

PRODUCT DATA SHEET

Indalloy® 301 LT

for Preforms/InFORMS®

Introduction

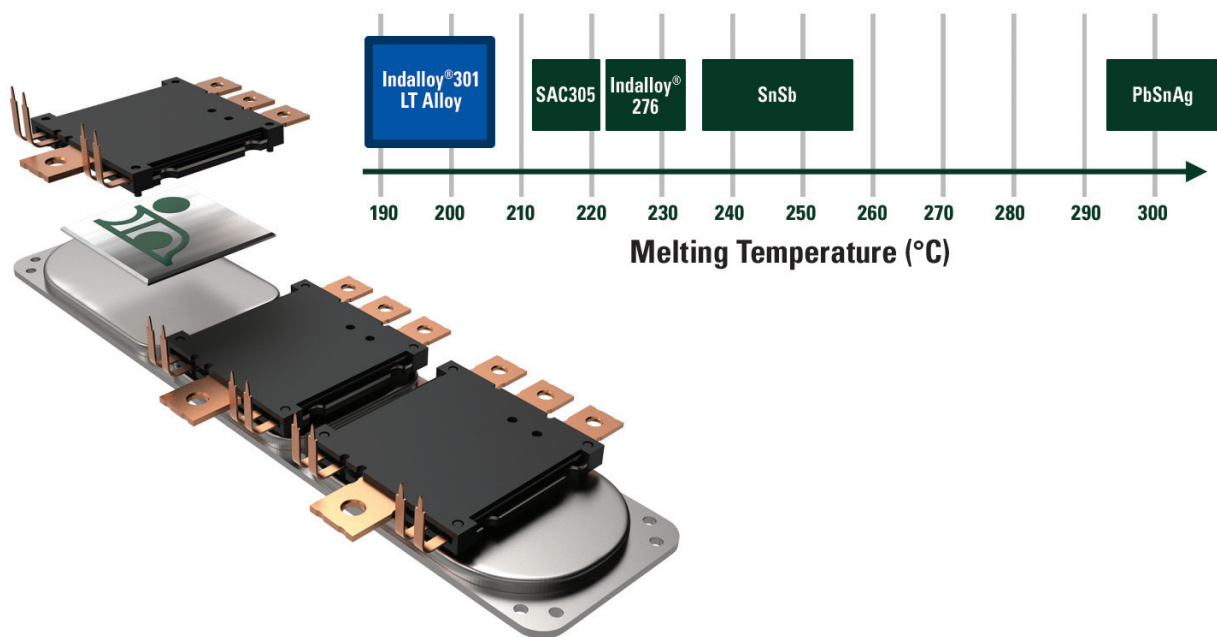
With transition to Pb-free alloys for power module soldering applications, there is increased risk of re-melting or compromising the soldering integrity during subsequent soldering phases, including baseplate-attach or molded package-attach to cooler. **Indalloy® 301 LT** is a patented novel alloy that enables lower processing temperatures in preform soldering. This bismuth-free alloy enables low-temperature processing without sacrificing reliability like the traditional bismuth-containing low-temperature alloys. By leveraging this alloy technology in solder preform applications, designers can maintain precise solder volume, consistent manufacturability, and high-quality flux-free soldering performance. Further, **Indalloy® 301 LT** availability in InFORMS® configurations offers a complementary solution for consistent bondline thickness and improved strength to enhance thermal and mechanical reliability of the solder joint while reducing processing temperature and energy input during manufacturing.

Features

- Reduced reflow peak temperatures
- Enables step soldering with Pb-free alloys
- Excellent thermal and electrical conductivity
- Solid reliability performance (TST -40°C–125°C)
- Reduced energy consumption
- Prevents warpage in molded power module package-attach

Application

Indalloy® 301 LT alloy can reduce peak reflow temperature by 50°C, compared to commonly used alloys in power electronics assembly, with higher reliability than other standard low-temperature offerings. This enables complementary Pb-free high-reliability alloy technologies such as Indalloy® 276 to be used in power module die-attach, component attach, or interconnects without the risk of re-melt and degraded performance. **Indalloy® 301 LT** is available in preforms, ribbon, or InFORMS® configurations and can be offered flux-free or with Indium Corporation's flux coating technology.



From One Engineer To Another®



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Product Specifications

Solidus (°C)	Liquidus (°C)	Density (g/cm³)	Electrical Conductivity (% IACS)	Thermal Conductivity (W/m C)	Tensile Strength (psi)	Young's Modulus (GPa)	Thermal Shock (TST)
190	205	7.4	11	43	8,360	52	-40°C–125°C per AQG324 (pending qualification)

Shelf Life

Shelf life of solder preforms/InFORMS® is dependent on the alloy composition. Indalloy® 301 LT Preforms/InFORMS® have a shelf life of 12 months from the date of manufacture (DOM).

Packaging

Solder preforms/InFORMS® come in a variety of packaging options, including tape & reel.

To minimize excessive handling, and exposure to air and subsequent oxidation, solder preforms/InFORMS® should be packaged according to the quantity used during a typical process cycle.

Storage and Handling

Store in the original container, closed securely, in 55% RH or less and at temperatures less than 22°C. Solder preforms can also be stored in an inert atmosphere, such as a nitrogen dry box.

Technical Support

Indium Corporation's internationally experienced engineers provide in-depth technical assistance to our customers. Thoroughly knowledgeable in all facets of Materials Science as it applies to the electronics and semiconductor sectors, Technical Support Engineers provide expert advice in solder preforms, wire, ribbon, and paste. Indium Corporation's Technical Support Engineers provide rapid response to all technical inquiries.

Safety Data Sheets

Please refer to the SDS document within the product shipment, or contact our local team to receive a copy.

This product data sheet 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. All Indium Corporation's products and solutions are designed to be commercially available unless specifically stated otherwise.

All of Indium Corporation's solder paste and preform manufacturing facilities are IATF 16949:2016 certified.
Indium Corporation is an ISO 9001:2015 registered company.

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Learn more: www.indium.com

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