

Pin Fin Heat Sink for IGBT Market by Material Type (Copper and Aluminum): Global Opportunity Analysis and Industry Forecast, 2019–2025

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Abstracts

Pin Fin heat sink is a passive heat exchanger that cools a device by dissipating heat into the surrounding medium. Heat sinks are used with high-power semiconductor devices. Pin fin heat sinks contain an array of vertically oriented round pins made of copper or aluminum that deliver substantially greater performance than standard heat sinks with flat fins. High efficiency of heat dissolving in pin fin module has the characteristics of low-pressure drop. Among different technologies, pin fins have replaced traditional continuous fin arrays such as plate or wavy fins, due to their high volumetric heat transfer rates.

Cold forging is one of the most used manufacturing techniques for pin fin heat sinks. Cold forging is a manufacturing process in which the aluminum or copper heat sink is formed by using localized compressed forces. Fin arrays are designed by forcing raw material into a molding die by a punch. The process confirms that no air bubbles, porosity, or any other impurities are stuck inside the material and thus, produces extremely high-quality products. A cold forged heatsink is a good alternative to casting to form complex shapes with excellent thermal conductivity. Some of the striking benefits of forging include high strength, superior surface finish, structural rigidity, close tolerance capabilities, continuity of shape, and high uniformity of material..

The factors that drive the growth of the global pin fin heat sink for IGBT market include increase in need for effective cooling of the consumer electronics by proper heat dissipation method, followed by increase in demand for huge power supply due to growing population and digitization. Furthermore, rise in demand for pin fin heat sinks owing to multiple advantages such as higher volumetric efficiency and low cost over other types of heat sinks are also expected to fuel the market growth.. In addition,

increase in use of IGBT modules in the automotive field for HEVs and hybrid pin fin heat sink are expected to provide lucrative opportunities for the pin fin heat sink for IGBT market during the forecast period. However, low capacity utilization of pin fin heat sink manufacturers is affecting the growth of this market.

The global pin fin heat sink for IGBT market is segmented based on material type and region. Based on material type, it is bifurcated into copper and aluminum. By region, it is analyzed across North America, Europe, Asia-Pacific, and LAMEA.

The global pin fin heat sink for IGBT market is dominated by players such as Apex Microtechnology, Aavid Thermalloy LLC, Honeywell International Inc., Comair Rotron, CUI Inc., Advanced Thermal Solutions, Kunshan Googe Metal Products Co. Ltd., Allbrass Industrial, The Brass Forging Company, and others.

KEY BENEFITS FOR STAKEHOLDERS

This study comprises analytical depiction of the global pin fin heat sink for IGBT market along with the current trends and future estimations to depict the imminent investment pockets.

The overall market potential is determined to understand the profitable trends to gain a stronger coverage in the market.

The report presents information related to key drivers, restraints, and opportunities with a detailed impact analysis.

The current market is quantitatively analyzed from 2018 to 2025 to highlight the financial competency of the global pin fin heat sink for IGBT market.

Porter's five forces analysis illustrates the potency of the buyers and suppliers.

KEY MARKET SEGMENTS

BY MATERIAL TYPE

Copper

Aluminum

BY REGION**North America**

U.S.

Canada

Mexico

Europe

UK

Germany

France

Italy

Rest of Europe

Asia-Pacific

China

Japan

India

Rest of Asia-Pacific

LAMEA

Latin America

Middle East

Africa

KEY MARKET PLAYERS PROFILED

Advanced Micro Devices (AMD)

Apex Microtechnology

Aavid Thermalloy, LLC

Advanced Thermal Solutions, Inc.

Allbrass Industrial The Brass

CUI Inc

Comair Rotron

Honeywell International Inc

Kunshan Gooqe Metal Products Co., Ltd.

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