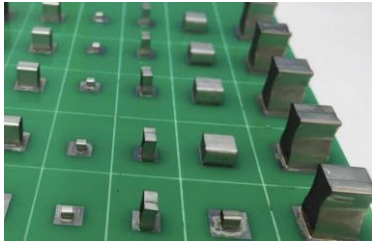
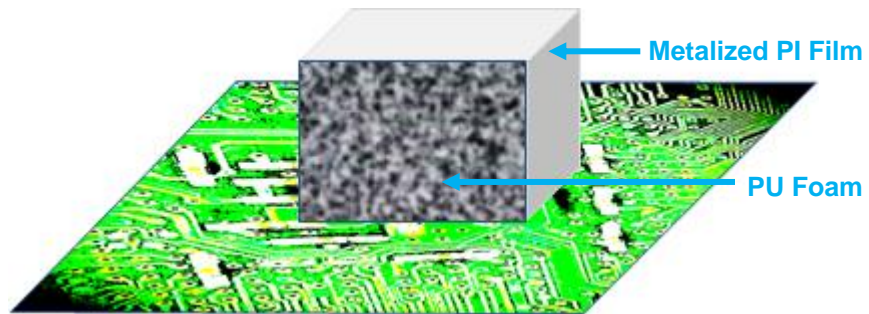


INTRODUCTION



Laird Performance Materials' HB-SMD is one of the Soft SMD (Surface Mount Device) Contact series which is used for circuit grounding and shielding of SMT (Surface Mount Technology) devices. This contact is designed to be solder reflow compatible and suitable for automatic processing. HB-SMD is composed of a tin/copper PI film over polyurethane foam with rectangular shape (SLG series) and hourglass shape (SLH series).

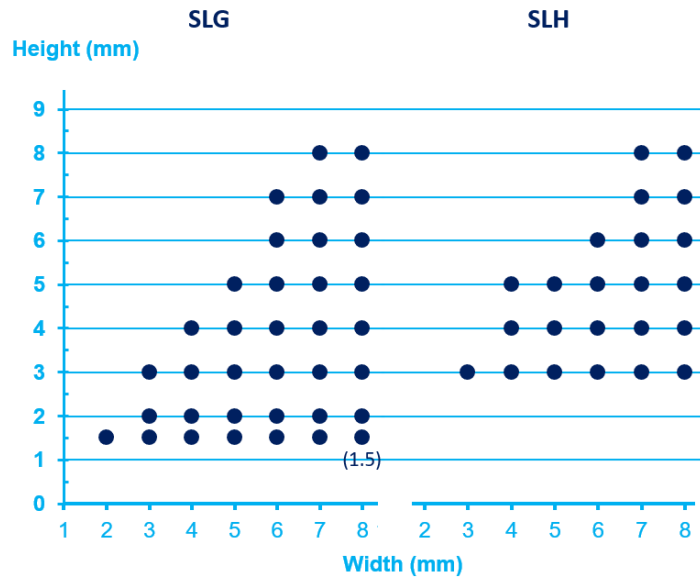
CONSTRUCTION



MARKETS

- Consumer Electronics
- Automotive

DIMENSION AVAILABILITY



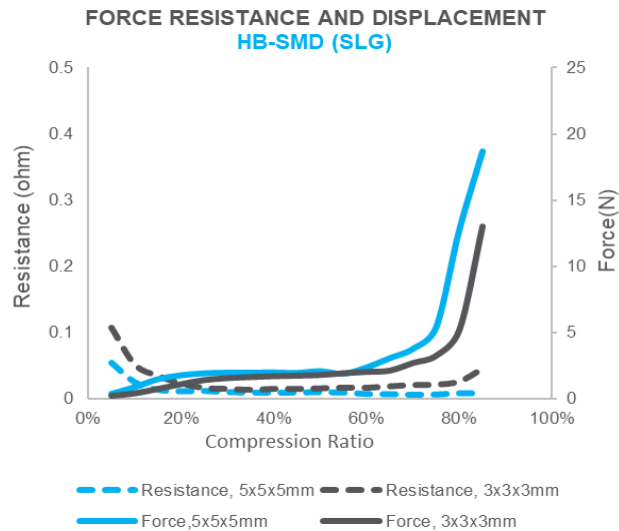
Specification of HB-SMD

SLG/SLH SERIES

Item	Unit	Value	Test Method
Z-axis Resistance @30% Compression			Laird Internal
before reflow	Ω	<0.10	(5mm x 5mm x 5mm)
after reflow	Ω	<0.10	
Flammability		PASS	UL94 HB*
Solder Adhesion Strength (contact to PCB)	Kgf	> 0.2	Laird Internal method (3mm x 3mm x 3mm)
Compression Set	%	<20%	ASTM D3574(70°C,22hr)
Operation Temperature	°C	-40 to 85	

*UL file number E170327, UL designation code HB026

COMPRESSION FORCE



Ordering Information

PART NUMBER

1	2	3	4	5	6	7	8	9	10	11	12	13	14
5	7	S	L	G	W	W	W	H	H	H	L	L	L
1st to 2nd: PACKAGE		3rd to 5th: PRODUCT NAME			6th to 8th: WIDTH			9th to 11th: HEIGHT			12th to 14th: LENGTH		
57= Bulk package 67= Tape and Reel		e.g. SLG, SLH			e.g. 050=5.0mm			e.g. 050=5.0mm			e.g. 050=5.0mm		

For example : 67SLG050030060 for SLG-SMD in dimension of 5.0mmW x 3.0mmH x 6.0mmL

SHELF LIFE

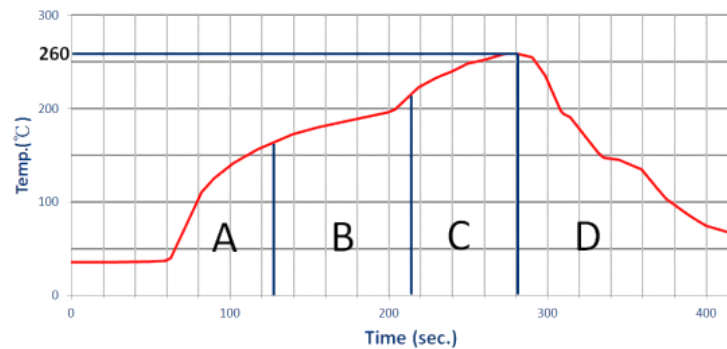
12 months at 23°C/60% R.H.

GENERAL NOTES

- Soft SMD Contacts are highly flexible and not sensitive to height and its tolerance. Basically, the tolerance of height is +/-0.5mm for SLG-SMD, SLH-SMD, and SSM-SMD when the height is less than 5mm. The height tolerance of SLM-SMD is 20 percent, in general. Please contact Laird Engineering Team to confirm the tolerance.
- Soft SMD Contacts can go passing the reflow process under general temperature profile of the PCB. The peak temperature could be up to 255°C for less than five seconds.
- The recommended height-to-width ratio of a gasket should be less than 1.5.
- HB-SMD is a PU foam core product exhibiting balance in performance and price. Though it can pass solder reflow twice, Laird recommends choosing HT-SMD if there is a need to pass solder reflow more than twice.
- HT-SMD is a silicone foam core product which can suffer higher temperature resistance than HB-SMD.
- The optimum compression ratio depends on the dimension and application. In general, recommend compressing the contacts between 15% to 30%.
- The minimum length of Soft SMD Contacts is 2mm. Distortion may be observed when the product is shorter than 2mm length.
- There is an overlap line in a Soft SMD Contact. It should be placed on the top side (upward) with no contact to the PCB.
- Laird recommends the contact pad on the PCB be the same as the dimension (length & width) of Soft SMD Contacts. To prevent shorts or contact happening when Soft SMD Contacts are under compressed, the typically minimum spacing (inhibition area) from other components is 1.0mm in the length direction (foam side) and 1.25mm in the width direction.
- Solder paste should be printed evenly on the area of the solder pad. Strip(s) printing or uneven solder thickness may increase the risk of displacement.
- We recommend the thickness of solder paste printing for Soft SMD Contacts is within 0.1mm to 0.15mm. Thick solder may cause the foam of Soft SMD Contacts to melt during soldering reflow.
- Soft SMD Contacts are not reusable. The contacts must be replaced when rework or repair occurs. Please refer to the "Rework/Repair Process" below for more details.
- With the HB Series, though the operating temperature of Soft SMD Contacts could be up to 85 °C, to keep the performance at desired levels, an ambient temperature below 70°C is recommended. Exceeding 70°C would affect component performance gradually.
- Soft SMD Contacts should be released freely without compression while passing the soldering reflow process or wave soldering process.
- When the dimension is small, due to the air blown, Soft SMD Contacts could be displaced while passing the reflow oven. We suggest reducing the air flow or adding a lightweight fixture on the top of Soft SMD Contacts.
- Either the soldering reflow process or wave soldering process is suitable to make Soft SMD Contacts solder to the PCB. If the PCB needs to pass both processes (soldering reflow and wave soldering), Laird recommends you do not place Soft SMD Contacts on the PCB until the second soldering process.
- Do not touch Soft SMD Contacts by hand while wearing no gloves.

REFLOW TEMPERATURE PROFILE RECOMMENDATION

Reflow soldering is a process by which the solder paste is heated and changes to a molten state to connect components and PCB together. Usually there are four stages to reflow soldering process – preheating stage, heating/soaking stage, reflow stage, and cooling stage. Laird Soft SMD Contacts are not a complex components, and can follow general lead-free reflow soldering temperature profile.



Stage	Temperature	Time
A. Preheating Stage	Room temp. to 170°C	125sec
B. Heating/Soaking Stage	170°C to 217°C	92sec
C. Reflow Stage	217°C to peak temp. (255°C Max.)	63sec
D. Cooling Stage	Peak temp. to room temp.	>60sec

- Longer residual time or higher peak temperature may damage the Soft SMD Contacts.
- Reflow at peak temperature shall be less than 5 seconds.
- Air flow rate shall be set at 0.5-1.6 meters/sec for reflow ovens heated by air.
- For reflow ovens with 8 different zones or more, below are temperature setting for reference.

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EMI-ENSL-HB_SMD 0122

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