International
IOR Rectifier
THE POWER MANAGEMENT LEADER

MOTOR CONTROL

Appliance & Light Industrial Intelligent Power Modules

Features

- Utilizes proprietary three-phase monolithic gate driver IC matched with highly efficient IGBT power switches
- Insulated metal substrate technology for reduced EMI
- Optimized for power up to 3kW
- Web-based design tool at www.irf.com/design-center/ipm
- Replaces more than 20 discrete parts to deliver complete power stage solution

The IR Advanatge

- Shrinks board space requirements
- Shortens design time
- Slashes assembly time and cost
- Boosts system reliability over discrete designs
- Simplifies procurement and inventory management
- Reference design kit available
- Qualified to Industrial Level

Applications

- Clothes washers
- In-room and wall air-conditioners
- Compressor drives
- Appliance fans/compressors
- Light industrial drives

High voltage power stage delivers dedicated, reliable appliance solution

Integrating industry benchmark three-phase high voltage ICs and rugged trench IGBTs in a sleek and innovative single in-line package (SIP), IR's intelligent power modules (IPMs) deliver a complete power stage solution for today's energy-efficient appliance and light industrial equipment driven by variable speed motors ranging from 200W to 3000W.

The IPMs are available as part of the iMOTION™* family of integrated design platforms from IR. Together with a few external components and our IRMCK series of controllers, they form a complete motor drive system, greatly accelerating the design path compared to a multi-discrete solution.

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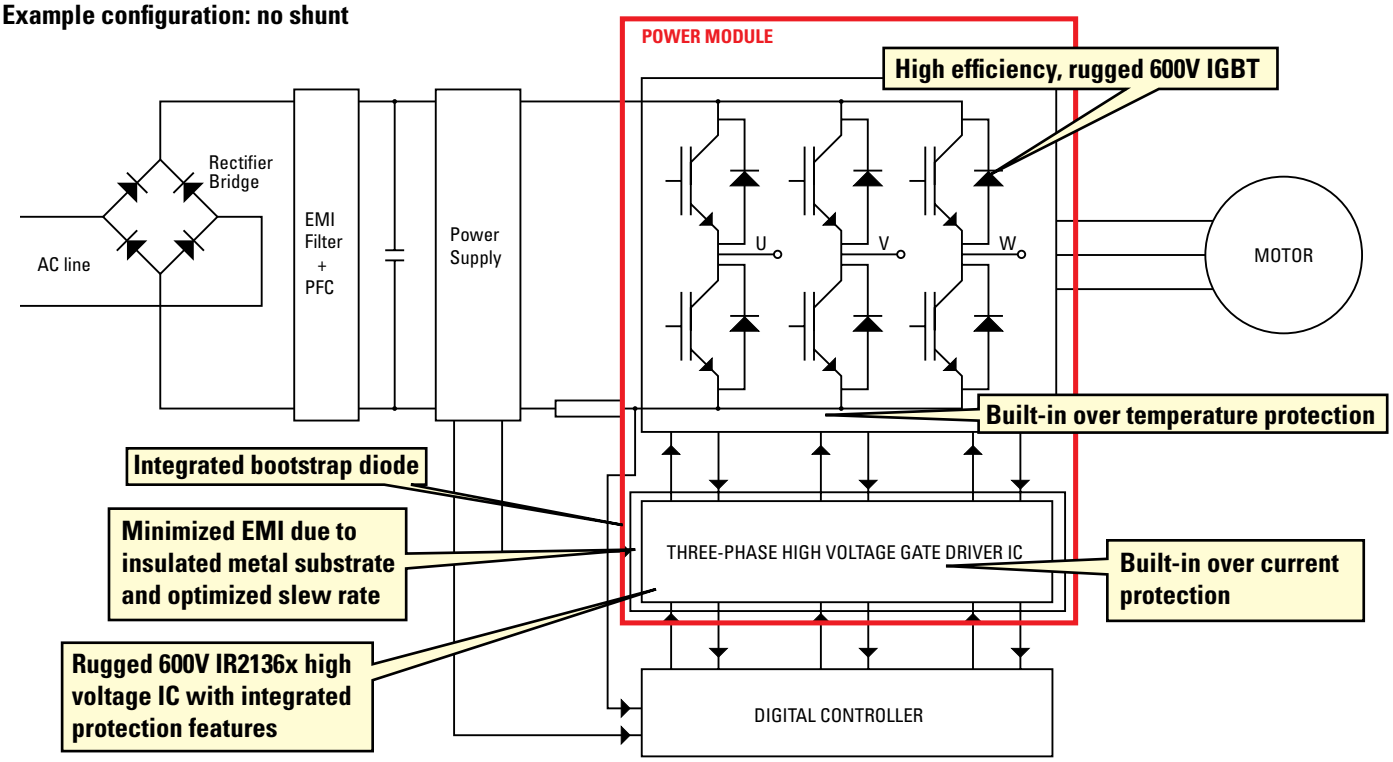
Example configuration: no shunt



Built-in over-temperature/over-current protection, along with short-circuit rated IGBTs, an integrated under-voltage lockout function, and built-in temperature monitor provide a high level of protection and fail-safe operation. Other integrated features, such as bootstrap diodes for the high-side drive function and the single polarity power supply, simplify overall system design.

Main Configurations

- Open emitter coniguration: flexible architecture to configure current sensing feedback resistors. Over-temperature is detected internally and triggers the fault condition.
- Integrated current shunt configuration: a current shunt is included on the negative bus of the inverter. Over-current is detected internally and triggers the fault condition.

IR's iMOTION brings digital controllers, analog stage and power modules together in one easy to implement, integrated design platform.

Part Number	Voltage	Typical Load (W)	Io @ TC = 100°C (A RMS)	Package	Configuration
IRAM136-0461G	600V, Integr. Shunt	300W	2	SIP-1	3-phase, 600V + Input bridge
IRAMS06UP60A	600V Open Emitter	400W	3		3-phase, 600V
IRAMS06UP60B	600V Integr. Shunt				
IRAM136-1061A	600V Open Emitter	750W	5	SIP-1A	
IRAMS10UP60A	600V Open Emitter	750W	5	SIP-1	
IRAMS10UP60B	600V Integr. Shunt				
IRAMX16UP60A	600V Open Emitter	1500W	8	SIP-2	
IRAMX16UP60B	600V Integr. Shunt				
IRAMX20UP60A	600V Open Emitter	2500W	10		
IRAMY20UP60B	600V Integr. Shunt			SIP-3	
IRAM136-3063B	600V Integr. Shunt	3000W	15		
IRAM136-3023B	150V Integr. Shunt	750W	15		3-phase, 150V