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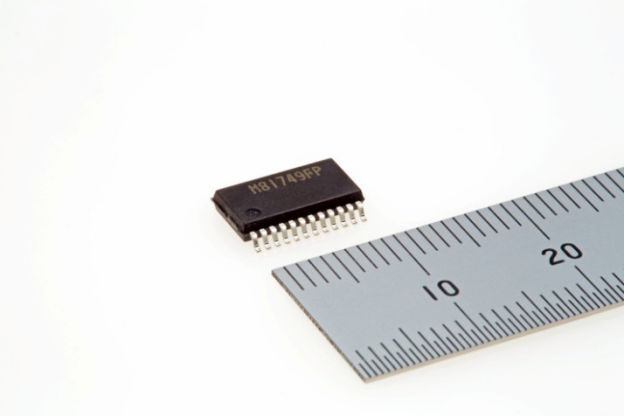
Mitsubishi Electric to Launch 600V Three-phase Bridge Driver IC

Realizing more compact systems through smaller three-phase bridge outputs

TOKYO, Mar 9, 2015 – Mitsubishi Electric Corporation (TOKYO: 6503) announced today it will launch a significantly more compact 600V three-phase bridge driver IC for driving power semiconductors in three-phase inverter systems. Sales will begin on April 1.



600V three-phase bridge driver IC (M81749FP)

Consumer appliances and industrial machinery are increasingly using variable-frequency inverters in their motor control systems to save energy and improve performance, creating strong demand for HVICs that drive power semiconductors in inverter systems. To achieve more compact designs, Mitsubishi Electric is developing HVICs that feature smaller sizing, as well as higher performance.

Product Features

1) Smallest size in the industry enables compact product design

- The IC chip, which includes a three-phase bridge driver circuit and a short-current detection circuit, uses Mitsubishi Electric's unique technologies to achieve an industry-smallest SSOP-24 package with a divided reduced surface fields (RESURF) structure.
- 56% smaller IC mount area compared to our conventional products.

2) Highly reliable inverter systems using built-in short-circuit detector

- Immediately shuts down the power semiconductors in the event of a short circuit, preventing thermal destruction and ensuring reliability.

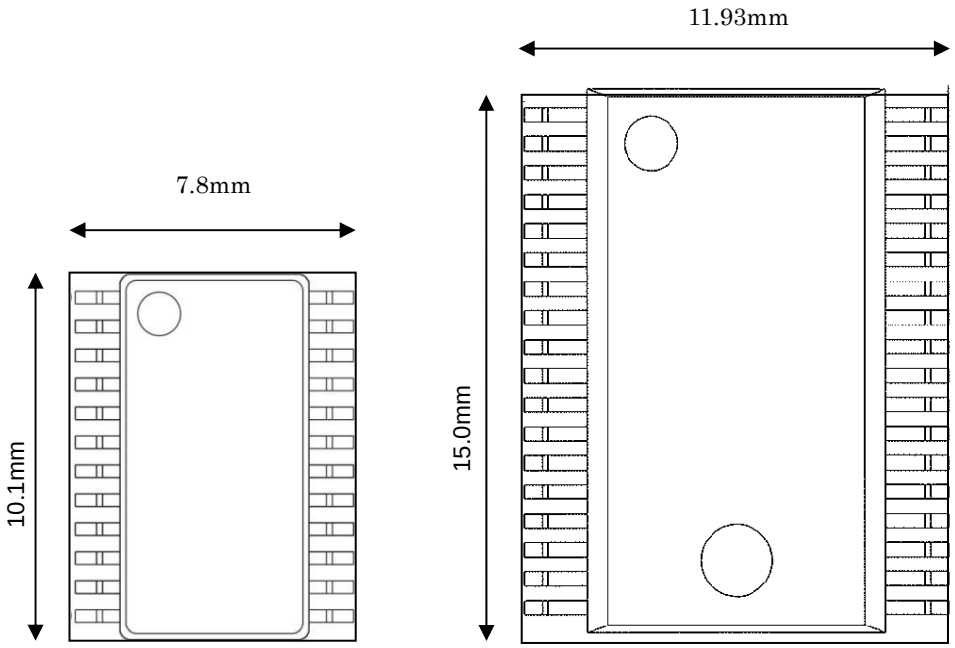
3) Simple inverter system design using a built-in fault signal output

- Built-in failure output for detecting short circuits and low voltage.
- Timer function capable of suitable failure-output pulse width for each system by selecting the capacitor on the system board.

Main Specifications

Model number	M81749FP
Breakdown voltage	600V (high-side)/24V (low-side)
Output current	–0.35A, +0.2A
Low-side circuit current	1.0mA
High-side circuit current	0.2mA per phase
Package type	24P2Q
Junction-ambient thermal resistance: Rth (j-a)	96ºC/W
Functions	Three-phase bridge driver
	3.3V/5V logic input
	Short-current detection (CIN)
	Under-voltage lockouts (UV) (both high-side and low-side)
	Fault signal output (FO) (short-current detection or under-voltage lockouts)
	Capacitor with FO pulse width timer (CFO)
	Output shutdown by fault signal input (both high-side and low-side)
	Input interlock (to prevent simultaneous turn-on of high-side and low-side)

Package Comparison



Size: 78.78mm^2 Size: 178.95mm^2

New product (M81749FP) Existing product (M63993FP)

Environmental Awareness

The M81749FP is compliant with the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) directive 2011/65/EU.

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About Mitsubishi Electric Corporation

With over 90 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation (TOKYO: 6503) is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Embracing the spirit of its corporate statement, Changes for the Better, and its environmental statement, Eco Changes, Mitsubishi Electric endeavors to be a global, leading green company, enriching society with technology. The company recorded consolidated group sales of 4,054.3 billion yen (US$ 39.3 billion*) in the fiscal year ended March 31, 2014. For more information visit http://www.MitsubishiElectric.com

*At an exchange rate of 103 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2014