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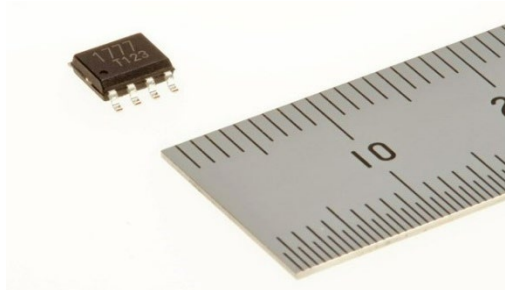
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## **Mitsubishi Electric to Launch Half-bridge Driver High-voltage (600V) IC with BSD Function**

*Enables inverter systems to be designed with fewer parts*

**TOKYO, February 9, 2022**– [Mitsubishi Electric Corporation](http://www.mitsubishielectric.com) (TOKYO: 6503) announced today the coming launch of a half-bridge driver high-voltage (600V) integrated circuit (HVIC) equipped with a built-in bootstrap diode (BSD) function that can help to reduce the number of parts required in inverter systems. The new HVIC, which is designed for circuits that drive power semiconductors in low-capacity inverter systems, will also help to lower the power consumption of white goods, electric bikes and other electrical products. Sales will begin on April 1.



New 600V HVIC with BSD function (M81777FP)

HVICs that drive power semiconductors in inverter systems are in increasing demand for use in motor-control systems that help to save energy and improve the performance of consumer products and industrial equipment.

### **Sales Schedule**

Product	Model	Specification	Release
600V HVIC	M81777FP	600V / +0.2A, -0.35A	April 1, 2022

### **Product Features**

**1) *Built-in BSD function helps to reduce the number of parts in inverter systems***

- Mitsubishi Electric's new HVIC for inverter systems is equipped with a BSD function that enables inverter systems and high-voltage wiring to be designed with fewer parts.

2) ***BSD function's high-voltage metal oxide semiconductor (MOS) achieves high noise resistance***

- Mitsubishi Electric's proprietary high-voltage MOS structure suppresses current leakage during charging.
- The MOS structure is free of parasitic elements that can cause latch-up malfunctions due to noise when switching inverters (negative potential surge noise generated in freewheel diode during reflux mode).

3) ***Compatible with existing M81776FP model***

- The new HVIC's external profile (8-pin small outline package), pin layout and electrical properties are compatible with the existing model (M81776FP) for greatly simplified replacement.

**Specifications**

Model	M81777FP
Breakdown voltage	600V (high-side) / 24V (low-side)
Output current	+0.2A, -0.35A
Low-side circuit current	1.0mA
High-side circuit current	0.2mA
Package (dimensions)	8-pin SOP (225mil)
Junction-case thermal resistance	50°C/W
Functions	Half-bridge driver
	Built-in BSD
	3.3V / 5.0V logic input
	Under-voltage lockouts on both high and low sides
	Input interlock prevents simultaneous turn-on of high and low sides

**600V Half-bridge Driver HVIC Lineup (new model underlined)**

Product	Model	Input signals	Output current	Package	Functions	Supply
600V HVIC	<u>M81777FP</u>	2	+0.2A/-0.35A	8-pin SOP	UV <sup>1</sup> , IL <sup>2</sup> , BSD	Samples available from April 1, 2022
	M81776FP	2	+0.2A/-0.35A	8-pin SOP	UV, IL	
	M81747FP	2	+0.2A/-0.35A	8-pin SOP	UV, IL, NF <sup>3</sup>	Mass production
	M81774FP	2	±1.0A	24-pin SSOP	UV, NF, SC <sup>4</sup> FO <sup>5</sup> , FORST <sup>6</sup> FOIN <sup>7</sup>	
	M81770FP	2	±3.25A	24-pin SSOP	UV, IL, SD <sup>8</sup>	
	M81767FP	2	±3.5A	8-pin SOP	UV, NF	
	M81747JFP (Automotive)	2	+0.2A/-0.35A	8-pin SOP	UV, IL, NF	
	M81767JFP (Automotive)	2	±3.5A	8-pin SOP	UV, NF	
	M81734FP	1	±0.5A	8-pin SOP	UV	

<sup>1</sup> under voltage   <sup>2</sup> inter lock   <sup>3</sup> input nose filter   <sup>4</sup> short current   <sup>5</sup> failure output   <sup>6</sup> FO reset   <sup>7</sup> FO input   <sup>8</sup> shut down

**Environmental Awareness**

This product is compliant with the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) directive 2011/65/EU and (EU) 2015/863.

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**About Mitsubishi Electric Corporation**

With 100 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. Mitsubishi Electric enriches society with technology in the spirit of its “Changes for the Better.” The company recorded a revenue of 4,191.4 billion yen (U.S.\$ 37.8 billion\*) in the fiscal year ended March 31, 2021. For more information, please visit [www.MitsubishiElectric.com](http://www.MitsubishiElectric.com)

\*U.S. dollar amounts are translated from yen at the rate of ¥111=U.S.\$1, the approximate rate on the Tokyo Foreign Exchange Market on March 31, 2021