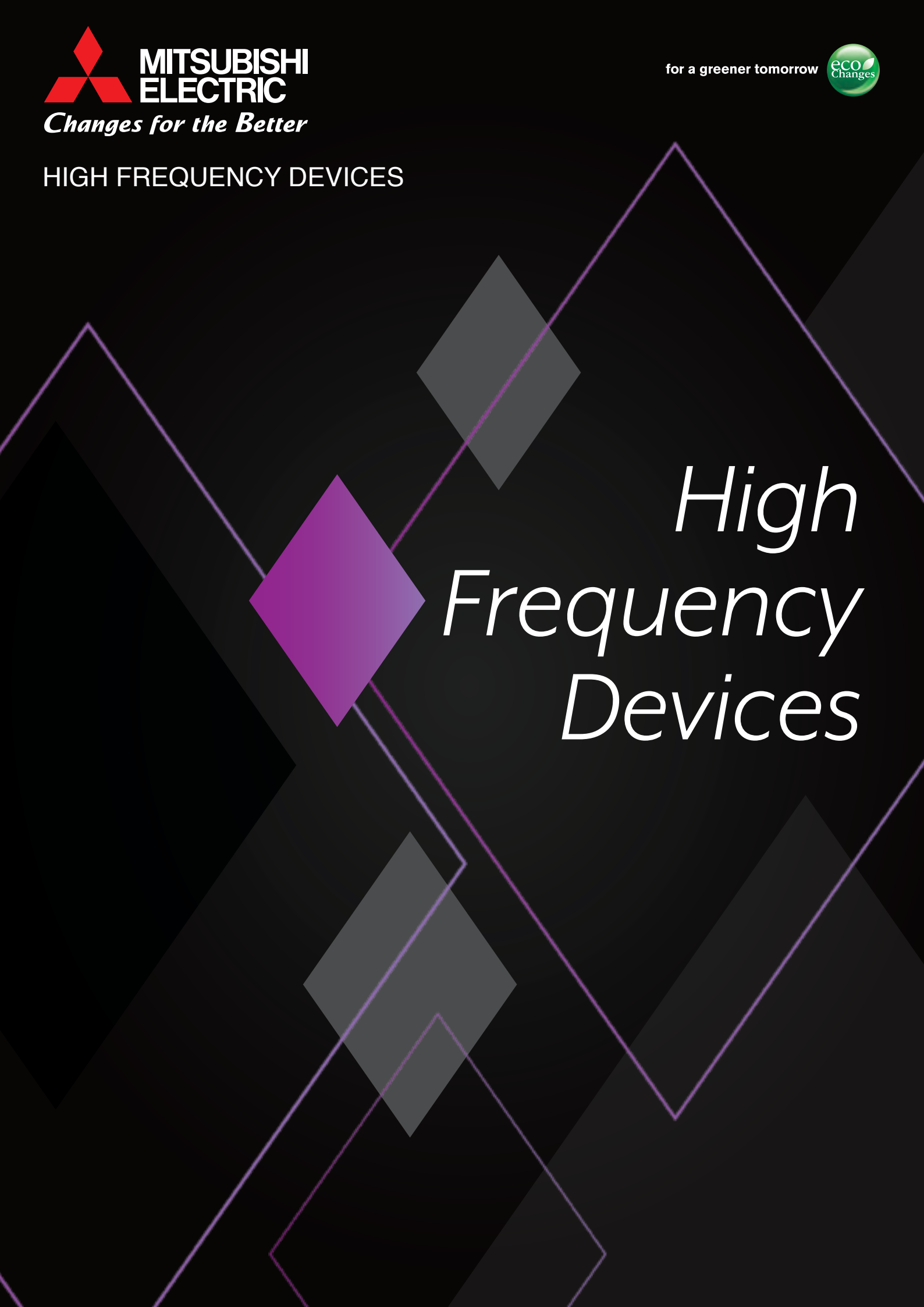


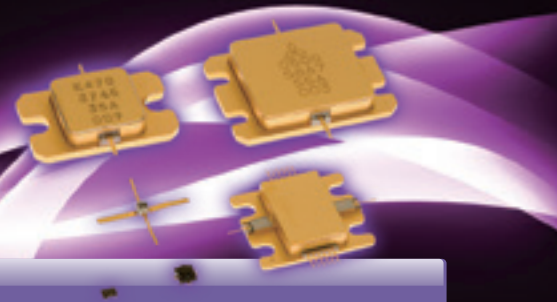
HIGH FREQUENCY DEVICES



High Frequency Devices

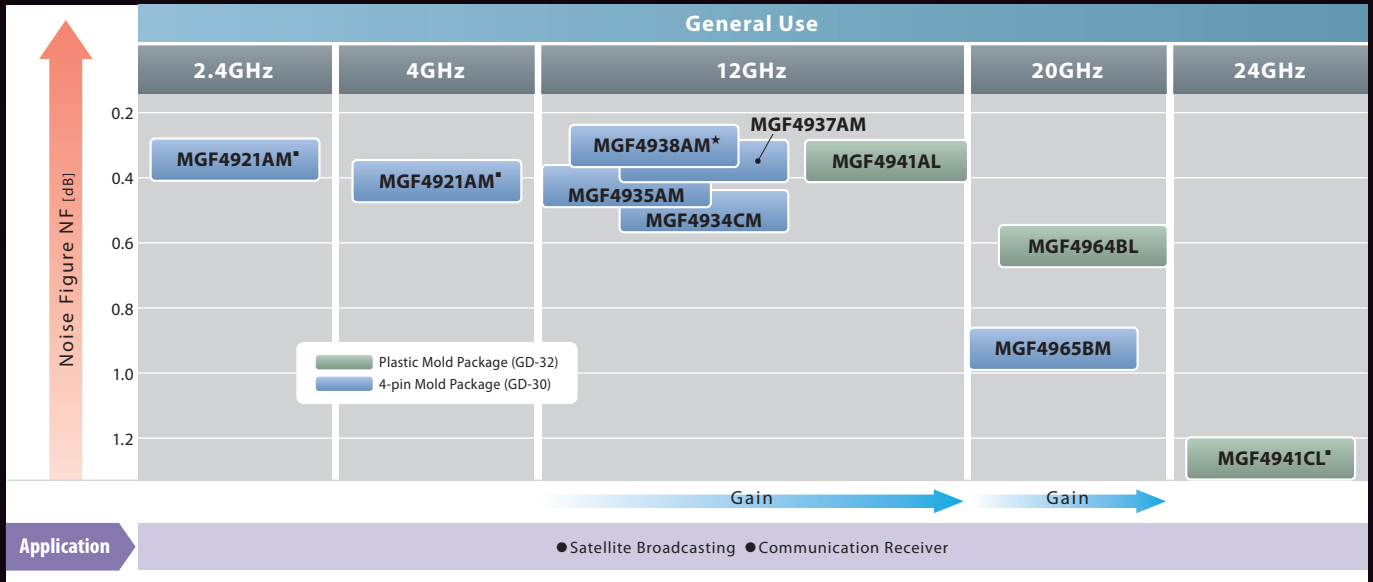
The Best Solution for Realizing the Information and Communication Era

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 information and communication era by providing of the GaN/GaAs products.



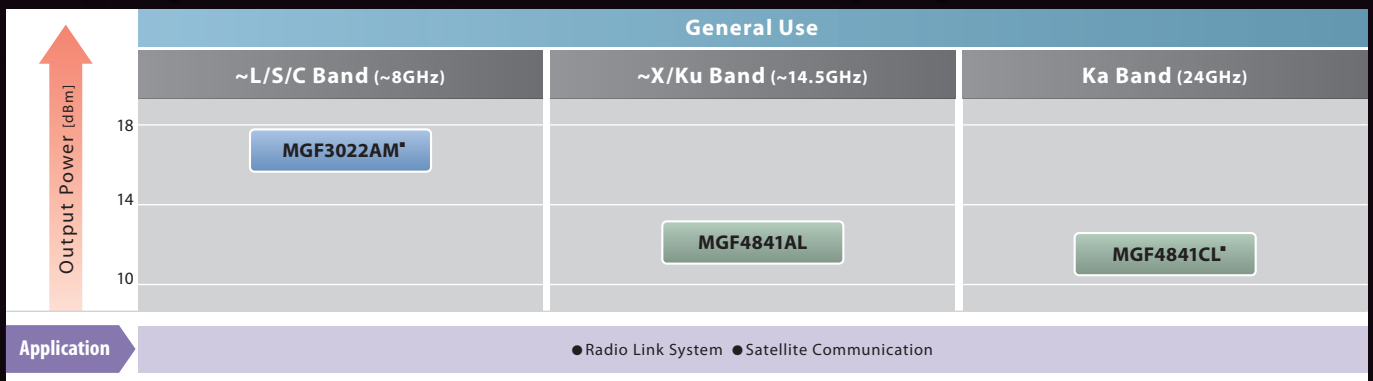
SELECTION MAP

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



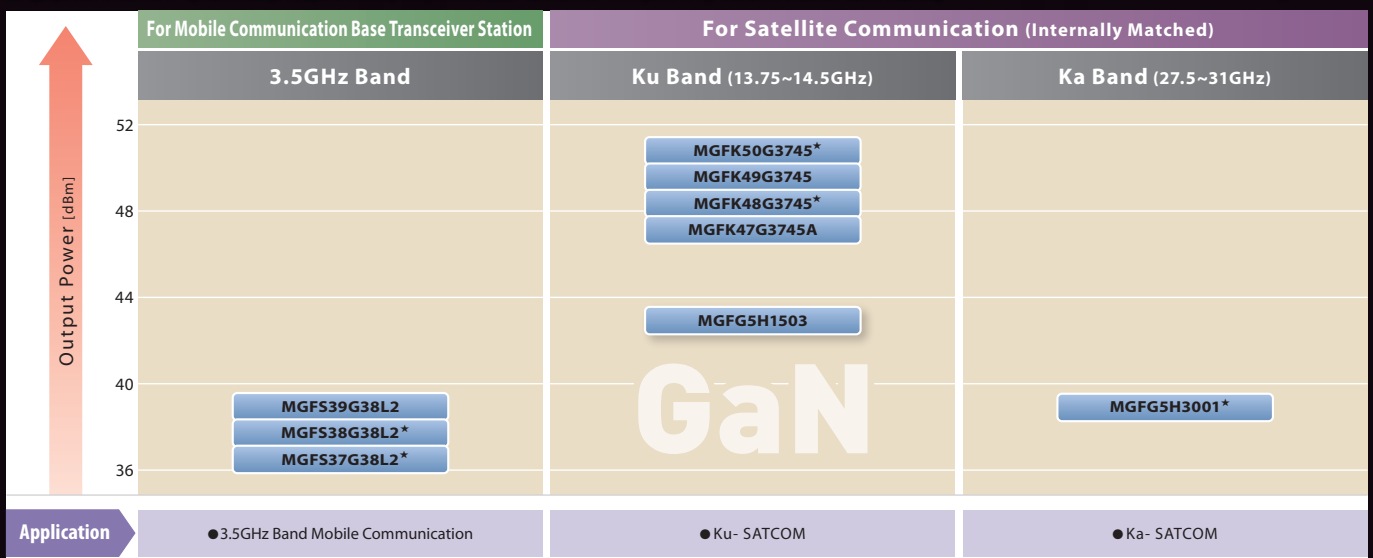
*: New Product ■: AEC-Q101 qualified HEMT: High Electron Mobility Transistor

■ GaAs HEMT, InGaP HBT SERIES FOR SMALL SIGNAL AMPLIFIERS (Discrete)



■: AEC-Q101 qualified HBT: Heterojunction Bipolar Transistor

■ GaN HEMT SERIES FOR MICROWAVE-BAND HIGH POWER AMPLIFIERS



*: New Product

Partially supported by Japan's New Energy and Industrial Technology Development Organization (NEDO).

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	15	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
MGF4937AM	0.35	0.50	11.5	13.0	12	2	10	GD-30
MGF4938AM*	0.32	0.47	11.0	12.5	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 * New Product ■ 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.	
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 ■ AEC-Q101 qualified



GaN HEMT SERIES FOR MOBILE COMMUNICATION BASE TRANSCEIVER STATION

Type Number	Output Power [dBm]	Linear Power Gain [dB]	Power Added Efficiency [%]	Frequency [GHz]	Drain-Source Voltage [V]	Thermal Resistance [°C/W]		Package Outline
						Typ.	Max.	
MGFS39G38L2	39	20	67	3.4~3.8	50	-	10.2	GF-67
MGFS38G38L2*	38	20	67	3.4~3.8	50	-	11.7	GF-67
MGFS37G38L2*	37	20	67	3.4~3.8	50	-	13.5	GF-67

Ta=25°C * New Product



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.	
MGFK50G3745*	50	10	-25	-	30	13.75~14.5	24	2.4	0.4	0.6	GF-69
MGFK49G3745	49	7.5	-25	-	28	13.75~14.5	24	2.1	0.4	0.6	GF-38
MGFK48G3745*	48.3	9.3	-25	-	33	13.75~14.5	24	1.44	0.8	1.0	GF-68
MGFK47G3745A	47	9	-25	-	30	13.75~14.5	24	1.05	1.1	1.4	GF-8
MGFG5H1503	43	20	-25	-	18	13.75~14.5	24	2.7	1.2	1.5	GF-65
MGFG5H3001*	39	15	-25	-	12	27.5~31	24	1.5	1.2	1.5	GF-71

Ta=25°C * New Product

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

For Mobile Communication Base Transceiver Station

MGF S 39 G 38 L 2

A B C D E F

A Freq. Band — S: S-band
B Output Power in dBm — ex. 39=39dBm
C Device Structure — G: GaN HEMT
D Freq. Band in GHz — ex. 38=3.8GHz
E Package — L: QFN
F Input / Output Pair — ex. 2=Input / Output 2 Pairs

For Satellite Communication (Internally Matched)

MGF K 50 G 3745

A B C D

A Freq. Band — K: Ku-band
B Output Power in dBm — ex. 50=50dBm=100W(typ.)
C Device Structure — G: GaN HEMT
D Freq. Band in GHz — ex. 3745=13.75~14.5GHz

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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