

New Generation of IPM - Ideal for Air Conditioners, Inverters and Servo Systems

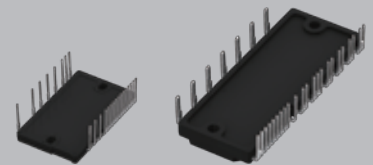
Fuji Electric has developed a compact high capacity intelligent power module (IPM)*¹ which is ideally suited for large capacity air conditioning systems, industrial inverters, and servo systems.

Applying the 7th generation X series IGBT chip technology to the new IPMs leads to a significant reduction of losses.

In combination with the maximized operating temperature due to highly heat resistant packaging technology, using the new IPM series will allow energy savings and miniaturization of your applications.

*¹: An IPM is a module which includes three-phase inverter bridge circuit, control circuit and protection circuit.

- Reduction of losses and improvement of energy efficiency by utilizing 7th generation IGBT technology
- Expansion of permissible operating area by improving the accuracy of overcurrent and overheating protection functions
- Utilizes an ultra-small DIP package with high heat dissipation aluminum insulating substrate



Package: P633A, P642

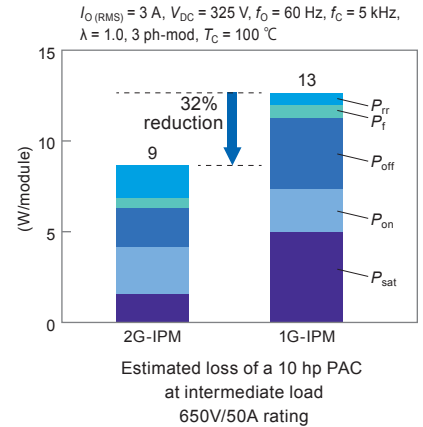
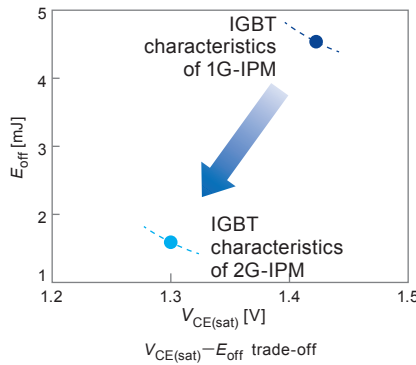
Application examples:
Air conditioners, servo system amplifiers,
industrial inverters, etc.

1. Reduction of losses by applying 7th generation IGBT technology

Improvement of the $V_{CE(sat)}$ – switching loss trade-off by applying Fuji's latest 7th generation IGBT technology

Inverter loss reduction of 32% compared with previous generation at intermediate loads
Increased APF performance!

Comparison with previous generation



2. Utilization of an ultra-small DIP package with high heat dissipation aluminum insulating substrate

High heat dissipation aluminum insulating substrate with resin-applied insulation layer

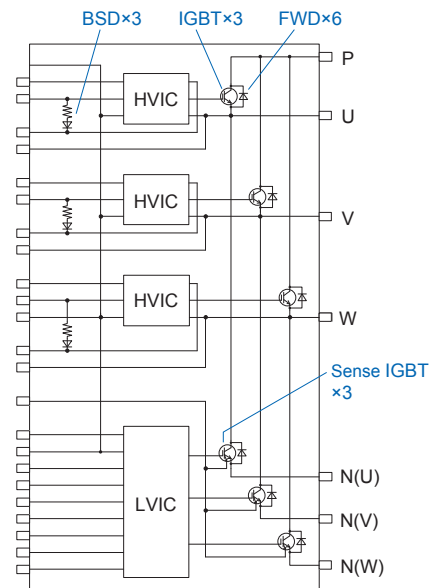
Maximum operating temperature (T_{vjop}) increased from 125°C to 150°C

P642	P633A
79 (W) × 31 (D) × 8 (module thickness) mm	43 (W) × 26 (D) × 3.7 (module thickness) mm

Product Line-up

V_{CE} (V)	Device type	I_C (A)	$V_{CE(sat)}$ typ. (V)	V_F typ. (V)	Overheating protection function	Package	Guaranteed operating range
650	6MBP50XTA065-50	50	1.30	1.55	No	P642	$T_{vjop} \leq 150^\circ\text{C}$
	6MBP50XTC065-50				Yes		
	6MBP75XTA065-50	75	1.35	1.60	No		
	6MBP75XTC065-50				Yes		
600	6MBP15XSD060-50	15	1.60	1.60	No	P633A	
	6MBP15XSF060-50				Yes		
	6MBP20XSD060-50	20	1.60	1.70	No		
	6MBP20XSF060-50				Yes		
	6MBP30XSD060-50	30	1.70	1.70	No		
	6MBP30XSF060-50				Yes		
	6MBP35XSD060-50	35	1.40	1.40	No		
	6MBP35XSF060-50				Yes		

Internal equivalent circuit : P642



⚠ Safety Precautions

- * Before using this product, read the "Instruction Manual" and "Specifications" carefully or consult with the retailer from which you purchased this product to use this product correctly.
- * The product must be handled by a technician with the appropriate skills.

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