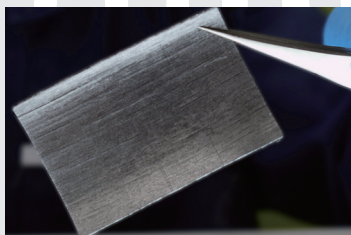


グラファイトシート縦配向型 高熱伝導TIM



SiC/GaN系パワー半導体の
冷却と高性能化に

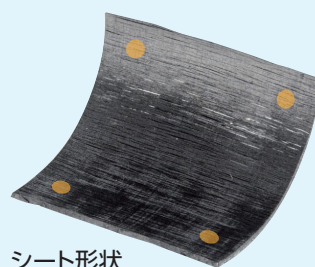
Zebro^{ジブロ}

特性 Characteristics			
熱伝導率 Thermal Conductivity (W/(m·K)) ※Note.1	高熱伝導品 High Grade Type	標準品 Standard Type	
	厚み方向 Z-axis	800	250
	平面方向 XY-axis	400	125
高密度 Specific Density (g/cm ³)	1.0~1.5	燃焼性 Flammability	UL94 HB相当 equivalent
耐熱温度 Heatproof Temperature(°C) ※Note.2	-40~180	電気抵抗 Electric Resistance (μΩ·cm)	500~20,000

シロキサンガス・オイルブリードフリー
 Siloxane gas-free, Oil bleeding-free

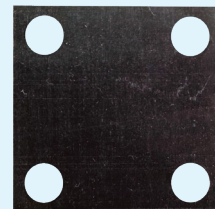
■対応サイズ

シート X: 5mm × Y: 5mm ~ X: 100mm × Y: 50mm
 厚み Z: 0.3mm~



シート形状

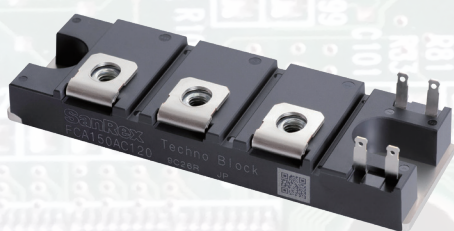
※ご要望により仮止め用接着剤を塗布して出荷します



穴開け加工

※Note 1: 熱伝導率は、(株)ベテルハドソン研究所において、周期加熱放射测温法による Thermal Conductivity is obtained by "Laser spot periodic heating radiation thermometry method" by BETHEL Co., Ltd.
 ※Note 2: 耐熱温度は、Zebroを構成する樹脂材料の耐熱温度に依存する Heat Proof Temp is depended on the heat proof temp of adhesives constituting Zebro.

納入実績：(株)三社電機製作所様 ~ 耐高面圧性+長寿命をご評価 ~



SanRex

独自のパッケージ

「Techno Block」を採用
 2in1 SiC MOSFET モジュール

FCA150AC120 (150A/1200V)

FCA100AC120 (100A/1200V)

- 熱抵抗を小さく設計されたMOSFETモジュール
- SiCやGaN系を搭載でき次世代に対応
- 大電流、高電圧、耐久性向上を達成

+

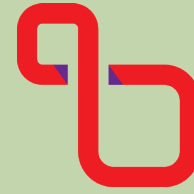
Zebroとのコラボで

より低い温度 → 変換効率向上・電力損失低減 を実現

High Thermal Conductive Sheet



Silesian University
of Technology



RESEARCH
UNIVERSITY
EXCELLENCE INITIATIVE

Faculty of Energy and Environmental Engineering / Department of Thermal Technology

Collaboration with high precise Thermal Conductivity Measurements Apparatus

Thermal conductivity measurements apparatus



(ASTM D5470 Compliant)

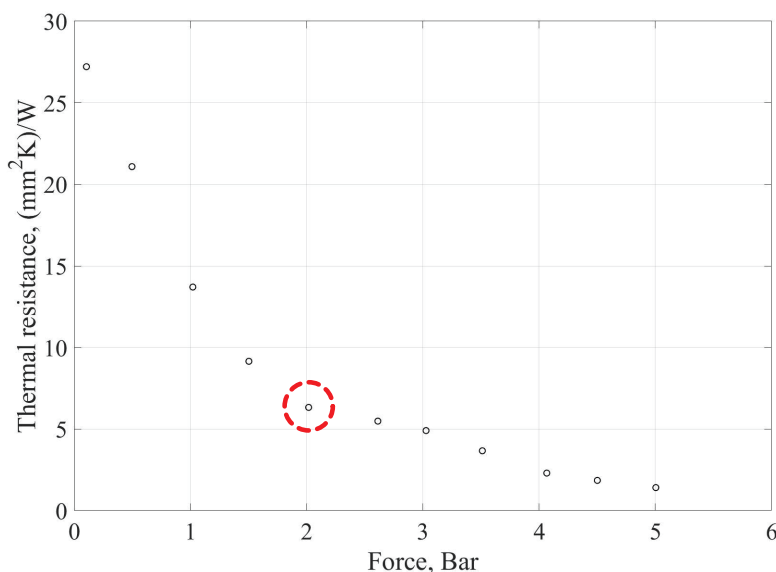
Key Features

(Pat.238631 B1)

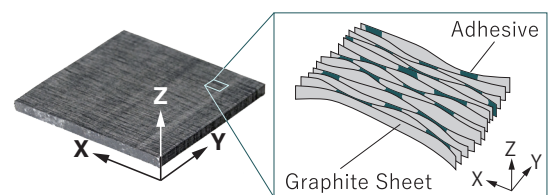
The main features of the in-house experimental stand:

- Regulation of the applied heat flux in the range: 0 - 4 W/cm²
- Measurement temperature range: -15°C to 95 °C
- Heat flux uniformity better than 95%
- Sample thickness control with resolution not worse than 10 μm
- Range of measured thermal conductivity: 0.5 - 300 W/mK
- External stress applied to the sample in the range: 0 - 1 kN
- Resolution of the thermal resistance measurement: 1 mm² K/W

Thermal resistance value : “ 0.06 cm² K/W ” at 0.2 Mpa
※ Zebro-Standard Type , Area: 40 × 40 mm , Thickness: 0.3 mm



Thermal Resistance-Force Graph



- Flexible composite sheet made of graphite and adhesive
- Excellent heat dissipation performance shows in thickness direction
- Different heat dissipation and elasticity properties present in its each directions

Zebro ジブロ®