MITSUBISHI ELECTRIC CORPORATION
PUBLIC RELATIONS DIVISION
7-3, Marunouchi 2-chome, Chiyoda-ku, Tokyo, 100-8310 Japan

FOR IMMEDIATE RELEASE **No. 3053**

Customer Inquiries

Semiconductor & Device Marketing Div.B
Mitsubishi Electric Corporation

www.MitsubishiElectric.com/semiconductors/

Media Inquiries

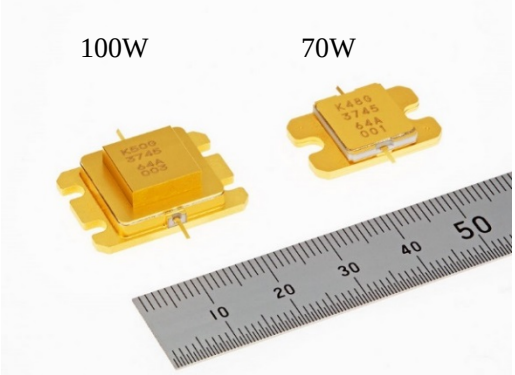
Public Relations Division
Mitsubishi Electric Corporation
prd.gnews@nk.MitsubishiElectric.co.jp
www.MitsubishiElectric.com/news/

Mitsubishi Electric to Expand Lineup of Ku-band GaN-HEMTs

High output power of new models will help reduce size of satellite earth stations

TOKYO, September 27, 2016 – Mitsubishi Electric Corporation (TOKYO: 6503) announced today that it will expand its lineup of Gallium Nitride High Electron Mobility Transistors (GaN-HEMTs) to include units with 100W and 70W output power for use in satellite earth stations utilizing the Ku-band*. The new 100W GaN-HEMT offers output power that is among the highest currently available, according to Mitsubishi Electric's own research as of September 27. Mitsubishi Electric will begin shipping samples on October 1.

* Microwave band ranging from 12-18GHz



Left: MGFK50G3745 Right: MGFK48G3745

The demand for satellite communication is increasing, especially in Ku-band, which enables high-speed communication even under adverse conditions, such as natural disasters, and in areas where construction of communication facilities is difficult. The deployment of transmitter equipment using higher-power GaN-HEMTs has become more common in recent years, particularly in high-speed applications such as satellite news gathering.

Mitsubishi Electric is expanding its Ku-band GaN-HEMT lineup to meet this growing demand for higher output power levels with the introduction of its MGFK50G3745 model, boasting an industry-leading output power of 100W, and the 70W output power MGFK48G3745 model.

Product Features

1) Industry-leading output power contributes to miniaturization

- Transistor structure optimization, with the MGFK50G3745 model delivering an output of 100W, ideal for satellite earth stations utilizing the Ku-band
- GaN-HEMTs with fewer parts, thereby contributing to the miniaturization of transmitter equipment in satellite earth stations

2) Expands product line-up and meets diverse needs

- New 100W and 70W models, addressing the need for more diverse output power ratings of transmitter equipment for satellite earth stations
- Individual transmitter components can be configured independently during manufacture, eliminating the need for on-site configuration and shortening overall development times
- Utilizes the existing MGFG5H1503 power amplifier as a driver stage, leveraging the latter's linearizer device to help reduce distortion in power transmitters

Sale Schedule

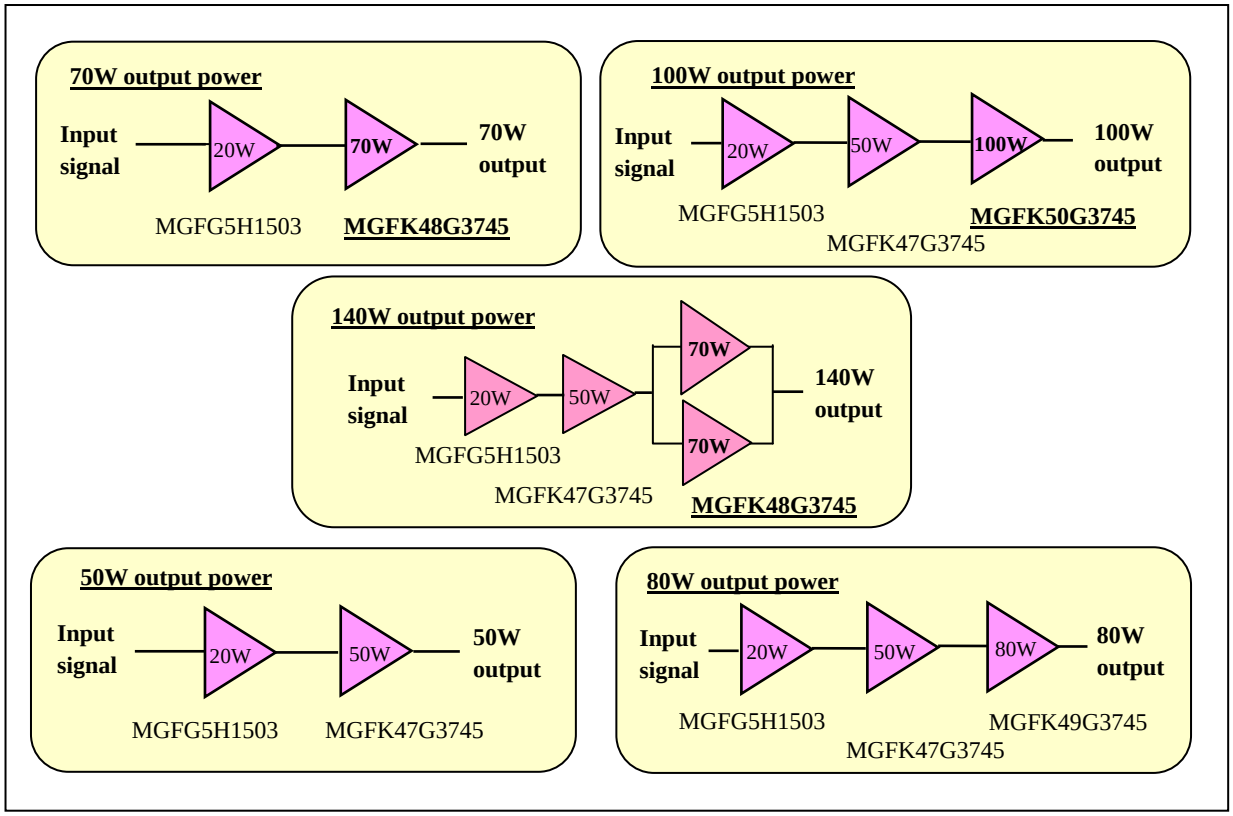
Product	Application	Model	Overview			Shipment
			Frequency	Saturated output power	Linear gain	
Ku-band GaN-HEMTs	Satellite earth stations	MGFK50G3745	13.75–14.5 GHz	50.0dBm (100W)	10.0dB	Jan. 1, 2017
		MGFK48G3745		48.3dBm (70W)	10.0dB	Oct. 1, 2016

Revised Lineup and Main Specifications (new models in bold)

Product	Model	RF performances		
		Saturated output power		Linear gain
		[dBm]	[W]	[dB]
Ku-band GaN-HEMTs	MGFG5H1503**	43.0	20	20.0
	MGFK47G3745	47.0	50	8.0
	MGFK48G3745	**48.3**	**70**	**10.0**
	MGFK49G3745	49.0	80	7.5
	MGFK50G3745	**50.0**	**100**	**10.0**

** Built in linearizer

Example of GaN HEMT configuration for Ku-band power transmitter



Main Specifications

Main characteristics		Symbol	MGFK50G3745	MGFK48G3745
Recommended condition	Drain-source voltage	VDS	24V	24V
	Drain current	IDQ	2.4A	1.44A
Frequency		13.75–14.5GHz (Ku-band)		
Saturated output power		Pout Typ.	100W	70W
Linear gain		GL Typ.	10.0dB	10.0dB
Power added efficiency		PAE	30%	33%

Environmental Awareness

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

Note: Development of these products has been partially supported by Japan's New Energy and Industrial Technology Development Organization (NEDO).

###

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 4,394.3 billion yen (US$ 38.8 billion*) in the fiscal year ended March 31, 2016. For more information visit:
www.MitsubishiElectric.com

*At an exchange rate of 113 yen to the US dollar, the rate given by the Tokyo Foreign Exchange Market on March 31, 2016