

Manufacturing

Thin film hermetic conductive filled via

We provide a trusted and innovative total manufacturing capability for highly complex electronic integrated systems, sub-systems, modules and printed electronic circuit assemblies where quality is paramount. Our ethos is to add value through our people, scale, capability and engineering know-how, allowing us to provide a vital advantage to our customers where it counts.

baesystems.com/electronicmanufacturinguk

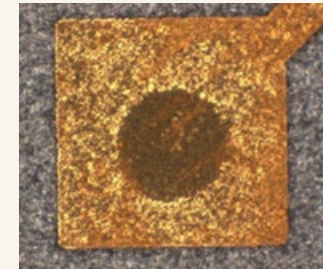
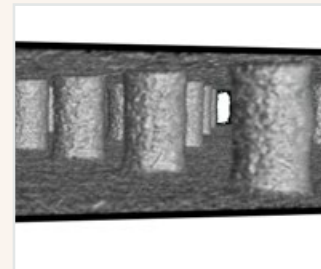
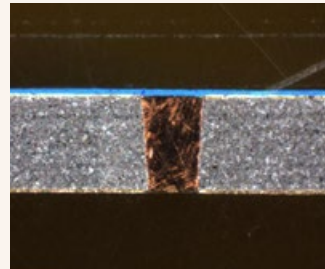
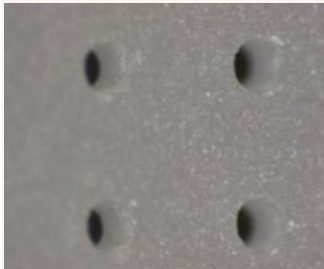
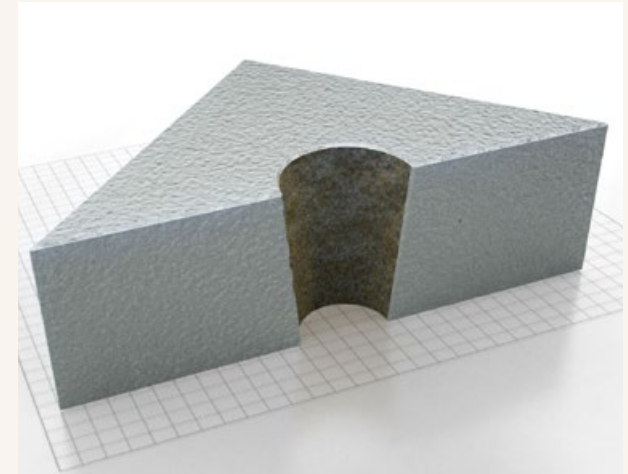
BAE Systems' new generation of interconnect technology for ceramic substrates represents a step change in process capability for advanced high-density module design in the microwave field.

The advantages of filled via

- Lower electrical and RF resistance
- Higher thermal conductivity
- Higher percentage of real estate availability for component placement
- Eases downstream substrate processing
- Enables a more cost-effective packaging approach

Typical via properties

| | |
|-------------------------------------|---------------------------------|
| Substrate material | Alumina, aluminium nitride |
| Via diameter - a | 0.22mm +/- 0.025mm |
| Via diameter - b | 0.18mm +/- 0.025mm |
| Substrate thickness - c | 0.36mm – 0.40mm |
| Minimum via pitch centre-to- centre | 0.6mm |
| Via taper | 3-5 degree from vertical |
| Via positional accuracy | <0.015mm |
| Hermeticity | Tested to MIL-STD-883G method 4 |
| Maximum temperature | 330° C for 30 seconds |
| Minimum temperature | -55° C for 10 minutes |
| Operating temperature range | -40° C to +125° C |



FROM FAR LEFT:
laser drilled via,
planarised via, cross section
of processed filled via,
CT scan of filled via,
filled via patterned

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