



Fuji Intelligent Power Module

IPM and Small IPM

Fuji Intelligent Power module IPM and Small IPM

Fuji IPMs are equipped with control ICs which contains IGBT drive circuits and protection circuits. Therefore, it is easy to design the peripheral circuit and ensure a high system reliability.

The Small IPM is suitable for applications such as air conditioning equipment, AC servo drives for up to 240 V_{AC}.

Small IPMs of the 3rd generation cover a line-up from 15 A to 30 A at 650 V.

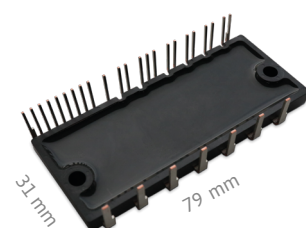
The IPM X series covers a power range up to 450 A at 650 V and up to 300 A at 1200 V.

All IPMs are now available with Fuji's latest chip and package technology "X series".

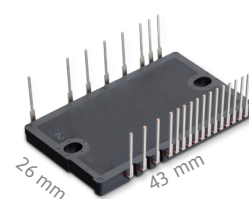
IPMs are equipped with overcurrent protection, short circuit protection, control power voltage drop protection, and overheating protection as well as outputting alarm and warning signals..

MAIN FEATURES

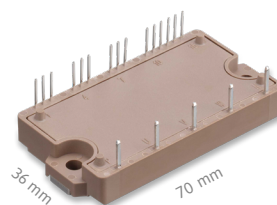
- ▶ Short circuit protection
- ▶ Temperature sensor output function
- ▶ Overheating protection
- ▶ Under voltage protection
- ▶ Fault signal output function



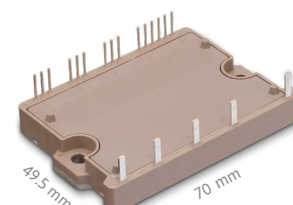
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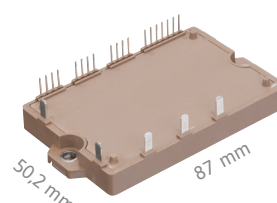
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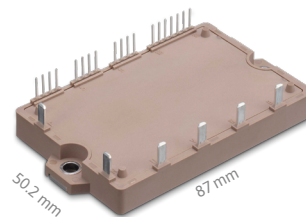
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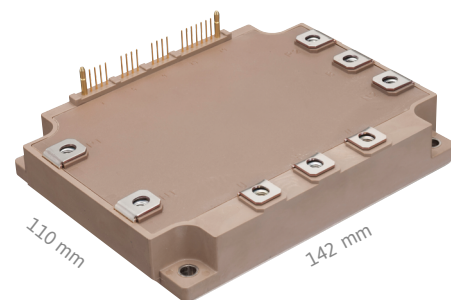
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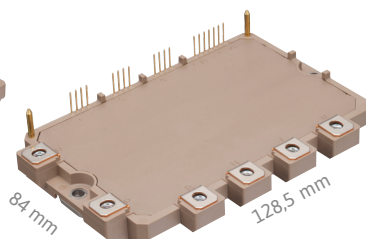
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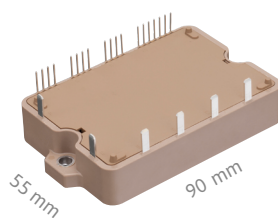
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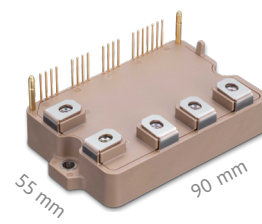
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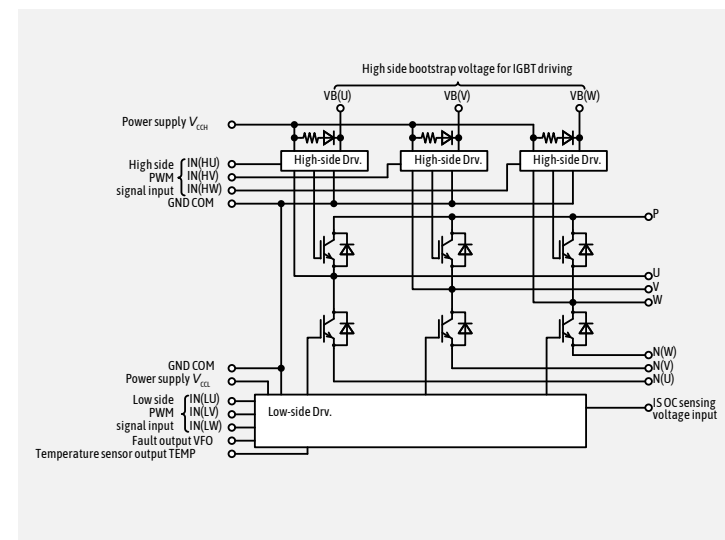


P638 **new**

Fuji Small IPM

The Fuji small IPM series contains a 3 Phase IGBT inverter bridge and protection functions. Low $V_{F, trr}$ and low noise of the FWD as well as low $V_{CE(sat)}$ and low turn-off losses of the IGBT are achieved by using the "X series" technologies and are main factors for an "energy-saving" characteristic. Fuji's small IPM package possesses a high isolation voltage and a high thermal conductivity IMS (insulated metal substrate).

Implemented drive ICs guarantee a high degree of protection and an easy way of implementation to the peripheral circuit. A high accuracy for the overheating protection of $\pm 7^\circ\text{C}$ and an accuracy of $\pm 25\text{ mV}$ for the short circuit protection offers a high degree of safety. The option for a self-shutdown in case of overheating is available.



MAIN FEATURES

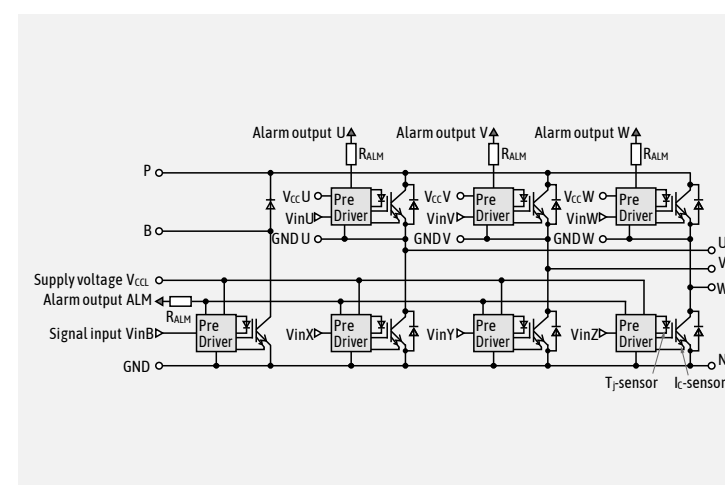
- ▶ Inverter for blower fan, automatic door, compressor, conveyor or pump up to 2.2 kW for light load and 1.5 kW for heavy load

Fuji X-IPM

The Fuji X-IPM (X series IPM) contains a 3 Phase IGBT inverter bridge and can also be equipped with an additional brake chopper (external resistor needed for brake circuit). Four isolated power supplies are necessary to drive this IPM but no negative voltage input is needed.

The protection functions for overheating and over current are realised by using on-chip sensors. This allows a fast and reliable detection, as well as a quick reaction in case of an abnormal situation.

Some new X-IPM are also integrating a temperature warning circuit and related output terminal that helps the system to get a better management of temperature during operation.



MAIN FEATURES

- ▶ Inverter for robot applications, servo motors, drilling machines or elevators
- ▶ Alarm output individual per phase