Rigid Corner Board-Level Shield



Innovative **Technology** for a **Connected** World



RIGID CORNER BOARD-LEVEL SHIELD

The rigid corner board-level shield incorporates a corner design that optimizes component rigidity for increased part and printed circuit board (PCB) firmness. As PCB designers are increasingly using thinner substrates, a rigid frame reinforces the assembly, thereby improving overall ruggedness and performance. The shield has improved solder joint reliability and resistance to solder joint fracture, especially in drop testing performance with thin PCBs. Several standard Laird Technologies EMI style parts including single-piece, two-piece, and multi-compartmental board-level shields use this new rigid corner design, along with availability in custom sizes as well.

The rigid corner shield is stronger and more robust than traditional formed shields, which results in coplanarity improvement of the solder castellations. The shield can tolerate more deflection (i.e., more handling) without plastic deformation. Elimination of drawn flange reduces the space needed on the PCB for shielding trace width by potentially ~0.3 mm, allowing for the shield to be more closely placed on the PCB. Elimination of draft allows for more undershield space and improved component clearance.

The partially drawn corner is located near the top portion the shield, resulting in improved torsional rigidity with no drawn lip and no draft. For parts over 2 mm, the corner is both drawn and formed with an interlocking multi-radius corner, which provides superior EMI shielding effectiveness. The interlocking corner can be meshed and closed in during the forming and drawing process for additional improved rigidity for parts taller than 2 mm. For parts under 2 mm, the entire corner is drawn without an interlocking corner.

FEATURES **Rolls**

- Corner openings are reduced, improving shielding performance
- Partially drawn corner located near the top portion of the corner combined with 90° straight forming of wall sections for improved torsional rigidity.
- U.S. Patent No. 7,488,902

BENEFITS

- Shield can tolerate more deflection (handling) without plastic deformation
- Shield provides increased stiffness to the PCB
- Tooling costs are not impacted
- Elimination of draft allows for more undershield space and component clearance

MARKETS

- Computing
- Telecommunications
- Data Transfer and Information Technology
- Automotive
- Consumer Electronics
- Aerospace / Defense
- Medical
- Portability
- Industrial & Instrumentation
- Public Utilities

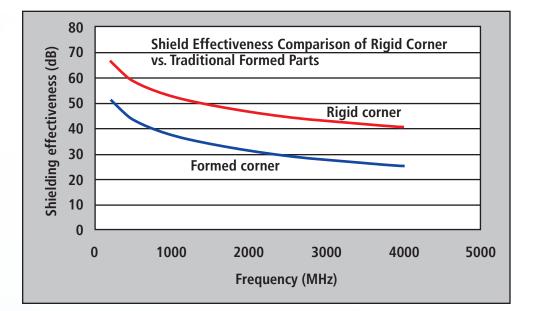
global solutions: local support...

USA: +1.866.928.8181 Europe: +49.0.8031.2460.0 Asia: +86.755.2714.1166



Innovative **Technology** for a **Connected** World

Rigid Corner Board-Level Shield





SEdB \approx 100 -20 log(wfMH) + 20log[1+ln(w/h)] + 30 (t/w) | w< λ /2 where w is length of slot and w>h and w>>t; λ is wavelength in meter; fMH is frequency in MHz.

The longest dimension of the aperture limits or dominates the BLS shielding effectiveness.

EMI-DS-RIGID-BLS 0910

Any information furnished by Laird Technologies, Inc. and its agents is believed to be accurate and reliable. All specifications are subject to change without notice. Responsibility for the use and application of Laird Technologies materials rests with the end user, since Laird Technologies and its agents cannot be aware of all potential uses. Laird Technologies makes no waranties as to the fitness, merchantability or suitability of any Laird Technologies materials or products for any specific or general uses. Laird Technologies shall not be liable for incidental or consequential damages of any kind. All Laird Technologies products are sold pursuant to the Laird Technologies' Terms and Conditions of sale in effect from time to time a copy of which will be furnished upon request. © Copyright 2009 Laird Technologies, fine. All Rights Reserved. Laird, Laird Technologies, to Laird Technologies to Log, and other marks or registred trade marks of Laird Technologies or any thind and the remarks or registred trade marks of traditions or an affiliate company thereof. Other product or service names may be the property of third parties. Nothing herein provides a license under any Laird Technologies or any thind party intellectual property rights.