nanoGUARD
Unparalleled PCBA Protection

Advanced nanoGUARD™ coatings provide critical electronics applications with 3D protection from harsh electrical and environmental conditions.

actnano’s proven nanoGUARD technology delivers unsurpassed performance, reliability and manufacturing efficiencies without compromise.

100% 3D coverage with nanoGUARD viscoelastic, gel-state material
- Horizontal and vertical surfaces
- Undercoat large components (BGAs, etc)
- Use on rigid or flexible substrates
- No cracking or bubbling

Waterproof exceeding IPX7/8+
- Protection from liquids, condensation, humidity, salt and more

Proven connect through coating capability
- No/minimal masking required
- Coat connectors and contacts
- Maintain high speed signal integrity connections

Coat heat sinks and antennas
- No RF influence
- Negligible thermal impact

Lowest total solution cost
- In-line processing, no cure time deposition
- No ovens or other curing required
- Use existing or standard equipment
- Typically, ready within 30-60 seconds
- Easy board rework and repair

Meets a broad list of environmental certifications and industry requirements
- UL94 V-0 and UL94 5VA flammability rating
- 100% safe materials
- Lower manufacturing carbon footprint

www.actnano.com
nanoGUARD is electronics’ best defense against harsh electrical and environmental conditions

PROVEN PERFORMANCE

<table>
<thead>
<tr>
<th>Water protection:</th>
<th>Submersion:</th>
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<tbody>
<tr>
<td>IPX7/IPX8+</td>
<td>Water – 1 meter, 30 minutes</td>
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<tr>
<td>Humidity:</td>
<td>Saltwater (3.5% NaCL) – 15 hours</td>
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<tr>
<td>85°C @ 95% RH @ 1,000 hours</td>
<td>Soap water (1% soap solution) – 15 hours</td>
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<tr>
<td>Thermal Shock:</td>
<td>RF:</td>
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<tr>
<td>125°C/-40°C 1,000 cycles</td>
<td>No signal attenuation up to 60 GHz (exceeds 5G standard frequencies)</td>
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<tr>
<td>Salt fog:</td>
<td>Electrical Contact:</td>
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<tr>
<td>24-hr 72-hr, 96-hr, 200-hr under 48V</td>
<td>No change within measurable tolerance after mating</td>
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<tr>
<td>Multiple chemical/fluid tests</td>
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<tr>
<td>Vibration testing</td>
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PROCESS ADVANTAGE

- Use existing equipment
- No ovens or other curing equipment required
- No masking or demasking
- Coat directly over connectors and contacts
- Fast ambient cure
- Undercoat raised components
- Withstands touching
- Easy and fast rework