

PackagePrep

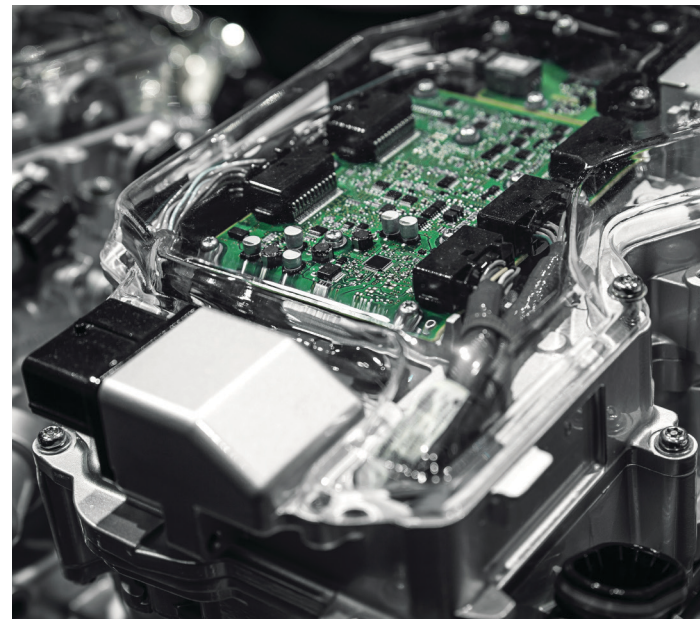
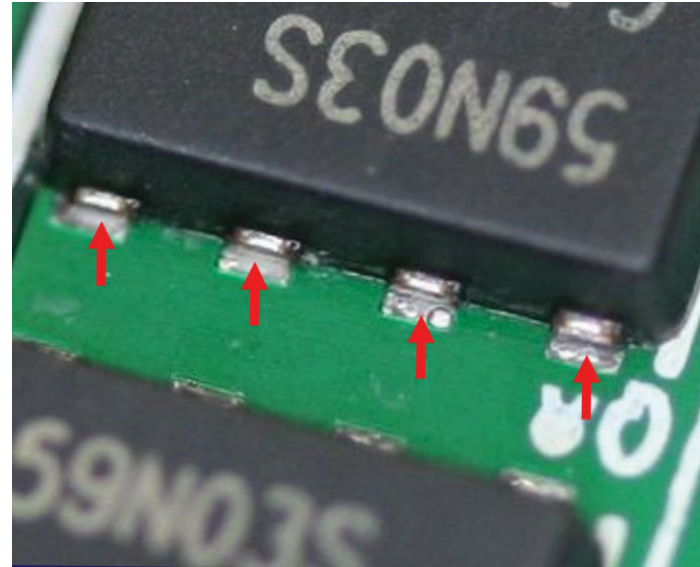
Solderable Finish for QFN Sidewalls

QFN Packages: Small, Thin and Now Inspection Friendly

QFN's have become the preferred high density leadframe-based surface mount package. But the advantage of this versatile package comes at a price. Exposed copper at the singulated edge of the package solders poorly, preventing conventional solder fillets from forming. The lack of a visible solder fillet inhibits recognition by automated optical inspection (AOI). Furthermore, the smaller solder footprint creates reliability risk, limiting the end-use applications that designers will consider.

PackagePrep solves these problems. PackagePrep deposits an easily soldered metal finish on the exposed copper edges. After paste reflow, solder wicks up the side of the QFN flanks. The new QFN fillets are easily inspected by existing top-down AOI as well as visual inspection, supplementing x-ray inspection.

Planning to use QFN's in your high reliability application, but concerned about reliability and inspectability? Let PackagePrep be your solution.



KEY FEATURES

- Complete solder coverage at sidewall flanks
- Inspectable with AOI - eliminates reliance on x-ray
- Single step - no double cut singulation
- Compatible with multiple application techniques
- Solderability - meets JEDEC Standard J-STD-002D



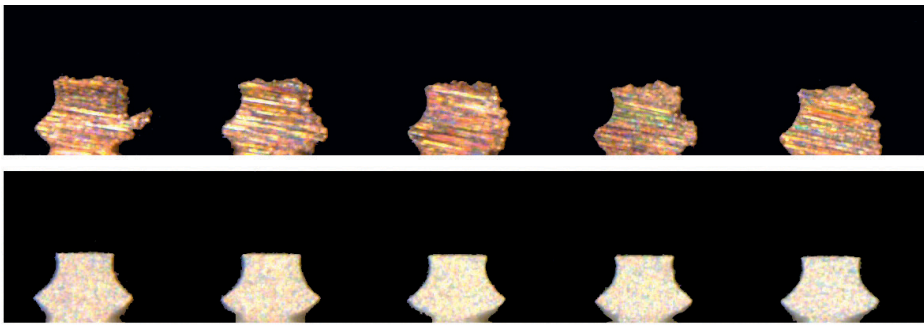
MacDermid Enthone

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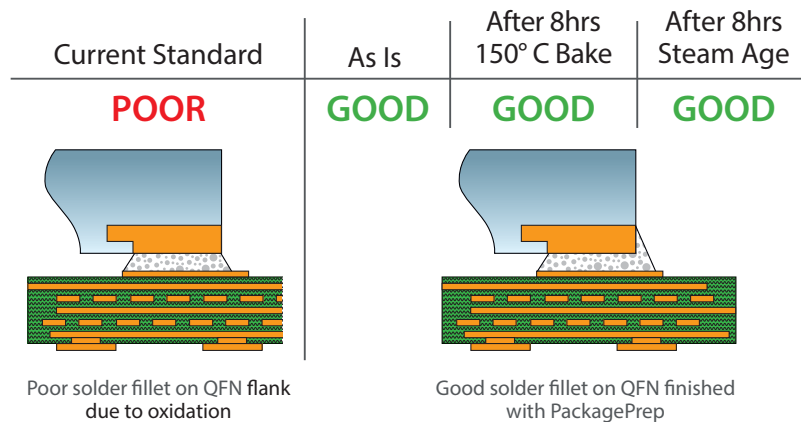
Enhanced Reliability and Inspectability

Components that operate in harsh environments, such as automotive and aerospace assemblies, must meet more stringent demands than other components. They must endure high temperatures, mechanical stress and corrosive conditions. While meeting reliability standards, components for automotive applications also require high density performance. The leadframe based QFN surface mount component has been a preferred product to meet both the reliability and higher density requirements and continues to show significant market growth. A past limitation has been the inspection difficulty of the assembled QFN. Before PackagePrep, terminal solder joints on QFN's were hidden under the package and could only be inspected by x-ray. Exposed copper alloy on the outer QFN edges was often missing a visible solder fillet on the flank. PackagePrep enables AOI inspection of the singulated copper flanks and provides quality solder fillets through a simple plating process with the lowest overall cost among competing technologies.



PackagePrep prepares and plates the exposed copper alloy edges of QFN packages. The metal coating preserves solderability, meeting JEDEC standards. The soldered coating allows for a three dimensional solder joint that is stronger and more easily inspected than alternative technologies.

Current Standard vs PackagePrep



macdermidalpha.com
February, 2019

MacDermid Enthone is a product brand of MacDermid Alpha Electronics Solutions.