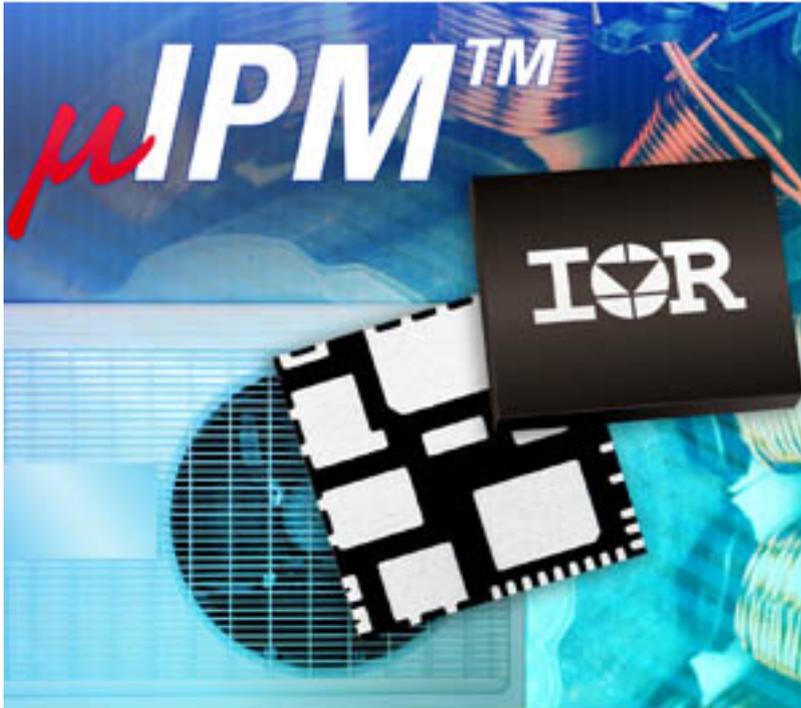


# Power modules deliver up to 60% smaller footprint



International Rectifier today introduced a family of highly integrated, ultra-compact, patent pending  $\mu$ IPM power modules for high efficiency appliance and light industrial applications including compressor drives for refrigeration, pumps for heating and water circulation, air-conditioning fans, dishwashers, and automation systems. By utilizing an innovative packaging solution, the  $\mu$ IPM family delivers a new benchmark in device size, offering up to a 60 percent smaller footprint than existing 3-phase motor control power ICs.

Available in an ultra-compact 12x12x0.9mm PQFN package, the  $\mu$ IPM family comprises a series of fully integrated 3-phase surface-mount motor control circuit solutions. The new approach pioneered by IR for this market segment utilizes PCB copper traces to dissipate heat from the module, providing cost savings through a smaller package design and even eliminating the need for an external heat sink. By using standard packaging QFN technology, assembly is simplified by eliminating through-hole second pass assembly and improving thermal performance compared to traditional dual-in-line module solutions.

“By utilizing an innovative packaging solution, IR’s  $\mu$ IPM products not only offer up to 60 percent smaller footprint compared to existing leading solutions but also deliver advantages in output current capability and system efficiency. Combined with ease of use, improved thermal performance and overall system size reduction, the  $\mu$ IPM family enables designers and system integrators to deliver more cost

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effective and advanced motor control solutions,” said Alberto Guerra, Vice President, Strategic Market Development, IR’s Energy Saving Products Business Unit.

IR’s  $\mu$ IPM product family offers a scalable power solution with common pin-out and package size. Featuring the most rugged and efficient high-voltage FredFET MOSFET switches specifically optimized for variable frequency drives and IR’s most advanced high-voltage driver ICs, the  $\mu$ IPM product family offers DC current ratings ranging from 2A to 4A and voltages of 250V and 500V.

### Specifications

| Part Number   | Size (mm) | Voltage | I <sub>o</sub><br>(DC at<br>25°C) | Motor Current** |       | Motor Power<br>V <sub>o</sub> =150/75V <sub>RMS</sub> | Topology    |
|---------------|-----------|---------|-----------------------------------|-----------------|-------|---|-------------|
|               |           |         |                                   | w/o HS          | w HS  |   |             |
| IRSM836-024MA | 12x12     | 250V    | 2A                                | 470mA           | 550mA | 60W/72W   | 3P Open Sou |
| IRSM836-044MA | 12x12     | 250V    | 4A                                | 750mA           | 850mA | 95W/110W  | 3P Open Sou |
| IRSM836-025MA | 12x12     | 500V    | 2A                                | 360mA           | 440mA | 93W/114W  | 3P Open Sou |
| IRSM836-035MB | 12x12     | 500V    | 3A                                | 420mA           | 510mA | 108W/135W   | 3P Common   |
| IRSM836-035MA | 12x12     | 500V    | 3A                                | 420mA           | 510mA | 100W/130W   | 3P Open Sou |
| IRSM836-045MA | 12x12     | 500V    | 4A                                | 550mA           | 750mA | 145W/195W   | 3P Open Sou |

\*\* RMS, Fc=16kHz, 2-phase PWM, ?T<sub>CA</sub>=70°C, T<sub>A</sub> ? 25°C

Datasheets, application notes, dedicated White Papers and a web tool for loss model calculation and current rating estimation are available. Contact IR’s technical assistance center at [TAC@irf.com](mailto:TAC@irf.com) [1].

### Availability and pricing

Pricing for the released  $\mu$ IPM family ranges from US \$1.59 to US \$2.99 each in 10,000 unit quantities. Production quantities are available immediately. The devices are RoHS compliant and prices are subject to change.

[www.irf.com](http://www.irf.com) [2].

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### **Links:**

[1] <mailto:TAC@irf.com>

[2] <http://www.irf.com>