Gore-Shield®

SMT GROUNDING PADS

Unique Surface-Mountable Solution

Description

GORE-SHIELD® SMT Grounding Pads are electrically conductive pads that provide reliable contact points on a printed circuit board. They are comprised of a conformable electrically conductive gasket material bonded to a thin, solderable metal support layer via an electrically conductive adhesive. The gasket material consists of a polytetrafluroethylene (PTFE) matrix loaded with highly conductive nickel-based particles.

GORE-SHIELD® SMT Grounding Pads are rectangular in shape and available in a variety of standard lengths and widths so that they can be easily configured on PCB ground traces in whatever patterns and locations the design requires. GORE-SHIELD® SMT Grounding Pads are packaged in standard EIA tape-and-reel format for automated placement and reflow soldering via standard surface mount technology and processes.

Benefits

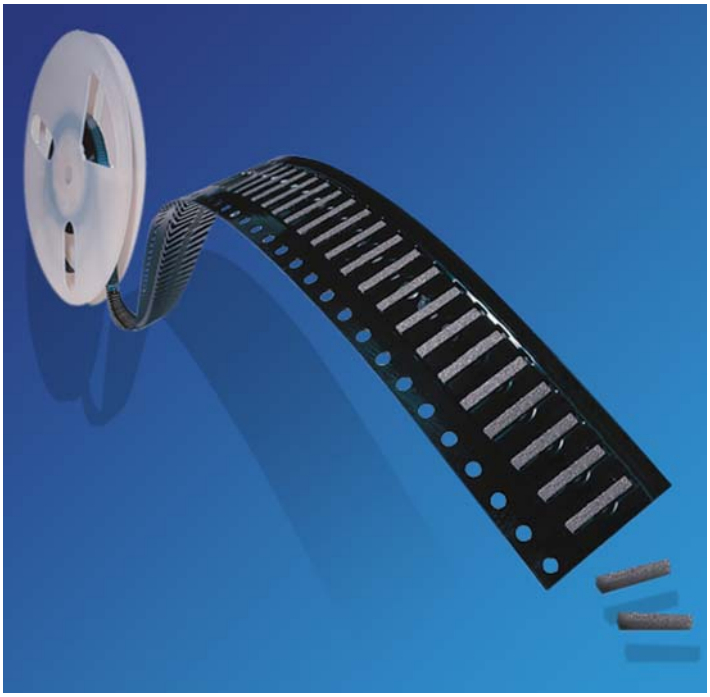
- Available in standard sizes, off-the-shelf
- Configurable in any pattern to be placed in any location
- Easily incorporated into existing designs to address issues that appear late in the design cycle, eliminating the need for redesign
- Compatible with standard and lead-free solder reflow
- Requires no special equipment; implemented with existing pick-and-place and reflow soldering technologies and processes
- Demonstrated pick-and-place rates of 8-10 parts/second
- Low cost and high performance in comparison with other technologies

Proven Applications

Applications for GORE-SHIELD® SMT Grounding Pads include:

- RF Grounding
- DC Grounding
- Static Dissipation
- RF Interconnect
- EMI/RFI Shield Gasket

Specific, proven applications for GORE-SHIELD® SMT Grounding Pads include chassis to PCB grounding, component to PCB grounding, LCD display grounding, and patch antenna grounding.



Single-Point Grounding

GORE-SHIELD® SMT Grounding Pads can provide sufficient containment to isolate noise in both the high frequency RF and low frequency digital sections of the PCB in wireless transmission devices. GORE-SHIELD® SMT Grounding Pads used in this manner provide a repeatable, reliable, high performance and low cost alternative to other available solutions such as metal clips, form-in-place elastomer gaskets, and adhesive-backed gasket materials.

In addition, GORE-SHIELD® SMT Grounding Pads can be used as contacts between a PCB and LCD display to provide sufficient static dissipation and ensure optimum device performance.

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Grounding to Meet SAR Requirements

Consumers and regulatory agencies are increasingly concerned about radiation emitted from portable wireless devices and absorbed by the body. The Specific Absorption Rate (SAR) measures the amount of radiation that is absorbed. Problems meeting the SAR requirement usually do not appear until late in the design cycle, with existing design constraints limiting the possible solutions.

One or more strategically placed GORE-SHIELD® SMT Grounding Pads can improve electrical grounding to help control emissions to acceptable limits and satisfy SAR requirements. They can easily be added to an existing PCB design late in the design process.

Patch Antenna Grounding

GORE-SHIELD® SMT Grounding Pads are the superior alternative for connecting the patch antenna to the PCB in wireless portable electronic devices such as mobile phones and portable GPS units.

Patch antennas are typically connected to the PCB using metal spring contacts or miniature coaxial cables. Spring contacts are inexpensive but provide limited signal quality. Conversely, coaxial cables provide robust signal integrity, but are a high cost solution for many applications.

GORE-SHIELD® SMT Grounding Pads offer performance comparable to coaxial cables at the cost of spring clips. GORE-SHIELD® SMT Grounding Pads provide a low-inductance interconnect that can be designed to be self-shielding, reducing the need for additional shielding in the system.

Multiple GORE-SHIELD® SMT Grounding Pads may also be placed in series and used as building blocks to form a complete gasket interface between the ground trace of a PCB and the corresponding shield housing.

GORE-SHIELD® SMT Grounding Pad Standard Parts

Nominal properties (mm unless otherwise specified)

GORE Part Number 25SMT-3645-	Length	Width	Thick.	Carrier Tape Width x Pitch	Parts per Reel	Resist. at RCS (mOhm)
9	5.50	1.25	0.65	12x4	15,000	2.0
10	8.00	1.25	0.65	16x4	15,000	2.0
13	5.50	1.25	0.45	12x4	15,000	2.0
14	8.00	1.25	0.45	16x4	15,000	2.0
17	5.50	1.10	0.65	12x4	15,000	2.0
18	8.00	1.10	0.65	16x4	15,000	2.0
21	5.50	1.10	0.45	12x4	15,000	2.0
22	8.00	1.10	0.45	16x4	15,000	2.0
25	12.00	2.00	0.65	24x4	15,000	2.0
26	8.00	2.00	0.65	16x4	15,000	2.0
27	5.50	2.00	0.65	12x4	15,000	2.0
33	3.20	1.10	0.65	12x4	15,000	3.0
34	5.50	0.90	0.45	12x4	15,000	2.0
35	8.00	0.90	0.45	16x4	15,000	2.0
40	5.50	1.25	0.80	12x4	10,000	2.0
41	3.20	1.25	0.80	12x4	10,000	4.0
43	3.20	3.20	1.30	12x8	5,000	3.0
44	8.00	2.00	1.30	16x4	7,500	2.0
46	3.20	3.20	2.00	12x8	2,500	2.0
47	8.00	2.25	2.00	16x4	5,000	2.0

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-SHIELD® SMT Grounding Pads. Independent lab tests have been performed and results are available upon request.

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