



# MacDermid Enthone



## QFNs

### *Chemistry for Reliability Improvements*

Leadframe based QFN packages are forecast to grow at 6.3% CAGR during 2018-2023 due to the automotive markets' need for the increased reliability and denser packaging designs. QFNs are favored over array packaging in this application.

To meet strict standards for reliability, assembled components should be 100% AOI inspectable and meet MSL-1 level storage performance. The PackageBond adhesion treatment allows high mold-to-package adhesion allowing for MSL-1. The PackagePrep chemical tin plating solution allows for wettable QFN sidewall flanks resulting in a 95% wettable area for AOI inspection. Previously, solderable QFN sidewall flanks were only achievable by using a tin electroplate two step singulation process only achieving 50% flank coverage.



**MacDermid Alpha**  
ELECTRONICS SOLUTIONS



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# QFNs

Chemistry for Reliability Improvements

## QFNs Enable Automotive Technology

### Safety Systems



- Driver/Passenger Air Bag Systems
- Side Air Bag System
- ABS Braking Systems
- Entry Security/Alarm
- Image and Motion Systems
- Collision Avoidance
- Driver Drowsiness Monitor
- Lane Monitoring

### MEMS & Sensors



- Auto Wiper Control
- Accelerometers/Gyros/Magnetometer
- Pressure Sensors
- Comfort Control Systems
- Auto Headlight Dimmer (LED Systems)

### Body Systems



- Interior Lighting
- Power Windows/Seats
- Sunroof
- Windshield Wiper Systems
- Fuel Monitor

### Infotainment

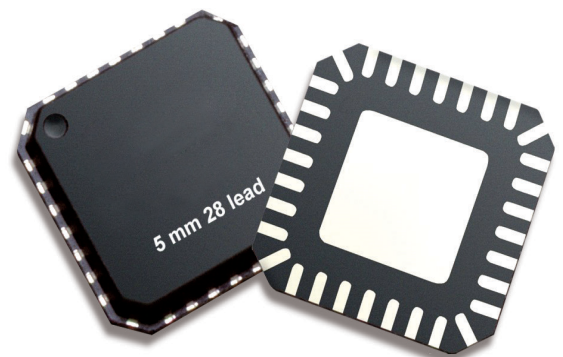


- USB Interface
- Navigation/GPS Systems
- Media Center
- Instrumentation

### Camera Modules



- Backup Camera System
- Side Camera Alerts
- Traffic Monitor Systems
- Parking Assist



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