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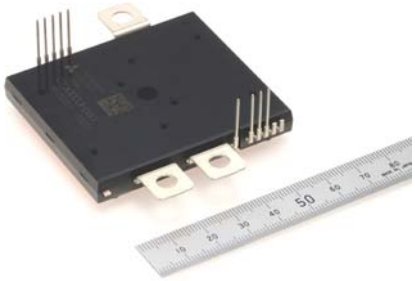
Mitsubishi Electric Launches Power Module for Hybrid and Electric Vehicles

Tokyo, April 7, 2011 – Mitsubishi Electric Corporation (TOKYO: 6503) announced today the launch of a new transfer molded power module (T-PM) mainly designed for hybrid and electric vehicle applications. The company's J Series T-PM, whose lifespan is 30 times longer than that of industrial power modules and is completely lead-free, provides enhanced reliability by incorporating Mitsubishi Electric's proprietary technology that ensures power loss reduction. Sales will begin April 8, 2011.

Mitsubishi Electric's J-Series T-PM offers enhanced reliability by incorporating the company's original, inner connection technology called direct lead bonding (DLB). DLB reduces power loss through decreasing wiring resistance and inductance in modules by way of an extended main terminal that is sufficiently long to be bonded directly to the power chip. Power chips were previously connected to terminals by aluminum wire.



CT300DJH060

In line with growing awareness for the environment, the market volume of hybrid and electric vehicles is expanding. Automotive components are required to meet stringent safety standards, calling for power modules providing greater reliability compared to modules for industrial purposes. In 2004, Mitsubishi Electric became the first company in the industry to launch a highly reliable, lead (Pb)-free power module for automotive applications by using transfer molding technology. Transfer molding is a pressure molding method by which heated and pressurized resin is poured into a metal mold and enclosed. This method enables manufacturers to make multiple molds simultaneously and render power modules highly reliable.

Product Features

1) ***Achieves high reliability by incorporating original DLB structure***

- Features transfer molded structure and company's original, direct lead bonding (DLB) structure.
- The power module's power cycle and temperature cycle lifespans are 30 times longer compared to those of typical industrial power modules. Power cycle lifespan is based on repetitive operation tests with the chip energized, rapidly changing the temperature within a range of between 50 and 100 degrees C. Temperature cycle lifespan is based on repetitive operation tests, modulating the temperature between -40 degrees C and 125 degrees C without the chip energized.
- DLB structure reduces wiring resistance and inductance.

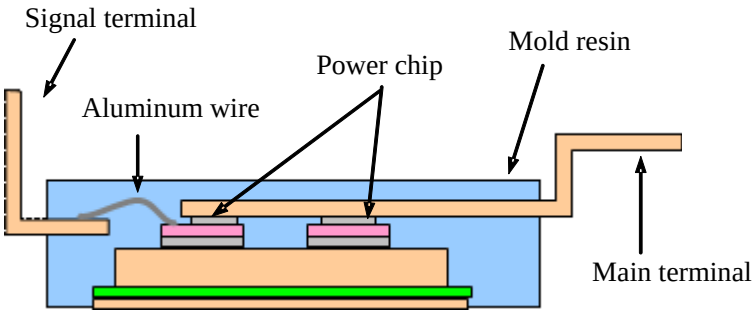


Figure 1: DLB structure

2) Completely lead (Pb)-free

-The T-PM is completely lead (Pb)-free, including the terminal plating.

3) Designed specifically for automotive applications

- Two carrier-stored trench gate bipolar transistor (CSTBT) IGBT chips are incorporated in a 600V/300A power module.
- Achieves automotive-grade quality and lifespan.
- Traceability system enables management of material and components, as well as the entire production process for each product unit.

Summary of Sale

Series	Model	Specifications	Shipment date
J Series T-PM	CT300DJH060	600V/300A, 2 chips per package	April 8, 2011

Specifications

Saturation voltage: Typ. 1.6V (IC=300A, Tj=25°C, VGE=15V)

Evaluation board and DC-Link capacitor will be supplied to aid the evaluation of T-PM.

About Mitsubishi Electric

With 90 years of experience in providing reliable, high-quality products to both corporate clients and general consumers all over the world, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. The company recorded consolidated group sales of 3,353.2 billion yen (US$ 36.1 billion*) in the fiscal year ended March 31, 2010. For more information visit http://www.MitsubishiElectric.com

*At an exchange rate of 93 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2010

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