

Why bother ?

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Micross Components Ltd.

Why design ?

- Minimise space and power
- Simplify board interconnection
- Reduce component inventory
- Secure source of device over project life-time
- Protect system design IPR
- Custom built for specific application

Microcross Components do design

Why use hermetic packaging ?

- No contact with active area of die.
- Built-In contaminants more easily controlled
- No issues with ingress of contaminants
- Easily inspected before final assembly
- Known reliability track record
- Additional components can be included.
- Low volume capability
- Highly stable and repeatable process & materials
- Not prone to assembly issues (popcorning etc.,)

Microcross Components also do **Ceramic Assembly**

Why Test ?

No Manufacturer knowingly ships faulty product ...

BUT

- Test escapes can happen !
- Not all parameters are guaranteed or tested for.
- Specific application or environment
- Validating the results of environmental and stress tests.
- High cost of repair
- If the cost of repair includes your reputation !

And MicroSS Components has a large test capability

Why Burn-In ?

- High temperature (+125°C) under bias increases likelihood of early or infant mortality by ...
 - accelerating energy related defects
 - metal migration
 - contamination mobility
 - stressing the part over a period of time
 - accelerates time related effects
 - dynamic burn-in more closely simulates real-life operation by
 - incurring dynamic as well as static supply currents
 - causing inputs and outputs to operate

We also perform burn in

*So what does upscreening
consist of ?*

- Exhaustive and extensive electrical testing / characterisation.
- Additional environmental testing
- Reliability screening, such as ...
 - Dynamic and Static Burn-in
 - “Shake-rattle-n’roll” vibration tests
 - HAST

We do all the above and more

Why Upscreen ?

- Required grade of component is unavailable
- Need to operate outside standard data-sheet
- Need to determine long-term reliability
- Special application environment
- Known design sensitivity

**And MicroSS Components can also
upscreen components**

Upscreening

- What upscreening can't do ...
 - Improve quality or inherent reliability
 - Give guarantees
- What upscreening can do ...
 - Provide device and batch information
 - Give indication of reliability and quality
 - Weed out “*marginal*” product
 - Improve confidence in product
 - Let the customer decide on viability

Definition of Terms

- **Upscreening**
 - Testing a product to meet a customer's requirement, even if it exceeds the original manufacturer's specification.
- **Uprating**
 - Guaranteeing a product over, above and beyond the original manufacturer's specification.

So Microcross Components **doesn't** do
uprating!!!

So, a recap ...

- **MicroSS Components can ...**

Design

Assemble and Package

Electrically Test

Burn in (dynamic or static)

Environmentally screen

Upscreen for additional requirements

Perform a whole range of component quality operations.

- **... all for you.**

Why Bother...?

You don't have to bother ...

because

**MicroSS Components can
do it all for you...**

A large, light blue watermark of the microSS logo is positioned in the lower-left quadrant of the slide, partially overlapping the text.

*But you do have to do
something ?*

Visit our website at

<http://www.microSS.com>

.... to start the ball rolling !

(so you don't have to bother anymore)