automotive applications
- Aerospace applications
- Laser systems









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