

Heat-Spring® Packaging Guide

Packaging is a key element in the design of the **Heat-Spring®**. With the proper packaging, Heat-Spring thermal interface materials can be efficiently introduced into any manufacturing process.

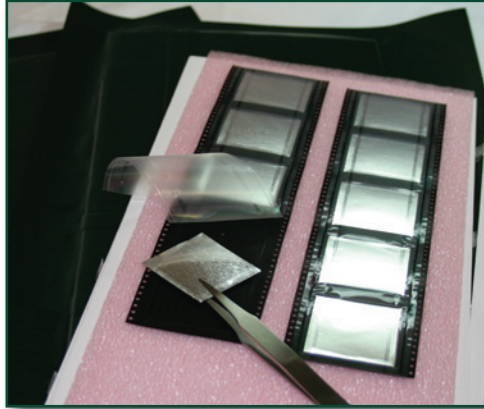
Proper packaging is also essential to protect the parts during transport.

Factors to Consider When Determining Packaging Needs

- Dimensions of the part
- Metal alloy properties
- How the parts will be introduced into the manufacturing process.
- The environment in which the parts will be opened and used (i.e., is a static-free or clean room level packaging required?)
- How many parts are required per container?
- Is special labeling, such as bar-coding or color coding, required?

TAPE & REEL AND TRAY PACKAGING are both designed to hold the Heat-Spring in its own individual pocket to facilitate retrieval by a pick and place machine during the manufacturing process. Tape & reel packaging comes on a spool and functions the same as component tape & reel packaging. For tray packs, the Heat-Springs are placed in a flat tray, which can be used in either automated or manual manufacturing operations. The size of the pocket is critical in both tape & reel and tray packs to ensure that the part is protected and can be easily extracted from the pocket. Both packaging methods are custom made and clean-room compatible.

BUNDLE PACKAGING WITH CARRIER TAPE is used for smaller volume or non-automated manufacturing processes. The Heat-Spring is packed in its own individual pocket on carrier tape, similar to a tape & reel, but no reel is used. The carrier tape is cut into strips and then sandwiched in layers between protective materials. The outer layer is sealed together in order to prevent the parts from moving.



BUNDLE PACKAGING FOR LARGE HEAT-SPRINGS

do not use individual pockets. The large parts are sandwiched in layers between protective materials. Then they are sealed together in order to prevent the parts from moving.

BLACK BOX PACKAGING WITH CARRIER TAPE

is similar to bundle packaging except that the layers of Heat-Springs are stored in a sealed black box. Each Heat-Spring is placed into an individual carrier tape pocket. Then the strip or strips of carrier tape are packed in layers between protective materials. There can be multiple layers per black box container, depending on the size and thickness of the part.



APPLICATION NOTE

OVER →

Form No. 98543 R0

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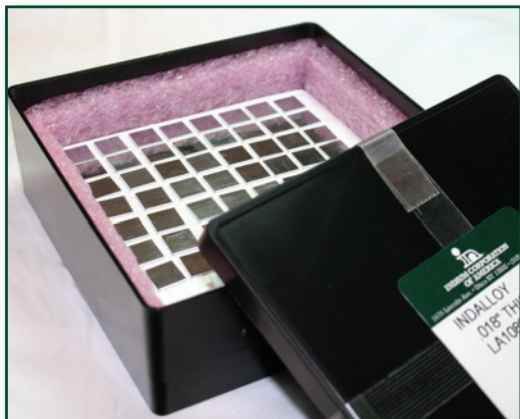
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BLACK BOX STACK PACK stacks and layers the parts in between layers of protective materials so that they do not touch one another inside of the black box. There are typically 4-6 layers per box.



Once the primary packaging method is selected, the Heat-Spring packaging is then placed in a metalized moisture barrier bag for shipping.

Shelf Life

Shelf life is the length of time a product can be kept in storage and still retain its original solder properties.

The shelf life for Heat-Springs is one year from the date of manufacture when stored in their original sealed container in a nitrogen dry box.

Reclaim

Pure indium or indium-contained Heat-Springs are recyclable and can be returned for credit.

Additional Tools

Adhesive TIM Tabs made with Kapton® are used for applications where the compressible Heat-Spring is to be held in place when inverted. Kapton® is a registered trademark of DuPont.

For manual operations, suction tools are recommended. Suggested manufacturers of these tools include:

- BOKAR International:
http://www.bokar.com/downloads/Vacuum_Systems.pdf
- Manncorp:
<https://www.manncorp.com/manual-assembly/smd602a-ce/index.php?auto=done>

APPLICATION NOTE

This Application Note is provided for general information only. It is not intended, and shall not be construed, to warrant or guarantee the performance of the products described which are sold subject exclusively to written warranties and limitations thereon included in product packaging and invoices.

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