

Selection Guide

GaAs MMIC Low Noise Amplifiers

Part Number	Frequency Range (GHz)	Bias Cond. (V @ mA)	Gain (dB)	P _{1 dB} (dBm)	NF (dB)	Package
AMMC-5023	21.2 – 26.5	5 @ 28	23	+10	2.3	chip
HMMC-5023	21.2 – 26.5	5 @ 24	24	+14	2.5 ^[1]	chip
HMMC-5038	37 – 40	3 @ 120	23	+12	4.8	chip

Note:

1. Typ. 21.2–23.6 GHz; 2.8 typ. 24.5–26.5 GHz.

GaAs MMIC Broadband Medium-Power Amplifiers

Part Number	Description & Features	Freq. Range (GHz)	Bias Cond. (V @ mA)	Gain (dB)	Gain Flatness (dB)	P _{1 dB} (dBm)	Package
HMMC-5021	distributed amplifier with low-frequency extension capabilities	2 – 22.0	7 @ 150	8	± 1	+17.5	chip
HMMC-5022	distributed amplifier with low-frequency extension capabilities	2 – 22.0	7 @ 150	9.5	± 1	+17.5	chip
HMMC-5026	distributed amplifier with low-frequency extension capabilities	2 – 26.5	7 @ 150	7.5	± 1	+15	chip
HMMC-5027	distributed amplifier with low-frequency extension capabilities	2 – 26.5	8 @ 250	6.0	± 0.8	+19	chip
HMMC-5025	distributed amplifier with low-frequency extension capabilities	2 – 50	5 @ 75	8.5	± 0.5	+10	chip
HMMC-5032	compact transmitter amplifier with integrated output power detector	17.7 – 32	4.5 @ 250	8	± 1	+22	chip
HMMC-5033	high gain transmitter amplifier with integrated output power detector	17.7 – 32	5 @ 680	18	± 1	+26	chip
HMMC-5034	compact transmitter amplifier with integrated output power detector	37 – 43	4.5 @ 300	8	± 1	+23	chip
HMMC-5040	good input match to DC; can bias input stage for multiplication	20 – 40	4.5 @ 300, -0.6 V	22	± 1.5	+18	chip

GaAs MMIC Broadband Medium-Power Amplifiers, continued

Part Number	Description & Features	Freq. Range (GHz)	Bias Cond. (V @ mA)	Gain (dB)	Gain Flatness (dB)	P _{1dB} (dBm)	Package
HMMC-5200	general purpose HBT amplifier	DC – 20	5 @ 45	9.5	± 1	+12	chip
HMMC-5618	efficient two-stage amplifier	6 – 20	5 @ 110	14	± 0.5	+18	chip
HMMC-5620	high-gain four stage amplifier	6 – 20	5 @ 100	16	± 0.75	+14	chip
AMMC-5024	distributed amplifier with low-frequency extension capabilities	0.3 – 40	7 @ 200	16	± 0.75	+22.5	chip
AMMC-5026	distributed amplifier with low-frequency extension capabilities	2 – 35	7 @ 150	10.5	± 0.75	+24	chip
AMMC-5040	good input match to DC; can bias input stage for multiplication	20 – 45	4.5 @ 300	22	± 2	+21	chip

GaAs MMIC Broadband Attenuators

Part Number	Frequency Range (GHz)	Control Voltages	Min./Max. Atten (dB typ. @ GHz)	Comments	Package
HMMC-1002	DC – 50	two 0 to -4V lines	2/40 @ 26.5	general-purpose atten. (e.g., AGC loops)	chip
HMMC-1015	DC – 50	two 0 to -9V lines	2/40 @ 26.5	lower distortion general-purpose atten.	chip

GaAs MMIC SPDT Switches

Part Number	Frequency Range (GHz)	Insertion Loss (dB)	Isolation (dB)	P _{1dB} (dBm)	Package
HMMC-2007 (abs.)	DC – 8	1.1	38	> 27	chip
HMMC-2027 (abs.)	DC – 26.5	2.5	30	> 27	chip
AMMC-2008	DC – 50	2.3	25	+14	chip

GaAs MMIC Mixer

Part Number	Description & Features	RF & LO Freq. Range (GHz)	IF Freq. Range (GHz)	LO Drive Level (dBm)	Bias Cond. (V @ mA)	P ₁ dB (dBm)	Conv. Loss (dB)	Package
HMMC-3040	3-PORT DBM Up/Dn converter +LO amplifier (input stage can be biased as multiplier)	20 – 43	DC – 5	2	4.5 @ 150	8 (up-conv.) 15 (dn-conv.)	9.5	chip

GaAs HBT Prescalers

Part Number	Description & Features	Freq. (GHz)	Input Power (dBm)	Input Bias (V @ mA) ^[1]	P _{out} (dBm)	Phase Noise (dBc/Hz)	Package
HMMC-3002	÷ 2; on-chip pre- and post-amps; differential I/O	DC – 16	-20 to +10	Single supply Pos. OR Neg. 4.5 to 6.5 @ 80 or 60	Dual Mode +6 or 0	-153 @ 100 KHz offset	chip
HMMC-3004	÷ 4; on-chip pre- and post-amps; differential I/O	DC – 16	-20 to +10	Single supply Pos. OR Neg. 4.5 to 6.5 @ 80 or 60	Dual Mode +6 or 0	-153 @ 100 KHz offset	chip
HMMC-3008	÷ 8; on-chip pre- and post-amps; differential I/O	DC – 16	-20 to +10	Single supply Pos. OR Neg. 4.5 to 6.5 @ 80 or 60	Dual Mode +6 or 0	-153 @ 100 KHz offset	chip
HMMC-3022	÷ 2; on-chip pre- and post-amps; differential I/O	DC – 12	-20 to +10	Single supply Pos. OR Neg. 4.5 to 6.5 @ 40 or 30	Dual Mode 0 or -6	-153 @ 100 KHz offset	chip
HMMC-3024	÷ 4; on-chip pre- and post-amps; differential I/O	DC – 12	-20 to +10	Single supply Pos. OR Neg. 4.5 to 6.5 @ 40 or 30	Dual Mode 0 or -6	-153 @ 100 KHz offset	chip
HMMC-3028	÷ 8; on-chip pre- and post-amps; differential I/O	DC – 12	-20 to +10	Single supply Pos. OR Neg. 4.5 to 6.5 @ 40 or 30	Dual Mode 0 or -6	-153 @ 100 KHz offset	chip
HMMC-3102	÷ 2; on-chip pre- and post-amps; differential I/O	DC – 16	-20 to +10	Single supply Pos. OR Neg. 4.5 to 6.5 @ 80	+6.0	-153 @ 100 KHz offset	SOIC-8
HMMC-3104	÷ 4; on-chip pre- and post-amps; differential I/O	DC – 16	-20 to +10	Single supply Pos. OR Neg. 4.5 to 6.5 @ 80	+6.0	-153 @ 100 KHz offset	SOIC-8
HMMC-3108	÷ 8; on-chip pre- and post-amps; differential I/O	DC – 16	-20 to +10	Single supply Pos. OR Neg. 4.5 to 6.5 @ 80	+6.0	-153 @ 100 KHz offset	SOIC-8
HMMC-3122	÷ 2; on-chip pre- and post-amps; differential I/O	DC – 12	-20 to +10	Single supply Pos. OR Neg. 4.5 to 6.5 @ 40	0	-153 @ 100 KHz offset	SOIC-8
HMMC-3124	÷ 4; on-chip pre- and post-amps; differential I/O	DC – 12	-20 to +10	Single supply Pos. OR Neg. 4.5 to 6.5 @ 40	0	-153 @ 100 KHz offset	SOIC-8
HMMC-3128	÷ 8; on-chip pre- and post-amps; differential I/O	DC – 12	-20 to +10	Single supply Pos. OR Neg. 4.5 to 6.5 @ 40	0	-153 @ 100 KHz offset	SOIC-8

Note:

1. higher current listed corresponds to higher output power mode; controlled by Power Select pad on chip (V_{PwrSel})

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