MITSUBISHI ELECTRIC

Changes for the Better

HIGH FREQUENCY DEVICES

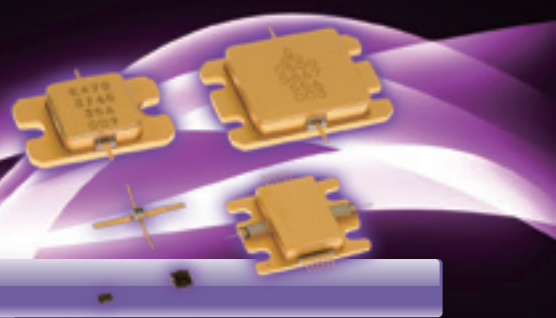
for a greener tomorrow eco Changes

High Frequency Devices

2016

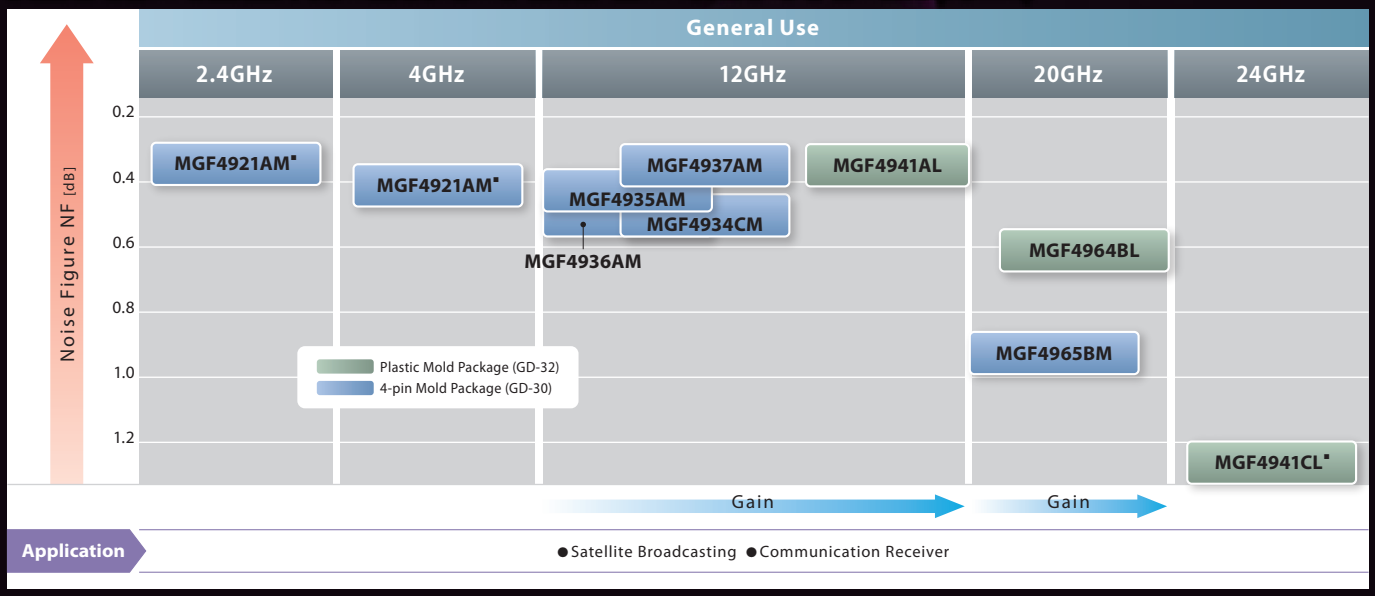
The Best Solution for Realizing the Information and Communication Era

Communication networks, such as high speed Internet, and high-speed data communication, are developing rapidly. We are ready to offer the best solution to the systems for realizing the infomation and communication era by providing of the GaN/GaAs products.



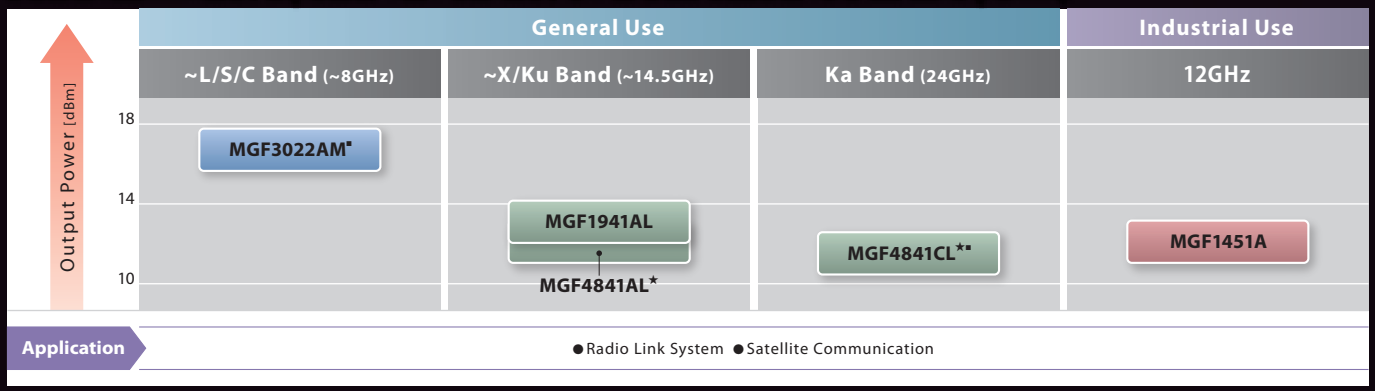
SELECTION MAP

GaAs HEMT SERIES FOR MICROWAVE-BAND LOW-NOISE AMPLIFIERS (Discrete)



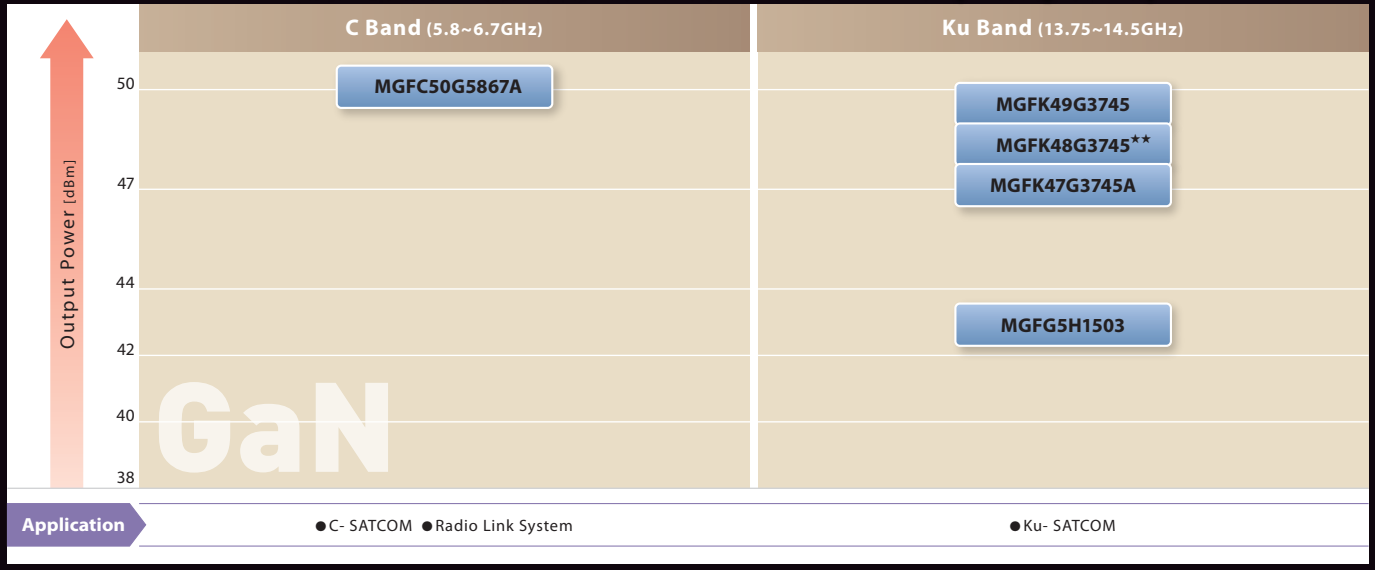
■: AEC-Q101 qualified FET: Field Effect Transistor HEMT: High Electron Mobility Transistor HBT: Heterojunction Bipolar Transistor

GaAs HEMT/MES FET, InGaP HBT SERIES FOR SMALL SIGNAL AMPLIFIERS (Discrete)



★: New Product ■: AEC-Q101 qualified

GaN HEMT SERIES FOR MICROWAVE-BAND HIGH POWER AMPLIFIERS (Internally Matched)



★★: Under Development

PRODUCT LIST

GaAs HEMT SERIES FOR MICROWAVE-BAND LOW-NOISE AMPLIFIERS (Discrete)

Type Number	Noise Figure [dB]		Associated Gain [dB]		Frequency [GHz]	Drain-Source Voltage [V]	Drain Current [mA]	Package Outline
	Typ.	Max.	Min.	Typ.				
MGF4921AM■	0.35	0.55	11.5	13.0	4	2	10	GD-30
MGF4934CM	0.50	0.75	11.5	13.0	12	2	10	GD-30
MGF4935AM	0.45	0.65	11.0	12.0	12	2	10	GD-30
MGF4936AM	0.50	0.70	11.0	12.0	12	2	10	GD-30
MGF4937AM	0.35	0.50	11.5	13.0	12	2	10	GD-30
MGF4941AL	0.35	0.50	12.0	13.5	12	2	10	GD-32
MGF4964BL	0.65	0.90	11.5	13.5	20	2	10	GD-32
MGF4965BM	0.95	1.25	9.5	11.5	20	2	10	GD-30
MGF4941CL■	2.40	3.80	7.5	10.0	24	1.5	Idss	GD-32

Ta=25°C ■: AEC-Q101 qualified

GaAs HEMT/MES FET, InGaP HBT SERIES FOR SMALL SIGNAL AMPLIFIERS (Discrete)

Type Number	Output Power at 1dB Gain Compression [dBm]		Output Power [dBm]	Linear Power Gain [dB]	3rd Order IM Distortion [dBc]		Power Added Efficiency [%]	Frequency [GHz]	Drain-Source Voltage [V]	Drain Current [A]	Thermal Resistance [°C/W]		Package Outline
	Min.	Typ.			Min.	Typ.					Typ.	Max.	
MGF1451A▲	11.0	13.0	-	10.5	-	-	-	12	3	0.03	-	-	GD-4
MGF1941AL	11.0	15.0	-	10.0	-	-	-	12	3	0.03	-	-	GD-32
MGF4841AL★	11.5	14.5	-	12.0	-	-	-	12	2.5	0.025	-	-	GD-32
MGF4841CL★■	-	11.5	-	8.5	-	-	-	24	1.5	Idss	-	-	GD-32
MGF3022AM■	14.0	16.5	-	18.0	-	-	-	2.4	3	0.033	-	-	GD-30

Ta=25°C ★: New Product ■: AEC-Q101 qualified ▲: Industrial grade

GaN HEMT SERIES FOR SATELLITE COMMUNICATION (Internally Matched)

Type Number	Output Power [dBm]	Linear Power Gain [dB]	3rd Order IM Distortion [dBc]		Power Added Efficiency [%]	Frequency [GHz]	Drain-Source Voltage [V]	Drain Current [A]	Thermal Resistance [°C/W]		Package Outline
			Min.	Typ.					Typ.	Max.	
MGFC50G5867A	50	10	-25	-	40	5.8~6.7	40	1.92	0.6	0.8	GF-38
MGFK48G3745★★	48.3	9.3	-25	-	33	13.75~14.5	24	TBD	TBD		GF-8
MGFK47G3745A	47	9	-25	-	30	13.75~14.5	24	1.05	1.1	1.4	GF-8
MGFK49G3745	49	7.5	-25	-	28	13.75~14.5	24	2.1	0.4	0.6	GF-38
MGFG5H1503	43	20	-25	-	12	13.75~14.5	24	2.7	1.2	1.5	GF-65

Ta=25°C ★★: Under Development

Type Name Definition of High Frequency Devices

Discrete

MGF **49** **41** **A** **L**
A B C D

- A Device Structure — **1x:** MES FET (Small Signal), **3x:** HBT, **4x:** HEMT
- B Chip Type
- C Series Number
- D Auxiliary Symbol

Internally Matched

MGF **C** **50** **G** **5867** **A**
A B C D E

- A Freq. Band — **C, Ku**
- B Output Power in dBm — ex.**50**=50dBm=100W(typ.)
- C Device Structure — **G:** GaN HEMT
- D Freq. Band in GHz — ex.**5867**=5.8GHz~6.7GHz
- E Series Number

High Frequency devices are compliant with the RoHS (2011/65/EU).

RoHS: Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment

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eco Changes **for a greener tomorrow**

Eco Changes is the Mitsubishi Electric Group's environmental statement, and expresses the Group's stance on environmental management. Through a wide range of businesses, we are helping contribute to the realization of a sustainable society.

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