

Hybrid Power Module Operation

In Brief . . .

The Motorola Semiconductor Products Sector is proud to announce the formation of a new group: Hybrid Power Modules. Our operation has been in existence since August of 1992, and we're chartering new ground to become the world's fastest supplier of intelligent, energy efficient power modules for motor drive and uninterruptable power supply applications.

It's an exciting market, with 50 million motors being manufactured per year, and fewer than 5% of those using electronically controlled drives. Motorola Hybrid Power Modules will play a major role in supplying those power modules.

With Motorola's technology breadth, we're well positioned to develop highly integrated, intelligent IGBT (insulated gate bipolar transistor) power modules. The IGBT technology combines high current handling capability with low input current requirements in a smaller form factor which enables the design of more compact inverters. We have the capabilities to support custom modules (based on annual volume requirements) and offer the fastest possible time to market. Present integrated IGBT modules range from 5 to 30 amps, 600 and 1200 volts are also in our product portfolio. Our plans for the future include a family of advanced modules for applications in higher current and higher voltage devices and control networks.

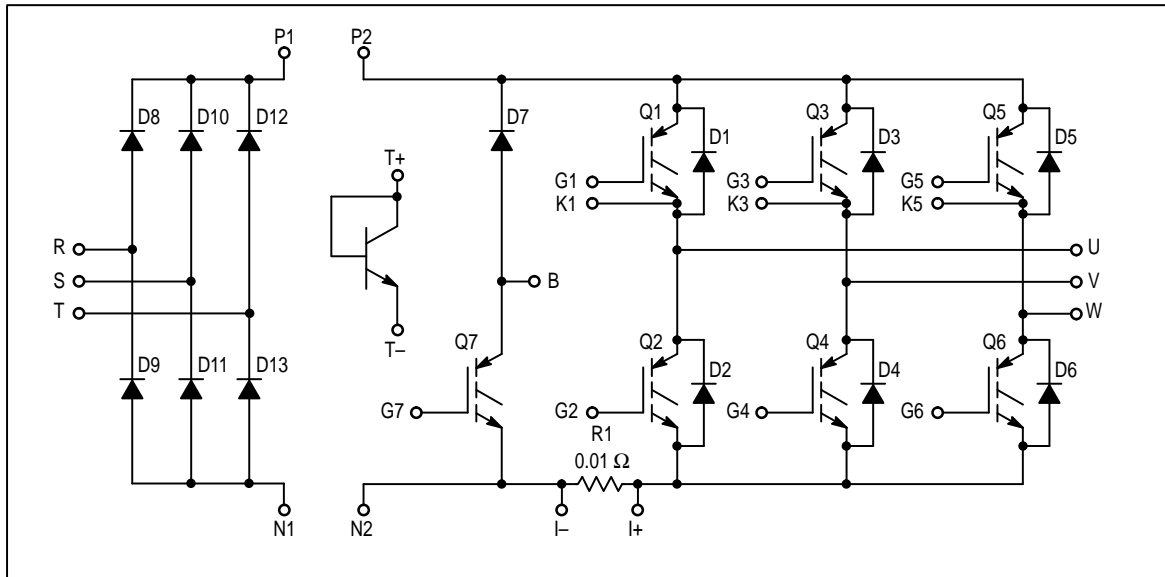
To summarize, we believe that we offer the leading edge technology combined with a state-of-the-art flexible manufacturing line and rapid cycle time that can give you the unique ability to differentiate your products in this highly competitive market.

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Table 1. Integrated Power Stage IGBT

V _{CES} (V)	Maximum Ratings				
	I _C (A)				
	5	10	15	20–25	30
600			MHPM7A15A60A 6/94	MHPM7A20A60A 10/94	MHPM7A30A60B 5/95
1200	MHPM7A8A120A 7/94	MHPM7A12A120A 1/95	MHPM7A16A120B 5/95	MHPM7A25A120B 9/95	

CIRCUIT



Includes sense resistor and temperature sensor.

Benefits of Motorola Integrated Power Stage

- combines a 3-phase input rectifier bridge, output inverter and brake transistor in one package
- utilizes Motorola's advanced 600 & 1200 V IGBTs with matched soft free-wheeling diodes
- positive and negative bus access to designer
- temperature and current sense integrated in module

Devices listed in bold, italic are Motorola preferred devices.