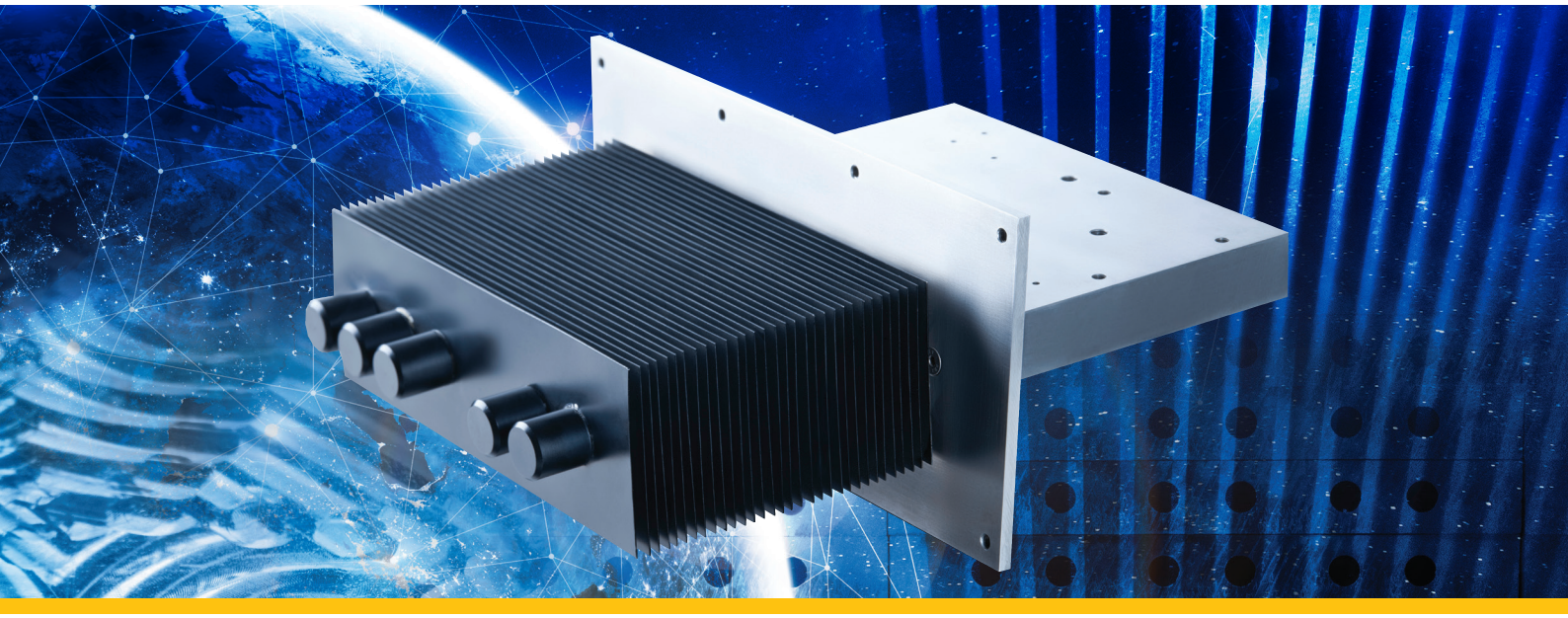
HEATPIPE

Heatpipe assembly

Innovation in Motion

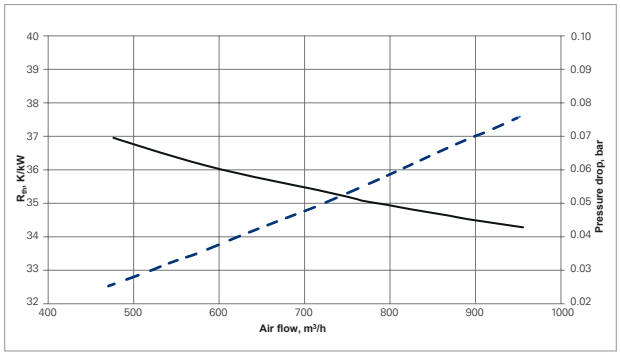


Application

Miba Heatpipe assemblies, fitted with cooling fins and heat spreader input blocks provide one of the most efficient air cooling methods for Disc Semiconductor.

General Characteristics

The high heat flux density generated by the semiconductors is absorbed by the heat spreader block and then, furthermore by the heatpipes. Then the Heatpipes transmit the heat isothermally to the fins.



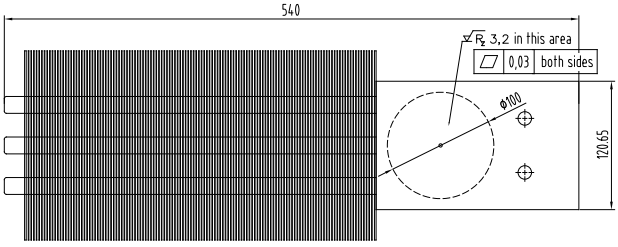
Description

No. of modules: 2
Module size: Ø100 [mm]
Power dissipation: 750 [W/modul]
Thermocouple: Type K
Air inlet temperature: 30[°C]

General Information

The fin efficiency of a finned Heatpipe is therefore much higher than on a standard heat sink where the fin temperature is a function of the distance from the heat source. In addition, the Heatpipes allow the heat input to be situated where it is needed, whilst dissipating the heat at a remote location. The stack heights of the finned section is chosen to achieve the desired performance. Due to the possible separation of heat source and heat dissipation section, finned Heatpipe assemblies can be used in applications where the electronic should be protected from dust or humidity. The ultimate performance of the Heatpipe assembly is also given through the good thermal contact between Heatpipes and fins achieved by hydraulic expansion of the tubes after fins have been assembled. Heat spreader blocks and fins can be made from either aluminium or copper. Also combinations of both materials are possible. Basically, the Heatpipes are normally soldered into the heat spreader block for optimal interface contact to minimize thermal resistance. Miba customized Heatpipe Solutions for power semiconductors are extremely flexible, offering designers an array of solurions for cooling their heat source elements. The heat spreader block can be designed individually to the footprint of the semiconductors. The Heatpipes themselves are available in a variety of diameters to best suit the application requirement and the power which has to be dissipated. Fin structure, size and number of fins can be designed to meet the cooling requirements of both forced cooling or natural convection.

Drawing



Miba Power Electronics Group | Miba Cooling Austria GmbH & Co KG | Dietenberg 38, 8563 Ligist, Austria
T +43 3143 2351-0 | www.miba-cooling.com | sales.MCA@miba.com
Geschäftsadresse / Company Register: Dr.-Mitterbauer-Str. 3, 4663 Laakirchen, FN 14735w Landesgericht / Jurisdiction Wels
Bank / Banking: Unicredit Bank Austria Graz, IBAN EUR: AT49 1100 0048 8414 8000, IBAN USD: AT89 1200 0048 8414 8003, BIC: BKAUATWW, UID-Nr. / VAT No.: ATU30355807