Freescale MMIC and GPA Cross Reference

This cross reference is intended as a tool to aid your device selection. Each cross reference is based on published information and is subject to change without notice. This document should be used for reference purposes only.

Part Number	Supplier	P1dB (dBm)	Frequency Range (MHz)	Small Signal Gain @ 900 MHz (dB)	Small Signal Gain @ 2000 MHz (dB)	OIP3 @ 900 MHz (dBm)	OIP3 @ 2000 MHz (dBm)	Noise Figure (dB)	Supply Voltage (V)	Supply Current (mA)	Thermal Resistance $R_{\theta JC}$ (°C/W)	Package
Linear Amplifiers												
MMZ09312B	**Freescale**	**29.6**	**400–1000**	**31.7**	**—**	**42**	**—**	**4**	**3–5**	**74**	**56**	**QFN 3x3**
SKY65170	Skyworks	28	860–960	32	—	45	—	6.5	5	200	30	MCM 6x6
TQP8M9013	Triquint	29	700–3800	30	—	40	—	2.9	5	225	64	QFN 4x4
SPA-2118Z	RFMD	29	810–960	33	—	47	—	5	5	400	31	SOIC-8
HMC450QS16GE	Hittite	26	800–1000	26	—	40	—	8	5	310	35	SOIC-16
MMA25312B*	**Freescale**	**30**	**2300–2700**	**—**	**26**	**—**	**43**	**5.8**	**3–5**	**70**	**—**	**QFN 3x3**
ALM-31222	Avagotech	31.5	1700–2700	—	14.9	—	47.9	2.7	5	415	25	MCM 5x6
AH212-EG	Triquint	29.5	1800–2400	—	24.7	—	47	6	5	400	33	DFN 4x5
SKY65120	Skyworks	33.5	2110–2170	—	24.6	—	48	8.4	5	447	24	MCM 6x6
MAAM-009563	MA/COM	31	250–3000	—	19.5	—	47	6.25	5	500	20	SOIC-8
MMA20312BV	**Freescale**	**30.5**	**1800–2200**	**—**	**27.2**	**—**	**44.5**	**3.3**	**3–5**	**70**	**52**	**QFN 3x3**
HMC413QS16G	Hittite	29	1600–2200	—	22	—	40	5.5	3.6	270	42	QS16G
HMC457QS16G	Hittite	29	1700–2200	—	27	—	45	6	5	500	23	QS16G
ADL5323	ADI	28	1700–2400	—	20	—	43	5	5	320	28.5	LFCSP 3x3
SPA-2318Z	RFMD	29.5	1700–2200	—	24	—	46.5	5.5	5	400	31	ESOP-8
MMZ25332B*	**Freescale**	**33**	**2300–2700**	**—**	**26**	**—**	**46**	**5.8**	**3–5**	**250**	**—**	**QFN 3x3**
MGA-22003	Avagotech	31	2300–2700	—	36	—	—	—	5	500	23.4	QFN 3x3
SZM-2066	RFMD	33.5	2400–2700	—	33.2	—	—	7.5	5	583	12	QFN 6x6
SKY65135-21	Skyworks	33.5	2400–2500	—	33	—	44	5	5	405	—	MCM 6x6
HMC755	Hittite	31	2300–2800	—	32	—	43	7	5	480	12.5	QFN 4x4
Low Noise Amplifiers												
MML20211H	**Freescale**	**21.3**	**1400–2800**	**—**	**18.6**	**—**	**33**	**0.65**	**5**	**60**	**43.4**	**DFN 2x2**
MGA-632P8	Avago	19.2	1400–3800	—	17.6	—	33.9	0.62	5	57	47	TSLP 2x2
MGA-634P8	Avago	21	1500–2300	—	17.4	—	36	0.44	5	48	62	QFN 2x2
MML09211H	**Freescale**	**22**	**400–1400**	**21.3**	**—**	**32.6**	**—**	**0.52**	**5**	**60**	**37.5**	**DFN 2x2**
MGA-631P	Avago	18	400–1500	17.5	—	32.6	—	0.53	5	54	47	TSLP 2x2
MGA-633P8	Avago	22	400–1500	18	—	37	—	0.37	5	54	72	QFN 2x2
MML09212H*	**Freescale**	**22.5**	**400–1400**	**38.5**	**—**	**37**	**—**	**0.55**	**5**	**150**	**—**	**QFN 3x3**
MGA-13516	Avago	23.5	400–1500	31.8	—	38	—	0.66	5	155	36	QFN 4x4
MML20242H*	**Freescale**	**24**	**1400–2800**	**—**	**33**	**—**	**39.5**	**0.7**	**5**	**170**	**40**	**QFN 3x3**
MGA-14516	Avago	23.5	1400–2700	—	31.7	—	38	0.68	5	155	36	QFN 4x4
General Purpose Amplifiers												
MMG3011N	**Freescale**	**15**	**0–6000**	**15**	**14**	**28**	**26.5**	**4.6**	**5**	**41**	**83**	**SOT-89**
MMG3008N	**Freescale**	**15**	**0–6000**	**18.5**	**16**	**26**	**25.5**	**4**	**5**	**38**	**84**	**SOT-89**
MMG3007N	**Freescale**	**16**	**0–6000**	**19**	**16.5**	**30**	**29**	**3.8**	**5**	**47**	**77**	**SOT-89**
SGA-4386	RFMD	15.3	0–4500	17	14.6	28.9	26.9	3.1	5	45	97	SOT-86
AG503-89	TriQuint	15.5	0–4000	21.3	19.1	29	27.4	3.1	5	45	232	SOT-89
MMG3009N	**Freescale**	**18**	**0–6000**	**15**	**14**	**34**	**32**	**4.2**	**5**	**70**	**81**	**SOT-89**
MMG3012N	**Freescale**	**18.5**	**0–6000**	**19**	**15.8**	**34**	**32**	**3.8**	**5**	**70**	**85**	**SOT-89**
RF3374	RFMD	18	0–6000	20.2	18.9	32	32	3.5	5	65	170	SOT-89
AG603-89	TriQuint	19.5	0–3000	18.5	16.5	33.2	33	3.9	5	75	177	SOT-89
SBA-4089	RFMD	19.2	0–3000	15	14.6	36.5	33.5	4.8	5	80	70	SOT-89
BG13B	BeRex	18.5	70–2450	13.5	13.3	37	35	6.1	5	70	—	SOT-89

*Preliminary Data

Part Number	Supplier	P1dB (dBm)	Frequency Range (MHz)	Small Signal Gain @ 900 MHz (dB)	Small Signal Gain @ 2000 MHz (dB)	OIP3 @ 900 MHz (dBm)	OIP3 @ 2000 MHz (dBm)	Noise Figure (dB)	Supply Voltage (V)	Supply Current (mA)	Thermal Resistance $R_{\theta JC}$ (°C/W)	Package
General Purpose Amplifiers (continued)												
MMG3H21N	**Freescale**	**20.5**	**0–6000**	**19.3**	**16**	**37**	**34**	**5.5**	**5**	**90**	**38.6**	**SOT-89**
MMG3015N	**Freescale**	**20.5**	**0–6000**	**15.5**	**14.5**	**36**	**33.5**	**5.6**	**5**	**95**	**41.5**	**SOT-89**
AM1	TriQuint	18	60–3000	14	12.8	39	39	2.4	4.5	78	88	SOT-89
SBB-4089Z	RFMD	19.5	50–6000	15	15.5	39	35	4.5	5	80	69.9	SOT-89
WJA1030	TriQuint	19.3	50–4000	14.4	14.4	37	36.6	5.5	5	80	80.6	SOT-89
WJA1001	TriQuint	19.7	50–3000	19	16.7	44	34	5.4	5	100	80.6	SOT-89
WJA1021	TriQuint	20.1	50–4000	18.4	16.7	38.9	36.6	5.6	5	90	78.8	SOT-89
SBB-5089Z	RFMD	20.5	50–6000	20.5	20	38.5	35	4.2	5	75	69.9	SOT-89
MMH3111N	**Freescale**	**22.5**	**250–4000**	**12**	**11.3**	**44**	**44**	**3.2**	**5**	**150**	**37.5**	**SOT-89**
SXE-1089	RFMD	22.9	50–3000	14.2	11.1	38	38.5	3.1	5	128	45	SOT-89
MAALSS0034	M/A-Com	23	70–3000	14.5	12	33	36	1.6	5	88	100	SOT-89
AH1	TriQuint	22	250–4000	14.2	12.2	42	41	3.2	5	150	59	SOT-89
RF3315	RFMD	25	200–3000	18	12.5	41	40	3	5	150	76	SOT-89
CMM6004	Mimix	23	50–3000	16.5	14.5	41.5	41	1.8	5	150	52	SOT-89
MMG15241H	**Freescale**	**24**	**500–2800**	**20.5**	**15.9**	**38.7**	**39.4**	**1.6**	**5**	**85**	**59**	**SOT-89**
MGA-30489	Avago	23.3	250–3000	16.5	13.3	40.5	39.0	3.0	5	97	50.5	SOT-89
SXE-1089Z	RFMD	22.6	50–3000	—	11.2	—	38.5	3.2	5	128	45	SOT-89
RF3315	RFMD	23.0	200–3000	—	12.5	—	40.0	3.0	5	150	76	SOT-89
TQP7M9101	Triquint	25	400–4000	—	17.5	—	39.5	3.9	5	87	71	SOT-89
TQP3M9007	Triquint	23.8	500–4000	—	12	—	42.2	1.4	5	87	52	SOT-89
SKY65038-70LF	Skyworks	21.5	250–6000	—	15	—	40	2.5	5	150	53	SOT-89
For additional competitor parts for MMG15241H, refer to the MMG3014N cross-referenced parts list below												
MMG3014N	**Freescale**	**25**	**40–4000**	**19.5**	**15**	**40.5**	**40.5**	**5.7**	**5**	**135**	**27.4**	**SOT-89**
RF3315	RFMD	25	200–3000	18	12.5	41	40	2.5	5	150	76	SOT-89
AH118	TriQuint	24.7	60–3500	20.4	16.5	40	40.5	4	5	160	92	SOT-89
AH128	TriQuint	25	60–3500	19.7	17.6	40	40	4.6	5	115	116	SOT-89
SXA-389B	RFMD	25	400–2500	18.4	13.6	43	42	4.5	5	115	70	SOT-89
SXB-2089	RFMD	24.5	5–2500	23	17	41	43	4.2	5	135	51.3	SOT-89
ADL5320	ADI	25.4	400–2700	16.9	13.2	45	42	4.1	5	104	28.5	SOT-89
BT05CV	BeRex	24	5–4000	21.5	17.5	43.5	42	4.2	5	85	50	SOT-89
SKY65028	Skyworks	24	250–2700	22	16	42	42	4	5	125	36	SOT-89
MMG3004N	**Freescale**	**27**	**400–2200**	**19.5**	**16.5**	**44**	**44**	**3.4**	**5**	**250**	**23.2**	**PQFN 5x5**
SXB4089	RFMD	27.5	400–2500	20	15	43.5	44.5	3.3	5	265	25.3	SOT-89
SXA3318	RFMD	28	400–2500	17.5	12.8	47	47	4.5	5	240	70	ESOP-8
RFPA3807	RFMD	24.8	400–2700	15.4	13.7	46	42	2.9	5	90	95	SOIC-8
AH125	TriQuint	28.1	400–2700	20	17.1	45	44	4.6	5	150	64.3	SOT-89
AH115	TriQuint	28.5	1800–2300	—	14.3	—	44	5	5	250	62	SOIC-8
AH116	TriQuint	28.7	800–1000	17.5	—	43	—	7	5	250	62	SOIC-8
HMC454ST	Hittite	27.5	400–2500	17.8	12.5	40	42	5.2	5	150	73	SOT-89
ATF-52189	Avago	27.2	50–6000	16.5	16	42	42	1.25	4.5	200	52	SOT-89
BT013	BeRex	27.5	1500–4000	—	15	—	45	6.8	5	135	50	SOT-89
ADL5322	ADI	27.9	700–1000	19.9	—	45.3	—	5	5	320	28.5	3 mm LFSCP
ADL5323	ADI	28	1700–2400	—	20.5	—	42.5	5	5	320	28.5	3 mm LFSCP
HMC413QS16	Hittite	27	1600–2200	—	22	—	40	5.5	5	270	42	QSOP-16
SKY65112	Skyworks	30	400–2300	18	15.1	39	39	—	5	260	42	SOIC-8

Part Number	Supplier	P1dB (dBm)	Frequency Range (MHz)	Small Signal Gain @ 900 MHz (dB)	Small Signal Gain @ 2000 MHz (dB)	OIP3 @ 900 MHz (dBm)	OIP3 @ 2000 MHz (dBm)	Noise Figure (dB)	Supply Voltage (V)	Supply Current (mA)	Thermal Resistance $R_{\theta JC}$ (°C/W)	Package
General Purpose Amplifiers (continued)												
MMG20271H	**Freescale**	**27.5**	**1500–2700**	**—**	**16**	**—**	**42**	**1.7**	**5**	**180**	**38**	**QFN 3x3**
MGA-30216	Avago	29	1700–2700	—	14.2	—	45	2.8	5	206	36	QFN 3x3
MGA-31689	Avago	27.5	1500–3000	—	18.2	—	44	2.1	5	168	44	SOT-89
RFPA2013	RFMD	27	400–2700	—	15.7	—	41.5	3.8	5	165	58	QFN 3x3
RFPA2189	RFMD	27	400–2700	—	14.5	—	42.5	2.8	5	155	58	SOT-89
TQP7M9102	Triquint	27.5	400–4000	—	17.8	—	43.8	3.9	5	137	50	SOT-89
BGA7027	NXP	27.5	400–2700	—	11.5	—	43	3.8	5	165	38	SOT-89
BGA7127	NXP	28.5	400–2700	—	13.0	—	42.5	4.5	5	180	28	3x3 MLP
For additional competitor parts for MMG20271H, refer to the MMG3004N cross-referenced parts list on page 2												
MMG20271H9	**Freescale**	**27.5**	**1500-2700**	**—**	**16**	**—**	**43.1**	**1.7**	**5**	**215**	**29**	**SOT-89**
MGA-30216	Avago	29	1700–2700	—	14.2	—	45	2.8	5	206	36	QFN 3x3
MGA-31689	Avago	27.5	1500–3000	—	18.2	—	44	2.1	5	168	44	SOT-89
RFPA2013	RFMD	27	400–2700	—	15.7	—	41.5	3.8	5	165	58	QFN 3x3
RFPA2189	RFMD	27	400–2700	—	14.5	—	42.5	2.8	5	155	58	SOT-89
TQP7M9102	Triquint	27.5	400–4000	—	17.8	—	43.8	3.9	5	137	50	SOT-89
BGA7027	NXP	27.5	400–2700	—	11.5	—	43	3.8	5	165	38	SOT-89
BGA7127	NXP	28.5	400–2700	—	13.0	—	42.5	4.5	5	180	28	3x3 MLP
MMG3005N	**Freescale**	**30**	**800–2200**	**18.5**	**15.5**	**47**	**47**	**5**	**5**	**480**	**21.5**	**PQFN 5x5**
SPA-1426	RFMD	29.5	700–2200	16.5	14	43	47	5.3	5	318	21	SOF-26
SPA-1526	RFMD	32.5	700–2200	15.4	14	45.5	49	5.5	5	645	12	SOF-26
AH215	TriQuint	31.5	400–2300	18	12	46	46	5.5	5	450	33	SOIC-8
AH225	TriQuint	31	400–2700	19.8	15.4	47.3	47.5	6	5	300	35	SOIC-8
ALM-31222	Avago	31.5	1700–2700	—	14.9	—	47.9	2.7	5	415	25	MCOB 5x6
SKY65113	Skyworks	31	400–2300	19.6	12.7	40	37	—	5	450	30	SOIC-8
HMC452ST89	Hittite	31.5	400–2200	15.5	9	47	49	6.5	5	510	—	SOT-89
HMC452QS16	Hittite	31	400–2200	15.5	10	48	48	7	5	485	N/A	QSOP-16
HMC453QS16	Hittite	32	400–2200	15	9	49	50	7	5	725	N/A	QSOP-16
HMC457QS16	Hittite	30.5	1700–2200	—	27	—	45	6	5	500	N/A	QSOP-16
MMG3006N	**Freescale**	**33**	**400–2400**	**17.5**	**14**	**49**	**49**	**6.6**	**5**	**850**	**7.8**	**QFN 4x4**
RFPA3809	RFMD	29	400–2700	17	12.4	49	47	3.1	5	275	41	SOIC-8
SPA-1526	RFMD	32.5	700–2200	15.4	14	45.5	49	5.5	5	645	12	SOF-26
SPB2026	RFMD	33.8	700–2200	—	13.6	—	—	5.5	5	445	12	SOF-26
AH312	TriQuint	33.2	400–2300	18	11	49	51	7.3	5	800	17.5	SOIC-8
AH322	TriQuint	33	400–2700	19.4	14.1	47.6	50.2	4.5	5	500	18.6	SOIC-8
ALM-32220	Avago	34.4	1700–2700	—	14.8	—	50	3.5	5	800	14	QFN 7x10

NOTE: Data represents Freescale Semiconductor's research. Refer to each manufacturer's data sheet for latest part and specifications. Freescale does not guarantee accuracy of manufacturer data specifications, or extrapolation thereof.

For more information, visit freescale.com/RFMMIC

Document Number: MMICGPAQRG REV 2
12/2011