



snapSHOT®

EMI SHIELD

Innovative Board-Level Shielding

Technical Summary

GORE™ snapSHOT® Board-Level EMI Shield is a revolutionary, multi-cavity shield that solves many of the problems associated with today's existing shielding technologies.

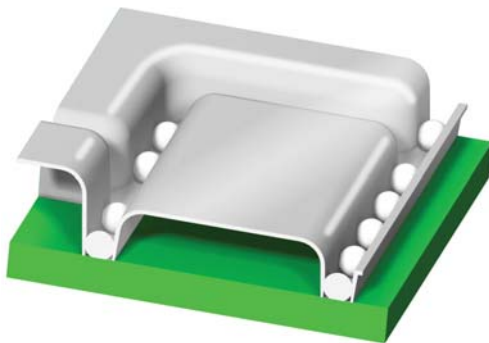
The shield consists of a lightweight, metallized plastic material that is thermoformed to virtually any design. The shield is attached to your PCB via a patented attachment mechanism utilizing individual solder spheres as snap features. The shield is metallized with tin on the outside only (leaving the inside insulative), resulting in narrower ground traces, reduced space between components, and reduced thickness when compared to existing shielding solutions.

The product installs after the SMT reflow process, allowing for easy component inspection or repair, and is readily removed by hand.

In addition to superb design and manufacturing flexibility, GORE™ snapSHOT® Board-Level EMI Shields have superior shielding performance when compared to perforated, soldered metal cans.

APPLICATIONS

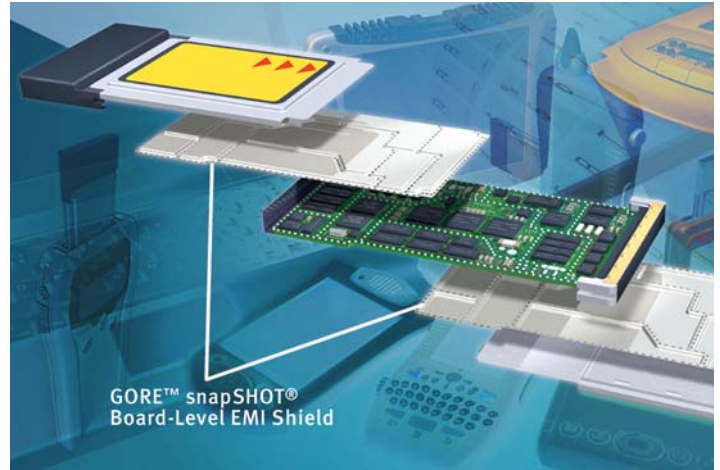
- Wireless PDAs, wireless modules, PCMCIA cards, mobile computing, and professional mobile radios
- Anywhere soldered cans or EMI gaskets are currently required or necessary



ROHS STATUS

RoHS Material*	Pass/Fail
Lead (Pb) Content	Pass
Cadmium (Cd) Content	Pass
Hexavalent Chromium (Cr6) Content	Pass
Mercury (Hg) Content	Pass
Bromine Compounds	Pass

*W. L. Gore & Associates declares that we do not intentionally add substances listed in Directive 2002/95/EU to GORE™ snapSHOT® Board-Level EMI Shield. Independent lab tests have been performed and results are available upon request.



GORE™ snapSHOT® EMI Shield is a multi-cavity, board-level EMI shielding solution.

Features and Benefits

- Superior shielding performance
- Lightweight, metallized plastic material
- Electrically insulative on the inside
- Snap-on attachment mechanism
- Installs after SMT reflow process
- Complete design flexibility
- Easily removable by hand
- Tin metallization is galvanically compatible with solder spheres

GORE™ snapSHOT® EMI SHIELD NOMINAL PROPERTIES

Shield Material Property	Value	Method
Thickness	0.125mm	—
Shielding Effectiveness	75 dB	ASTM D4935
Surface Resistivity	0.025 Ohms/square	ASTM F390
Metallization Adhesion	5B	ASTM D3359
Metallization Thickness	5 microns	SEM
Dielectric Strength	80 kV/mm	ASTM D149
Vicat Softening Temp. B	215°C	ASTM D1525
Flammability	VTM-0	UL 94
Solder Sphere Property	Value	Method
Sphere Diameter	0.89mm	—
Sphere-to-Sphere Spacing	~2.00mm	—
Ground Pad Diameter	0.60mm	—



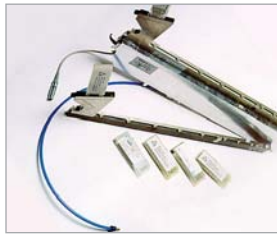
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EMI SHIELD

SOLDER SPHERE INSTALLATION

There are 3 methods of installation currently available.

Solder spheres can be supplied in standard EIA tape-and-reel forms to work seamlessly with existing SMT chipshooters. This method is ideal for prototyping and low volume production.



An alternative to tape-and-reel is to use a bulk feeder on your SMT chipshooter. This solution is less expensive than tape-and-reel, especially for medium volume production. Bulk feeders for solder spheres are available from Siemens and Europlacer.

The final method would be using the DirEKt Ball Placement™ process supplied by DEK. Solder spheres are precisely installed on the PCB using a screen printing method. Solder paste is applied to solder mask defined pads using a stencil. Spheres are then positively placed on these pads using the modified DEK screen printer. The rest of the SMT process remains unaffected. This installation process is ideal for high volume production runs.

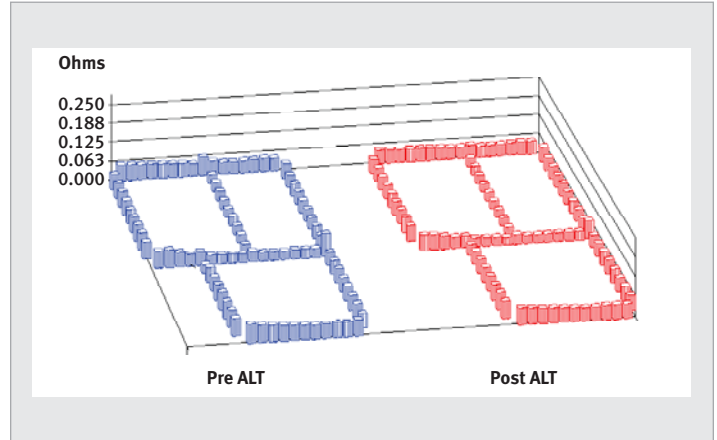


RELIABILITY TESTING

The DC resistance across each individual solder sphere joint has been extensively tested, meeting stringent Gore requirements across the following methods and standards:

- Mechanical Shock (JEDEC JESD 22-B104-B)
- Bump (IEC 60068-2-29)
- Vibration (IEC 60068-2-64)
- Thermal Shock (MIL-STD-883CA)
- Dry Heat Aging
- Moist Heat Aging

DC RESISTANCE BETWEEN SOLDER SPHERE AND SHIELD PRE VS POST 5 DAY ALT AT 85°C, 85% RH

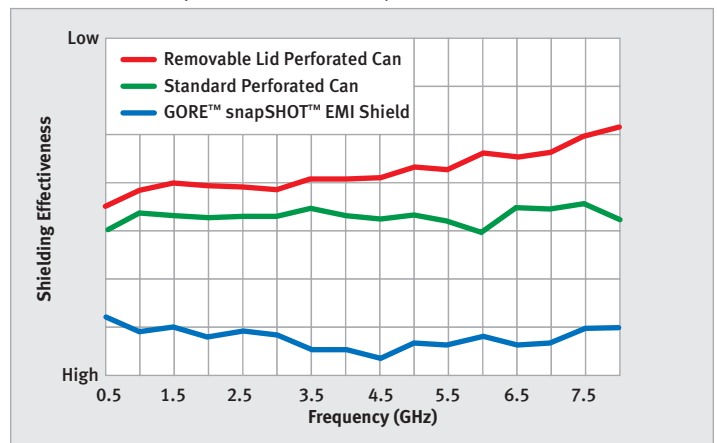


RELATIVE SHIELDING EFFECTIVENESS VS. METAL CANS

The shielding effectiveness of GORE™ snapSHOT® Board-Level EMI Shield has also been evaluated in side-by-side testing with soldered metal cans, with positive results.

At cellular frequencies, testing shows that the performance of GORE™ snapSHOT® Board-Level EMI Shield exceeds that of many commonly used cans with perforated holes or snap-on lids.

RELATIVE SHIELDING EFFECTIVENESS OF GORE™ snapSHOT® EMI SHIELD VERSUS TRADITIONAL METAL CANS (10 dB PER DIVISION)



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