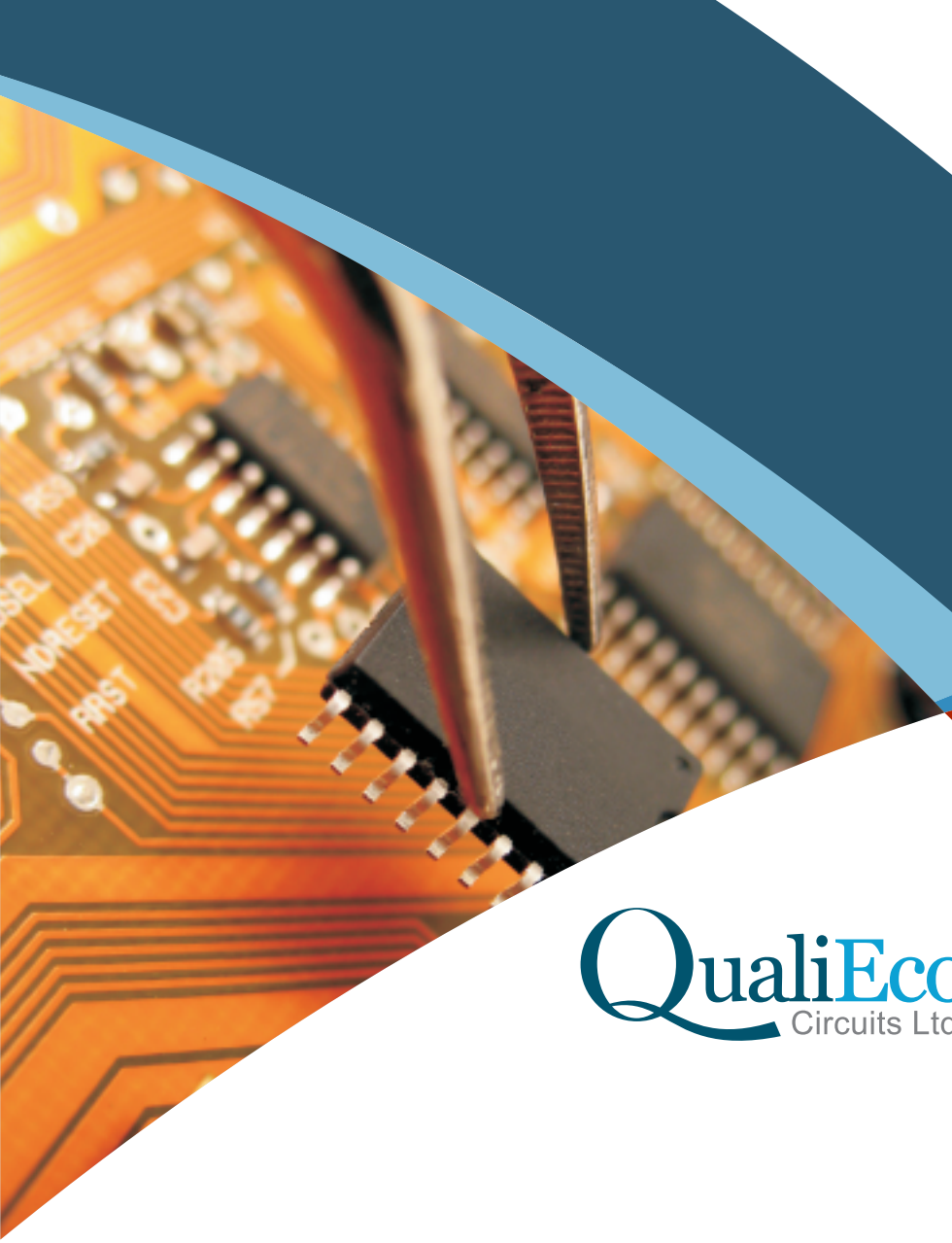
The Best Quality PCB Supplier



QualiEco Circuits Ltd.

PCB Supplier of
the Best Quality, Lowest Price
and Reliable Lead Time

- Low Cost Prototype
- Standard Prototype & Production
- Stencil
- PCB Design

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RoHS Handling, Storage & Assembly Guidelines

SILVER COATED PCB'S:

Handling and Storage:

- PCB's should be wrapped in acid/sulfur-free packaging materials.
- Wrapped packages should be stored below 86 degree (30 degree C). When properly stored,
- The Silver finish shall maintain all functional and cosmetic properties for a minimum of 2.5 to 3 months from date of manufacturing.
- Once the packages are opened for assembly, the parts should be kept in an environment not to exceed 86 degree F (30 degree C) and 75% RH.
- Boards should be assembled within 1 week of opening or re-wrapped in acid/sulfur-free packaging material.
- Silver coated boards can be baked. However, sulfur and chloride in the baking atmosphere can discolor the Silver surface and impose a deterioration of soldrability performance. If Silver plated boards must be baked for stress relief & moisture reduction, a dedicated oven Should be used. If a dedicated oven is not available, the boards should be tightly wrapped in aluminum foil to prevent possible tarnish of the silver.

ASSEMBLY PROCESSING: REFLOW PROCESS

Selecting a solder paste to use with Silver:

- Most paste manufacturers have selections of solder pastes formulated specifically for use with immersion silver, acid levels and oxide level in a solder paste can have an effect on the ease of assembly.
- Typically no-clean and low activity solder paste meets these requirements.
- The degree of sphericity of solder powder affects the oxide level. Irregular shaped particles in the paste will exhibit higher oxide levels.

As a general reference:
Parts with larger than 20 mil pitch -type 2 size
16-20 mil pitch -type 3 size
12-16 mil pitch -type 4 size
less than 12 mil pitch -type 5 or 6 size

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ASSEMBLY PROCESSING: REFLOW PROCESS

Paste Application:

- Silver is extremely thin and flat finishes. Since no solder is present on the board incoming to assembly, stencils may need to be adjusted for EMS providers accustomed to assembling HASL parts.
- Silver coated PCBs may require stencil apertures with a ratio of 1:1.
- Alternately, a thick stencil may be used to supply the required bulk of solder needed for flat finishes. For initial start up in manual or automatic mode, visual inspection is recommended to insure complete paste coverage of all pads. Some of the defects caused by insufficient volume of solder paste on a pad include cold solder joints, dewetting, non-wetting, tomb-stoning and electrical opens (due to insufficient solder joints).

Reflow Heat Zones:

- A Typical preheat phase has a delta T of 0.5–1.0 degree C/second.
- In the pre-flow or soak section, also called the flux activation stage, the soak time should be long enough to allow the flux to clean the bonding surfaces, but not so long that the flux is evaporated prematurely. Activation temperature of the flux should be reached in the soak zone.
- During the reflow phase, the typical solder temperature is 30 – 40 degree C above the solder paste melting point. In practice temperature around 215 -225 degree C is often used.
- In the Cool down phase the cooling should be 3-4 degree C/second down to around 130 degree C.

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