



## Bare Die & Wafer Capabilities

*With over 25 years experience, Microcross Components are a value-added distributor for bare die & wafer products. From receipt of an unprobed, untested wafer, Microcross has the ability to probe, test, thin, saw, visually inspect and supply as numerous formats such as, sawn on frame, gel pack or waffle packs. Microcross is quality approved to ISO9001:2008 incorporating requirements of AS9100-B.*



### Wafer Level Services

- ❑ Franchised Bare die & Wafer supply
- ❑ Wafer probe & sort (hot probe @200°C)
- ❑ Wafer mapping
- ❑ Wafer thinning
- ❑ Wafer lot acceptance testing
- ❑ Lot qualifications/Element evaluations (including SEM)
- ❑ Wafer incoming inspection & AQL services
- ❑ Visual inspection (MIL & Space)
- ❑ Automatic die pick and place/hand traying
- ❑ Numerous shipping formats



### Electrical Test

- ❑ Commercial, Industrial & Military grade screening
- ❑ Space Level Testing
- ❑ Space Approved Manufacturing & Testing
- ❑ A,B,C & D MIL group testing
- ❑ Burn in at +125°C
- ❑ Accelerated Burn in at higher temps
- ❑ Extended life test burn in 1000 hours
- ❑ Upscreening of plastic components to Industrial & Military temps
- ❑ Reliability batch testing of plastic components
- ❑ Re-life and re-test to revalidate products



### Environmental Screening

- ❑ Constant Acceleration
- ❑ Temperature Cycling
- ❑ Thermal Shock
- ❑ Shock & Vibration
- ❑ RGA
- ❑ PIND
- ❑ Hermeticity (fine & gross leak)
- ❑ DPA (Destructive Physical Analysis)



### Assembly Services

- ❑ Epoxy die attach
- ❑ Eutectic die attach
- ❑ Solder die attach
- ❑ Silver glass die attach
- ❑ Non-conductive die attach
- ❑ Gold wire bonding
- ❑ Aluminium / automatic wire bonding
- ❑ Hermetic solder lid seal / weld lid seal
- ❑ Glass frit lid seal
- ❑ Epoxy encapsulation
- ❑ Chip on Board (COB)
- ❑ Gold stud bumping
- ❑ Tape & Reel
- ❑ Lead form & crop



### Product Storage

- ❑ Long term die and package devices storage in Nitrogen
- ❑ Periodic Electrical and Mechanical test of stored devices





# Passive Component Products

## **Passive Components**

- 100% visual inspection
- Electrical testing
- Components into tape & reel, waffle pack, gel pak or bulk
- Design solution
- Prototype support

## **Standard Surface Mount Resistors**

- Thick & Thin film
- 0.00 resistors (jumpers)
- Sizes from 0201-6645
- Various terminations and substrates
- Low costs
- Terminations suitable for epoxy and eutectic attach

## **Standard MLCC's**

- SMD sizes from 0201-7565
- Various terminations including:
  - Palladium -Silver
  - Ni-Barrier (100% Sn)
  - Ni-Barrier (90% Sn / 10% Pb)
- Voltages up to 10KV

## **PICS Technology**

- Superior performance
- Small Sizes, high values
- High Stability
- Low profile
- Low ESR and ESL
- Gold wire bonding
- Low Leakage current
- High Temperature

## **Wire-bondable Si-chip Resistors**

- Small Sizes
- Resistance between  $1\Omega$  and  $20M\Omega$
- Excellent life stability
- Low TCR
- Operating Temperature (-55 to +125°C)

## **Hi-Rel Capacitors**

- MIL PRF 55681 established capacitors
- MIL PRF 123 capacitors
- AEC-Q200 for automotive applications
- IECQ-CECC grade
- Space grade
- High Reliability

## **Higher Temp Capacitors**

- Operating Temperatures upto 250°C
- Small sizes available
- 0% ageing rate
- Class I and II Dielectrics
- Dissipation factor (25°C) @ 0.001%

## **Integrated Passive Designs**

- Baluns & Transformers
- Embedded Capacitors
- Diplexers & Duplexers
- Splitters
- Couplers
- Application Specific Passive Integrated Components onf Silicon (ASPICS)

## **Wire bondable Spiral Inductors**

- Small Sizes
- Suitable for wire bonding
- Low DCR
- High Q
- Low Parasitic Capacitance
- High SRF (10GHz)
- Sample kits available

## **High Temp Resistors**

- Operating Temperatures up to 215°C
- Small Sizes available
- Available in SMD style and Si-chip
- Wide range of resistances available

## **Testing & qualification**

- Perform qualifications to MIL PRF 38534 class H & K
- Component characterisation available

## **Wirebondable Chip Capacitors**

- Available in various sizes from 20 X 20mils to 50 X 50 mils.
- Low capacitance values
- Au bonding pads in Au backing available upon request.

