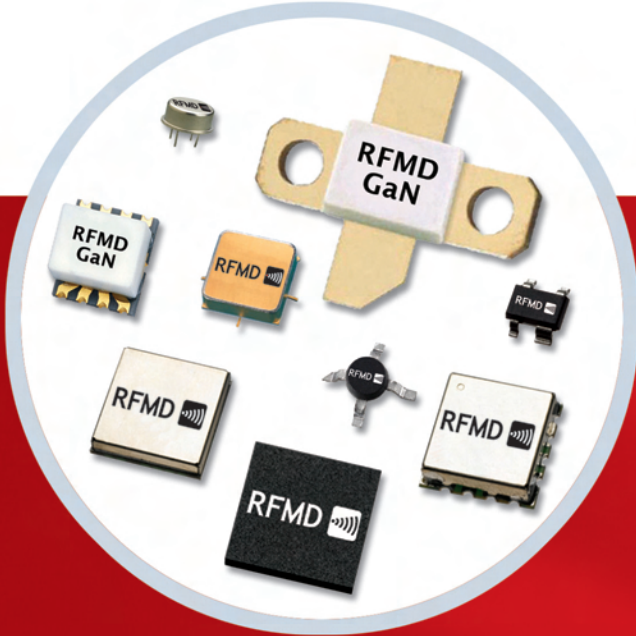


2009 RFMD® Aerospace & Defense Product Selection Guide



RFMD 
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Robust Components for RF, Microwave, and Millimeter Applications

Regarded as the partner of choice in the Aerospace, Defense, and Homeland Security industry, RFMD® has earned a global reputation with its product innovation, quality, scalability, and world-class customer support.

RFMD has designed and manufactured standard and custom RF and microwave ICs, MMICs, and module applications for over 40 years. The breadth of our product portfolio and our manufacturing capability, combined with our expertise in understanding program requirements, result in complete solutions for RF and microwave applications.

Market Segments Served

- Space Applications
- Satellite Programs
- Defense and Military Applications
- Radios
- Radars
- Telemetry
- Missile Programs
- Homeland Security
- Communications Systems



Find the Part You Need with Our Extensive, Easy-to-Scan Portfolio of RF Components!

The RFMD® Multi-Market Product Guide offers the broadest portfolio of RF components in the industry organized in a convenient, easy-to-scan format. Designed to provide the most comprehensive listing of RFMD products and specs all in one readily accessible place, you'll find components developed for applications such as:

- Wireless Infrastructure
- Broadband Transmission
- Broadband Consumer Premise Equipment
- ISM Band Transceivers
- WiFi and WiMAX
- ZigBee
- General Purpose RF

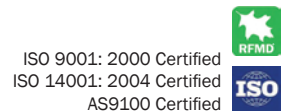


For a complimentary copy of the RFMD Multi-Market Product Selection Guide, contact the sales office located nearest you (listed on the back cover) or visit www.rfmd.com/globalsales.

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RFMD Hi-Reliability Product Services

For over 40 years, RFMD has provided standard and custom RF products for the Aerospace and Defense industry.

- MMIC, module, and connectorized packaging available
- In-house military and space screening and qualification
 - **Hybrid Microcircuits**
 - ~ MIL-PRF-38534/38535 testing Class H and Class K
 - ~ MIL-STD-883
 - ~ Element Evaluation
 - **Power Divider Circuits**
 - ~ MIL-DTL-23971
 - **Mixer Circuits**
 - ~ MIL-DTL-28837
 - **Transformer Circuits**
 - ~ MIL-T-55631
 - ~ MIL-STD-202
- Complete reliability and analysis lab
- Assembly and test in Class 100 environment
- Full in-house production and test capabilities
- Facility ISO9001 and AS9100 Certified

MIL-PRF-38534 Test Flow - Example

TEST INSPECTION	METHOD
Internal Visual	883/2017
Temperature Cycling	883/1010C
Constant Acceleration	883/2001
PIND	883/2020
Burn-In	883/1015
Fine Leak	883/1014
Gross Leak	883/1014
External Visual	883/2009
GROUP B	
Physical Dimensions	883/2016
Resistance to Solvents	NA
Internal Visual and Mechanical	883/2014
Bond Strength	883/2011
Die Shear Strength	883/2019
Solderability	883/2003
GROUP C	
Constant Acceleration	883/2001
Fine Leak	883/1014A
Gross Leak	883/1014C
Visual Inspection	883/1010
Steady-state-life (1,000 hrs)	883/1005
GROUP D	
	5 empty packages
Lead Integrity	883/2004
Gross Leak	883/1014C
Salt Atmosphere	883/1009A
Metal Package Isolation	883/1003

RFMD designs, manufactures, and up-screens custom and semi-custom RF and Microwave products for high-reliability applications including:

- VCOs
- Mixers
- Power Dividers
- Amplifiers
- Transformers
- Bare Die
- Other applications

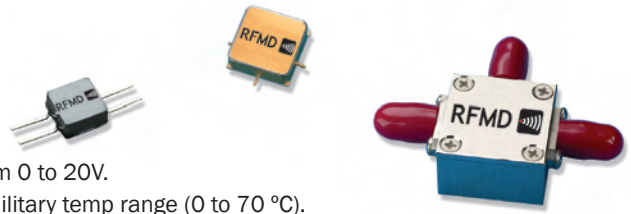


Quick turn custom devices are available in a number of packages types from SMT to connectorized SMA packages.

Contact us with your custom requirements.

Visit www.rfmd.com/globalsales to find the sales representative nearest you.

Hi-Reliability/Hybrids



VCOs

- Extremely stable, low phase noise oscillators with monotonic tuning from 0 to 20V.
- Temperature compensated from -55 to 100 °C; also available without military temp range (0 to 70 °C).
- Custom solutions available (with over 3,000 custom solutions shipped to date); refer to the RFMD Sales listing on the back cover for the sales representative nearest you or visit www.rfmd.com/globalsales.

Part Number	Freq Range (MHz)	Phase Noise (dBm) at 100 kHz	Tuning Voltage (V)
VCO-102TC	25 to 50	-135	0 to 20
VCO-103TC	50 to 100	-128	0 to 20
VCO-104TC	100 to 200	-122	0 to 20
VCO-105TC	200 to 400	-120	0 to 20
VCO-106TC	400 to 800	-120	0 to 20
VCO-107TC	500 to 1000	-117	1 to 20
VCO-108TC	800 to 1600	-115	0 to 20
VCO-109TC	900 to 1800	-112	0 to 20
VCO-110TC	1000 to 2000	-112	0 to 20
VCO-111TC	1500 to 2725	-100	0 to 20
VCO-112TC	2000 to 3200	-105	0 to 20
VCO-113TC	40 to 809	-133	0 to 20
VCO-114TC	60 to 120	-130	0 to 20
VCO-116TC	150 to 300	-120	0 to 20
VCO-117TC	300 to 600	-122	0 to 20
VCO-118TC	250 to 500	-123	0 to 20
VCO-119TC	3000 to 4800	-97	0 to 20
VCO-120TC	600 to 1200	-113	0 to 20
VCO-121TC	700 to 1400	-115	0 to 20
VCO-204TC	100 to 200	-135	0 to 20
VCO-205TC	200 to 400	-130	0 to 20
VCO-206TC	400 to 800	-125	0 to 20
VCO-215TC	2500 to 4000	-106	0 to 20
VCO-216TC	150 to 300	-130	0 to 20
VCO-219TC	3000 to 4800	-103	0 to 20
VCO-305TC	200 to 400	-125	0 to 20
VCO-3500TC	3490 to 3510	-122	0 to 5
VCO-4500TC	4490 to 5510	-120	0 to 5
VCO-500TC	2700 to 3200	-115	0 to 12
VCO-510TC	4700 to 5100	-105	0 to 8
VCO-520TC	4900 to 5900	-102	0 to 12
VCO-530TC	5700 to 6700	-99	0 to 12
VCO-5500TC	5490 to 5510	-118	0 to 5

Dual Tune Port VCOs

- Specialty VCOs incorporate dual tune port functionality.
- With addition of two tuning ports, designer can eliminate the need for an OP amp in wideband or high tune voltage applications.
- Coarse tune port is connected to a programmable DAC to set the frequency to a desired operating point; output of PLL charge pump is connected to fine tune port to lock the loop.
- This setup can improve the overall phase noise, settling time, and component count of a system.
- Custom solutions available.

Freq Range (MHz)	Vct (V)	CT Mod/Sense (MHz/V)	Vft (V)	FT Mod/Sense (MHz/V)	OP1dB (dBm)	Icc (mA)	Phase Noise (dBc/Hz) at 10 kHz	Harmonics (dBc)	Package
1500-1800	6 to 21	20	1 to 4	20	8	32	-102	-20	T
1100-1900	6 to 22	60	1 to 4	25	8	25	-96	-8	T
900-1000	6 to 22	12	1 to 4	12	8	28	-110	-15	T



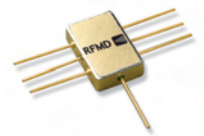
Mixers

- Developed specifically for broadband military applications.
- Miniature and subminiature mixers are sealed, RFI shielded, and internally constructed to withstand severe environments.
- Device configurations allow convenient microstrip or printed circuit board mounting.
- Custom solutions available (with over 1,500 custom solutions shipped to date); refer to the RFMD Sales listing on the back cover for the sales representative nearest you or visit www.rfmd.com/globalsales.

Part Number	RF Freq Range (MHz)	IF Freq Range (MHz)	Conversion Loss (dB)	IIP3 (dBm)	Isolation (dB)	Package Type
CM-1	0.5 to 500	DC to 100	7.5	13	25	SMT
CM-1H8	0.5 to 500	DC to 400	7.0	25	30	SMT
CM-2	10 to 1000	DC to 200	7.5	13	20	SMT
CM-2H8	10 to 1000	DC to 500	7.0	25	25	SMT
DBM-141	0.4 to 400	DC to 100	5.3	10	30	TO-5
DBM-142	10 to 1000	DC to 1000	7.5	10	30	Flatpack
DBM-143	10 to 1500	DC to 1000	8.5	10	35	Flatpack
DBM-145	10 to 1500	DC to 500	7.2	12	30	Flatpack
DBM-176	5 to 1500	DC to 300	5.8	25	30	TO-8
DBM-177	5 to 1500	DC to 500	5.9	10	35	TO-8
DBM-178	10 to 1500	DC to 500	6.3	25	30	Flatpack
DBM-182	600 to 2000	DC to 500	7.1	13	35	Flatpack
DBM-183	10 to 4000	50 to 400	8.5	20	30	Flatpack
DBM-184	2 to 3000	5 to 100	8.0	20	20	Flatpack
DBM-185	600 to 2000	DC to 1000	7.5	11	15	TO-5
DBM-186	10 to 4000	50 to 1000	8.5	17	15	TO-8
DBM-188	0.5 to 450	DC to 100	6.0	30	25	SMT
DBM-190	10 to 1000	DC to 250	9.0	7	15	Flatpack
DBM-600	250 to 5000	5 to 400	9.5	20	15	Flatpack
DBM-601	500 to 8000	5 to 1000	10.5	16	17	Flatpack
DBM-700H	1 to 3500	50 to 800	8.5	20	15	Flatpack
DBM-701	1 to 3500	50 to 800	8.5	17	20	TO-8
DBM-400	1 to 3000	10 to 500	9.0	10	20	Connectorized SMA
DBM-500	1700 to 4200	DC to 100	6.5	8	10	Connectorized SMA
DBM-700	1 to 3500	50 to 800	8.5	17	20	Connectorized SMA
DBM-701S	1 to 3500	50 to 800	8.5	17	20	Connectorized SMA
DBM-1200	50 to 13000	5 to 1000	8.5	15	17	Connectorized SMA

Power Dividers

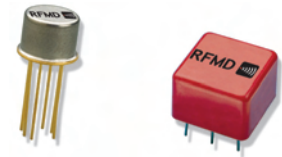
- All RFMD power dividers are designed to meet their specifications in conditions -55 to +100 °C.
- Custom solutions available (with over 1,000 custom solutions shipped to date); refer to the RFMD Sales listing on the back cover for the sales representative nearest you or visit www.rfmd.com/globalsales.



Part Number	Freq Range (MHz)	Insertion Loss (dB)	Isolation (dB)	VSWR
PS-2-1000F	5 to 1000	0.3	35	1.2:1
PS-2-2000AF	20 to 2000	1.0	25	—
PS-2-2000F	5 to 2000	0.4	25	1.3:1
PS-2-4000F	20 to 4000	0.4	25	1.3:1
PS-2-4000S	20 to 4000	0.8	23	1.3:1
PS-2-500F	10 to 500	0.3	35	1.2:1
PS-3-1000F	10 to 1000	0.4	30	1.3:1
PS-3-500F	1 to 500	0.3	30	1.3:1
PS-4-1000F	25 to 1000	0.5	25	1.5:1
PS-4-500F	1 to 500	0.3	30	1.3:1
HYB-1	1 to 300	0.9	17	1.75:1
HYB-3	0.5 to 150	0.8	20	1.75:1
HYB-11	25 to 200	0.7	20	1.75:1
HYB-16	1 to 200	0.5	25	1.5:1

Continued on page 6.

Hi-Reliability/Hybrids *(Continued from page 5.)*



Transformers

- Subminiature packages have easily solderable or weldable leads.
- High-performance design makes the transformer ideal for MIC substrate and printed circuits.
- Miniature packages in many popular configurations.
- Custom solutions available (with over 1,000 custom solutions shipped to date); refer to the RFMD Sales listing on the back cover for the sales representative nearest you or visit www.rfmd.com/globalsales.

Part Number	Freq Range (MHz)	VSWR	Package	Isolation (dB)	Package Type
DP-312	0.25 to 400	1.3:1	Plastic Flatpack	25	SMT
DP-322	0.5 to 500	1.3:1	Plastic Flatpack	30	SMT
DP-330	0.5 to 150	1.3:1	Plastic Flatpack	20	SMT
FP-504	1 to 500	1.3:1	Plastic Flatpack	25	SMT
FP-510	1 to 1000	1.5:1	Plastic Flatpack	30	TO-5
FP-512	1 to 1200	1.5:1	Plastic Flatpack	30	Flatpack
FP-514	1 to 500	1.3:1	Plastic Flatpack	35	Flatpack
FP-518	1 to 750	1.5:1	Plastic Flatpack	30	Flatpack
FP-522	2 to 750	1.5:1	Plastic Flatpack	30	TO-8
FP-528	1 to 250	1.5:1	Plastic Flatpack	35	TO-8
FP-530	1 to 100	1.3:1	Plastic Flatpack	30	Flatpack
FP-532	1 to 80	1.3:1	Plastic Flatpack	35	Flatpack
HF-102	0.5 to 1000	1.3:1	Plastic Pc Mount	30	Flatpack
HF-110	0.1 to 500	1.5:1	Plastic Pc Mount	20	Flatpack
HF-112	0.15 to 600	1.3:1	Plastic Pc Mount	15	TO-5
HF-118	0.5 to 400	1.5:1	Plastic Pc Mount	15	TO-8
HF-122	1 to 700	1.3:1	Plastic Pc Mount	25	SMT
HF-128	0.5 to 200	1.5:1	Plastic Pc Mount	15	Flatpack
HF-130	0.1 to 80	1.5:1	Plastic Pc Mount	15	Flatpack
HF-132	0.1 to 100	1.5:1	Plastic Pc Mount	17	Flatpack
LF-402	.01 to 100	1.3:1	Plastic Pc Mount	15	Flatpack
LF-410	.01 to 100	1.3:1	Plastic Pc Mount	20	TO-8
LF-412	.01 to 25	1.3:1	Plastic Pc Mount	20	Connectorized SMA
LF-418	.01 to 100	1.5:1	Plastic Flatpack	10	Connectorized SMA
LF-422	.01 to 80	1.2:1	Plastic Pc Mount	20	Connectorized SMA
LF-428	.01 to 50	1.5:1	Plastic Pc Mount	20	Connectorized SMA
LF-432	.01 to 25	1.3:1	Plastic Pc Mount	17	Connectorized SMA
LF-452	.01 to 10	1.5:1	Plastic Pc Mount	—	—
LF-454	.01 to 5	1.5:1	Plastic Pc Mount	—	—
TO-212	0.5 to 650	1.5:1	TO-5	—	—
TO-218	0.5 to 500	1.5:1	TO-5	—	—
TO-222	0.5 to 450	1.5:1	TO-5	—	—
TO-228	0.25 to 200	1.5:1	TO-5	—	—
TO-230	0.5 to 100	1.5:1	TO-5	—	—
TO-232	0.5 to 100	1.5:1	TO-5	—	—

Amplifiers

- Developed to support Hi-Rel Space and Military applications.
- InGaP HBT high performance designs in small hermetic packages.

Part Number	Freq Range (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Vc (V)	Icc (mA)
NEW SBB-2082S	50 to 850	20.1	2.9	19.5	40.3	5	81
NEW SBB-3082S	50 to 6000	16.0	3.9	15.0	29.0	5	42
NEW SBB-4082S	50 to 6000	15.6	4.6	19.1	37.0	5	77
NEW SPB-2054S	700 to 2200	14.4	6.0	32.4	50.5	5	435

General Purpose Unpackaged Bare Die

- RFMD offers all RF- and DC-probed die.
- SUF series developed through pHEMT FET process technology; ideal for satellite communications, military communications, test and measurement, and EW applications.
- Custom waffle packs or gel packs available for all products.

SBB Series - InGaP HBT Amplifiers

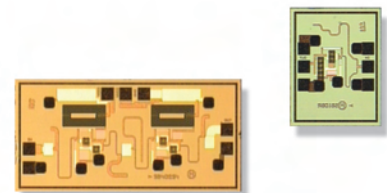
Part Number	Freq Range (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Vcc (V)	Id (mA)	Package	Process Technology	Active Bias
SBB-1000	50 to 1000	15.0	3.4	18.0	42.0	5	90	Die	InGaP HBT	X
SBB-2000	50 to 1000	20.0	2.9	19.0	42.5	5	90	Die	InGaP HBT	X
SBB-4000	50 to 6000	15.5	4.3	19.0	39.0	5	80	Die	InGaP HBT	X
SBB-5000	50 to 6000	21.0	3.8	20.5	38.5	5	80	Die	InGaP HBT	X

SUF Series - GaAs pHEMT Amplifiers

Part Number	Freq Range (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Vcc (V)	Icc (mA)	Note
SUF-1000	DC to 20000	10.5	4.5	14.0	26.0	5.0	46	
SUF-2000	200 to 10000	11.5	3.6	16.0	30.0	3.3	71	
SUF-3000	250 to 16000	10.0	4.8	15.5	26.5	5.0	51	
SUF-4000	150 to 10000	17.0	2.8	21.0	32.0	5.0	73	
SUF-5000	100 to 3700	19.0	3.2	22.0	34.5	5.0	90	
SUF-6000	2000 to 16000	20.5	4.7	14.0	27.5	5.0	107	
NEW SUF-8000	DC to 12000	11.2	4.5	27.8	13.9	5.0	58	Typical performance at 9 GHz
NEW SUF-8500	DC to 10000	14.1	3.1	29.0	12.9	5.0	58	Typical performance at 7 GHz
NEW SUF-9000	DC to 10000	23.5	2.0	9.7	3.1	5.0	25	Typical performance at 7 GHz

SDA Series - GaAs pHEMT Distributed Amplifiers

Part Number	Freq Range (MHz)	Gain (dB)	OIP3 (dBm)	OP1dB (dBm)	PSAT (dBm)	NF (dB)	Icc (mA)	Vcc (V)
NEW SDA-1000	DC to 20	17.0	36.0	25	26	3.5	300.0	8.0
NEW SDA-2000	DC to 22	12.0	38.0	26	28	5.0	400.0	8.0
NEW SDA-3000	DC to 24	17.1	34.0	24	26	2.1	160.0	8.0
NEW SDA-4000	DC to 26	15.0	30.0	20	22	3.0	160.0	5.0
NEW SDA-5000	DC to 35	12.0	27.0	17	19	3.0	80.0	6.5
NEW SDA-6000	DC to 50	8.5	25.0	15	—	-3.7	65.0	8.0
NEW SDA-7000	DC to 40	12.0	36.0	22	—	-5.0	200.0	8.0



General Purpose Amplifiers



- See the RFMD 2009 Multi-Market Product Selection Guide for a complete list of general purpose amplifiers (GPAs).
- Our GPAs allow designers to take advantage of a broad range of semiconductor technologies to provide the right performance for a wide variety of applications.

InGaP Active Bias Gain Blocks

Part Number	Freq Range (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Vcc (V)	Id (mA)	Package
SBB-1089(Z)	50 to 850	15.5	3.5	19.0	43.0	5.0	90	SOT-89
SBB-2089(Z)	50 to 850	20.0	2.7	20.0	43.0	5.0	90	SOT-89
SBB-3089(Z)	50 to 6000	16.5	3.9	15.0	30.0	4.2	42	SOT-89
SBB-4089(Z)	50 to 6000	15.5	4.5	19.5	35.0	5.0	80	SOT-89
SBB-5089(Z)	50 to 6000	20.0	4.2	20.5	35.0	5.0	75	SOT-89

GaAs HBT Gain Block Amplifiers

Part Number	Freq Range (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	Vcc (V)	Icc (mA)	Package
RF3374	DC to 6000	18.7	3.5	17.5	32.0	4.5	65	SOT-89
RF3375	DC to 6000	13.2	4.5	16.0	29.0	5.2	65	SOT-89
RF3376	DC to 6000	19.8	2.0	11.5	24.0	3.4	35	SOT-89
RF3377	DC to 6000	15.5	2.8	12.5	25.5	3.7	40	SOT-89
RF3378	DC to 6000	12.0	3.7	13.5	24.0	3.9	40	SOT-89
RF3394	DC to 6000	18.7	3.5	17.5	32.0	4.5	65	QFN-12
RF3395	DC to 6000	12.7	5.3	17.5	33.5	5.2	65	LCC-12
RF3396	DC to 6000	19.8	2.0	11.5	24.0	3.4	35	QFN-12
RF3397	DC to 6000	15.5	2.8	13.0	25.5	3.7	40	QFN-12
RF3398	DC to 6000	12.0	3.7	13.6	25.4	3.9	40	QFN-12

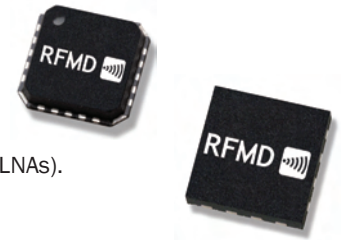
InGaP HBT Gain Block Amplifiers

Part Number	Freq Range (MHz)	Gain (dB)	NF (dB)	OIP1dB (dBm)	OP1dB (dBm)	OIP3 (dBm)	Vcc (V)	Icc (mA)	Package (dim. in mm)
NBB-300	DC to 12000	12.0	5.2	0.0	13.0	27.1	3.6 to 4.2	50	Ceramic Micro-X
NBB-302	DC to 12000	12.5	5.5	2.7	13.7	23.5	3.6 to 4.2	50	Ceramic MPGA 3 x 3
NBB-310	DC to 12000	11.5	4.9	2.8	13.8	24.0	4.6 to 5.3	50	Ceramic Micro-X
NBB-312	DC to 12000	12.5	4.9	3.4	15.8	24.0	4.7 to 5.3	50	Ceramic MPGA 3 x 3
NBB-400	DC to 8000	16.0	4.3	1.0	15.0	28.1	3.6 to 4.2	47	Ceramic Micro-X
NBB-402	DC to 8000	14.3	4.3	0.0	15.8	26.0	3.6 to 4.2	47	Ceramic MPGA 3 x 3
NBB-500	DC to 4000	19.0	3.2	-5.7	12.3	26.5	3.6 to 4.2	35	Ceramic Micro-X
NBB-502	DC to 4000	19.0	4.0	-5.0	13.0	23.0	3.6 to 4.2	35	Ceramic MPGA 3 x 3
NLB-300	DC to 10000	12.0	4.9	-0.9	11.1	28.6	3.6 to 4.2	50	Plastic Micro-X
NLB-310	DC to 10000	12.0	5.0	1.6	12.6	28.9	4.4 to 4.8	50	Plastic Micro-X
NLB-400	DC to 6000	15.5	4.1	-3.5	12.0	29.6	3.6 to 4.2	47	Plastic Micro-X
SBA-4086(Z)	DC to 5000	14.2	4.8	19.0	19.0	33.5	5.0	80	SOT-86
SBA-4089(Z)	DC to 5000	14.6	4.8	19.0	19.0	33.5	5.0	80	SOT-89
SBA-5086(Z)	DC to 5000	17.2	4.5	19.5	19.5	34.0	4.9	80	SOT-86
SBA-5089(Z)	DC to 5000	18.0	4.5	19.5	19.5	34.0	4.9	80	SOT-89
SBF-4089(Z)	DC to 500	14.8	3.3	20.5	20.1	42.0	4.9	90	SOT-89
SBF-5089(Z)	DC to 500	20.0	2.8	21.0	21.0	41.0	4.9	90	SOT-89

GaAs pHEMT Gain Block Amplifiers

Part Number	Freq Range (MHz)	Gain (dB)	NF (dB)	P1dB (dBm)	OIP3 (dBm)	Vcc (V)	Icc (mA)	Package
NEW SUF-1033	DC to 18	9.5	4.8	13.7	24.3	5	46	QFN 3 x 3
NEW SUF-5033	0.1 to 4	18.5	3.6	21.0	27.6	5	90	QFN 3 x 3
NEW SUF-8533	DC to 12	14.6	4.2	16.8	25.7	5	58	QFN 3 x 3

Low Noise Amplifiers



- See the RFMD 2009 Multi-Market Product Selection Guide for a complete list of low noise amplifiers (LNAs).
- Superior performance and competitive pricing.
- RFMD's line of versatile LNAs take full advantage of extended frequency range.
- Low power consumption, low noise figures, high gain, minimal external matching, and excellent output power.

Low Noise Amplifiers

Part Number	Freq Range (MHz)	Gain (dB)	NF (dB)	OP1dB (dBm)	OIP3 (dBm)	IIP3 (dBm)	Vcc (V)	Icc (mA)	Package (dim. in mm)
CXE-2022Z	50 to 1000	17.5	1.2	1.3	—	0.0	2.7 to 3.3	20.0	QFN 2 x 2
FMA219	7000 to 11,000	21.0	1.1	12.0	—	—	3.0	65.0	Die, 1.62 x 1.62
FMA3058	2000 to 20,000	15.0	6.5	15.0	—	—	—	90.0	—
RF2304	300 to 2500	11.7 at 300 MHz	1.6	16.0	15.0	—	2.7 to 6.0	8.4	SOIC-8
RF2314	150 to 2500	14.0 at 900 MHz	1.5	18.0	9.0	—	2.7 to 6.0	12.5	SOT23-5
RF2370	1500 to 3800	19.0 at 0.9 GHz, 12.0 at 2.45 GHz	1.2 at 0.9 GHz, 1.6 at 2.45 GHz	—	7.0	—	1.8 to 5.0	7.0	SOT-6
RF2373	400 to 4000	19.0 at 0.9 GHz, 12.0 at 2.45 GHz	1.3	—	7.0	—	2.7 to 5.0	10.0	SOT-5
RF2374	800 to 3800	19.0 at 0.9 GHz, 12.0 at 2.45 GHz	1.6	—	7.0	—	1.8 to 4.0	7.0	QFN-8, 2 x 2 x 0.6
RF2442	500 to 2500	19.0 at 881 MHz	1.5	—	—	—	2.5 to 5.0	12.0	MSOP-8
RF2472	DC to >600	18.7 at 0.9 GHz, 12 at 2.45 GHz	1.5	—	22.0	—	2.7 to 3.6	6.0	SOT-5
RF2472	DC to >600	14.0 at 2400 MHz	1.5	—	—	—	2.7 to 3.6	6.0	SOT-5
RF2815	—	13.5	0.9	—	—	8.0	1.0 to 3.6	—	3.3 x 2.1 x 1.0
RF2878	—	20.5 at 836 MHz	1.0 to 2.0	—	26.0	—	2.7 to 4.0	variable (6.0 to 22.0)	SOT23-5
RF2884	45 to 2500	15.0	1.5	5.0	—	4.0	2.7 to 3.0	6.0	QFN-12, 3 x 3
RF3334	.01 to 700	60.0 at 45 MHz	—	—	—	—	5.0	—	LCC-16, 4 X 4
RF3827	5 to 1500	20.0	1.2 to 1.5	24.0	39.0	—	5.0 to 9.0	110.0	QFN 3 x 3
RF3857	—	19.0 at 0.9 GHz, 12.0 at 2.45 GHz	1.6	—	7.0	—	—	7.0	QFN 3 X 3
RF3861	400 to 3800	16.0 (700 MHz) to 10.0 (3800 MHz)	1.0	22.5	36.0	—	2.5 to 6.0	90.0	QFN-16, 3 x 3
RF3863	700 to 3800	18.0 (700 MHz) to 10.0 (3800 MHz)	0.7	22.5	35.0	—	2.5 to 6.0	90.0	QFN-16, 3 x 3
RF3865	400 to 3800	33.0 (700 MHz) to 20.0 (3800 MHz)	1.1	22.5	36.0	—	2.5 to 6.0	180.0	QFN-20, 5 x 5
RF3866	400 to 3800	32.0 (700 MHz) to 20.0 (3800 MHz)	0.8	22.5	36.0	—	2.5 to 6.0	180.0	QFN-20, 5 x 5
RF3867	700 to 3800	18.5 (700 MHz) to 10.0 (3800 MHz)	0.8	22.5	36.0	—	2.5 to 6.0	180.0	QFN-20, 5 x 5
RF5501	—	12.0	1.8	—	8.0	—	—	7.0	QFN 2 x 2 x 0.5
RF5511	—	12.0	1.8	—	8.0	—	—	7.0	Flip Chip
RF5515	—	11.0 at 5500 MHz	1.6	—	22.0	—	—	12.0	QFN 2.2 x 2.2 x 0.5
RF5521	—	12.0	1.8	—	8.0	—	—	7.0	QFN 1.75 x 1.75 x 0.5
RF5601	—	11.0 at 5500 MHz	1.6	—	22.0	—	—	12.0	QFN 2.2 x 2.2 x 0.5
RF5611	—	12.0	2.0	—	8.0	—	—	7.0	QFN 2 x 2 x 0.5
SGA-4563(Z)	DC to 2500	25.6	1.9	15.0	27.1	—	3.6	45.0	SOT-363
SGA-4586(Z)	DC to 4000	24.0	1.7	16.5	28.6	—	3.6	45.0	SOT-86
SGA-8343	—	18.7 at 0.9 GHz, 12 at 2.45 GHz	1.2	—	27.0	—	—	11.0	SOT-343
SGA-8343(Z)	50 to 6000	24.0	0.9	9.0	28.0	—	3.0	10.0	SOT-343
SGL-0163(Z)	100 to 1300	15.5	1.2	5.2	—	7.0	2.5 to 4.0	12.0	SOT-363
SGL-0263(Z)	1400 to 2500	10.8	2.0	7.9	—	15.5	2.5 to 4.0	12.5	SOT-363
SGL-0363(Z)	5 to 2000	20.0	1.1	2.5	—	-7.1	2.7 to 3.3	5.7	SOT-363
SGL-0622Z	5 to 4000	28.5	1.5	5.3	—	-13.0	2.7 to 3.6	10.5	QFN 2 x 2
SPF-5122Z	50 to 4000	18.9	0.6	23.0	38.0	—	3.0 to 5.0	90.0	QFN 2 x 2
SPF-5189Z	50 to 4000	18.7 at 0.9 GHz, 12.8 at 1.96 GHz	0.55 at 0.9 GHz, 1.96 GHz	22.4 at 0.9 GHz, 22.7 at 1.96 GHz	38.5 at 0.9 GHz, 39.5 at 1.96 GHz	—	3.0 to 5.0	90.0	SOT-89
SPF-5344Z	800 to 4000	24.5	0.80 at 2.0 GHz	22.4 at 2.0 GHz	39.0 at 2.0 GHz	—	3.0 to 5.0	120.0	QFN 4 x 4

Continued on page 10.

Low Noise Amplifiers (Continued from page 9.)



Low Noise Discrete Transistors

- Designed for exceptionally low noise.
- Available in tested die and multiple SMT packages.

Part Number	Freq Range (MHz)	Typical 1.85 GHz Performance				Typical 2.0 GHz Performance				Typical 5.8 GHz Performance				Vcc (V)	Icc (mA)	Package (dim. in mm)
		Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	NF (dB)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	NF (dB)	Gain (dB)	OP1dB (dBm)	OIP3 (dBm)	NF (dB)			
FPD1050SOT89	900 to 2600	17.5	24.5	36.0	0.4	16.5	24.0	37.0	0.5	—	—	—	—	5.0	320	4.5 x 4.19
FPD200P70	—	—	20.0	30.0	—	—	—	—	—	17.0	—	—	0.7	—	—	P70, 4.8 x 4.8 x 1.12
FPD3000SOT89	—	13.0	30.0	45.0	1.3	—	—	—	—	—	—	—	—	5.0	450	SOT-89, 4.7 x 5.3
FPD6836P70	500 to 18,000	—	22.0	—	—	—	—	—	—	15.0	—	32.0	0.8	5.0	55	P70, 4.8 x 4.8 x 1.12
FPD6836SOT343	2000	19.0	18.0	32.0	0.7	—	—	—	—	—	—	32.0	—	—	—	2.40 x 2.25
FPD750SOT343	—	—	—	—	—	18.0	20.0	37.0	0.6	10.5	20.0	33.0	0.9	3.3	40	SOT-343
FPD750SOT89	—	18.0	25.0	39.0	0.6	—	—	—	—	—	—	—	—	5.0	100	SOT-89, 4.5 x 4.25
FPD7612P70	1000 to 18,000	21.0	20.0	30.0	0.5	—	—	—	—	—	—	—	—	5.0	60	P70
FPM21500QFN	2000	16.5	29.0	38.0	0.7	—	—	—	—	—	—	—	—	—	—	QFN 4 x 4 x 0.9
FPM2750QFN	—	18.5	23.0	36.0	0.4	—	—	—	—	—	—	—	—	—	230	QFN 4 x 4 x 0.9

Passive Components



Circulators

Part Number	Freq Range (MHz)	Insertion Loss (dB)	Isolation (dB)	Return Loss (dB)	IMD (dBc) 2T x 37.5 Watts	Reflected Power (W)	Max Rating (W)	Impedance (Ω)	SWR	Temp (°C)	Package (dim. in in.)
PC0882AG-21H	869 to 894	< 0.2	> 23	23	-65	200	200	50	1.15	-20 to +85	1" Drop-In
PC0940AG-21H	920 to 960	< 0.2	> 23	23	-65	200	200	50	1.15	-20 to +85	1" Drop-In
PC1843AG-21H	1805 to 1880	< 0.2	> 23	23	-70	200	200	50	1.15	-40 to +85	1" Drop-In
PC1960AG-21H	1930 to 1990	< 0.2	> 23	23	-75	200	200	50	1.15	-40 to +85	1" Drop-In
PC2018BE-12H	2010 to 2025	< 0.25	> 22	22	-70	100	100	50	1.17	-40 to +85	3/4" Drop-In
PC2140AG-21H	2090 to 2190	< 0.2	> 23	23	-75	200	200	50	1.15	-40 to +85	1" Drop-In



Isolators

Part Number	Freq Range (MHz)	Insertion Loss (dB)	Isolation (dB)	Return Loss (dB)	IMD (dBc) 2T x 37.5 (W)	Reflected Power (W)	Max Rating (W)	Impedance (Ω)	SWR	Temp (°C)	Package (dim. in in.)
PI0882AG-21H	869 to 894	< 0.2	> 23	23	-65	30	200	50	1.15	-20 to +85	1"
PI0940AG-21H	920 to 960	< 0.2	> 23	23	-65	30	200	50	1.15	-20 to +85	1"
PI1843AG-21H	1805 to 1880	< 0.2	> 23	23	-70	30	200	50	1.15	-40 to +85	1"
PI1960AG-21H	1930 to 1990	< 0.2	> 23	23	-75	30	200	50	1.15	-40 to +85	1"
PI2140AG-21H	2090 to 2190	< 0.2	> 23	23	-75	30	200	50	1.15	-40 to +85	1"
PD0940AQ-21H	920 to 960	< 0.4	> 55	23	-60 Fwd and -90 Rev	100	150	50	1.15	-20 to +85	2" x 1.25"
PD1843AQ-21H	1805 to 1880	< 0.4	> 55	23	-60 Fwd and -90 Rev	100	150	50	1.15	-20 to +85	2" x 1.25"

Broadband MMIC VCOs

- Small form factor with integrated resonator and buffer amplifier on a single 5V supply.
- Wide bandwidth with superior phase noise performance.
- Additional bands available soon. Contact RFMD with your needs.



Part Number	Freq Range (MHz)	Pout (dBm)	Phase Noise (dBc/Hz) at 10 kHz	Phase Noise (dBc/Hz) at 100 kHz	Bias (V)	Package (dim. in mm)
NEW RFVC1800	8000 to 12000	4	<66	<93	+5 at 55 mA	QFN 4 x 4

General Purpose Oscillators and PLLs

- Semi-custom designs available.
- All VCOs and PLLs are 100% tested for stability over entire range of tuning voltage, including 0V, to ensure trouble-free operation under all tuning conditions.
- Wide range of frequencies, supply voltages, resonator types, and package sizes available to suit diversified needs from fixed platforms to mobile devices.
- VCO and PLL designs can include buffer amplifiers or other functionality to suit specific needs.
- Visit www.rfmd.com/VCO for complete product listing.



VC0190

Part Number	Freq Range (MHz)	Vtune (V)	Phase Noise (dBc/Hz) at 10 kHz	Vcc (V)	Pout (dBm)	Package (dim. in mm)
VC0190-150TY	100 to 200	1.0 to 16.0	-114	5	0	12.7 x 12.7
VC0190-1050TY	1030 to 1070	1.0 to 4.0	-111	5	3	12.7 x 12.7
VC0190-1067UY	1049 to 1085	1.0 to 4.2	-110	5	3	9.5 x 9.5
VC0190-1100TY	1085 to 1115	1.0 to 4.5	-111	5	5	12.7 x 12.7
VC0190-1120TY	1107 to 1132	1.0 to 4.0	-111	5	3	12.7 x 12.7
VC0190-1200ATY	1150 to 1250	1.0 to 6.0	-102	5	0	12.7 x 12.7
VC0190-1200TY	1185 to 1215	1.0 to 4.0	-110	5	3	12.7 x 12.7
VC0190-1275TY	1200 to 1350	0.5 to 4.5	-100	5	1	12.7 x 12.7
VC0190-1400TY	1200 to 1600	0.5 to 11.0	-98	8	0	12.7 x 12.7
VC0190-1500ATY	1200 to 1800	0.5 to 15.0	-98	8	9.5	12.7 x 12.7
VC0190-1225UY	1210 to 1240	1.0 to 4.2	-109	5	3	9.5 x 9.5
VC0190-1525TY	1250 to 1800	1.0 to 15.0	-96	8	9.5	12.7 x 12.7
VC0190-190TY	140 to 240	0.5 to 4.6	-105	5	0	12.7 x 12.7
VC0190-1500TY	1450 to 1550	1.0 to 6.0	-100	5	3	12.7 x 12.7
VC0190-157TY	148 to 167	0.8 to 4.2	-115	5	0	12.7 x 12.7
VC0190-200TY	150 to 250	1.0 to 12.0	-110	5	0	12.7 x 12.7
VC0190-1550TY	1500 to 1600	1.0 to 6.0	-102	5	3	12.7 x 12.7
VC0190-1600TY	1550 to 1650	1.0 to 6.0	-100	5	3	12.7 x 12.7
VC0190-1605TY	1567 to 1642	1.0 to 4.0	-104	5	3	12.7 x 12.7
VC0190-1650TY	1600 to 1700	1.0 to 6.0	-101	5	3	12.7 x 12.7
VC0190-1735TY	1650 to 1820	1.0 to 4.0	-94	5	3	12.7 x 12.7
VC0190-1925TY	1650 to 2200	0.5 to 11.0	-90	5	0	12.7 x 12.7
VC0190-1750TY	1700 to 1800	1.0 to 6.0	-100	5	3	12.7 x 12.7
VC0190-1752UY	1725 to 1780	1.0 to 4.0	-102	5	0	9.5 x 9.5
VC0190-1850TY	1800 to 1900	1.0 to 6.0	-100	5	3	12.7 x 12.7
VC0190-1843TY	1805 to 1880	1.0 to 4.0	-100	5	1	12.7 x 12.7
VC0190-1900TY	1850 to 1950	1.0 to 6.0	-100	5	3	12.7 x 12.7
VC0190-1950TY	1900 to 2000	1.0 to 6.0	-100	5	3	12.7 x 12.7
VC0190-1960TY	1930 to 1990	1.0 to 4.5	-99	5	0	12.7 x 12.7
VC0190-2225TY	1950 to 2500	0.5 to 11.0	-95	5	1	12.7 x 12.7
VC0190-235TY	200 to 270	0.5 to 4.5	-108	5	1	12.7 x 12.7

Continued on page 12.

General Purpose Oscillators and PLLs (Continued from page 11.)

VC0190 *continued*

Part Number	Freq Range (MHz)	Vtune (V)	Phase Noise (dBc/Hz) at 10 kHz	Vcc (V)	Pout (dBm)	Package (dim. in mm)
VC0190-250TY	200 to 300	1.0 to 12.0	-110	5	0	12.7 x 12.7
VC0190-2075TY	2000 to 2150	1.0 to 10.0	-102	5	5	12.7 x 12.7
VC0190-2100TY	2000 to 2200	0.5 to 4.5	-90	5	0	12.7 x 12.7
VC0190-2200TY	2100 to 2300	0.5 to 4.5	-95	5	0	12.7 x 12.7
VC0190-2210UY	2185 to 2235	0.5 to 4.5	-101	5	0	9.5 x 9.5
VC0190-2275TY	2200 to 2350	1.0 to 10.0	-102	5	5	12.7 x 12.7
VC0190-2350TY	2300 to 2400	1.0 to 6.0	-98	5	0	12.7 x 12.7
VC0190-2420TY	2370 to 2470	0.5 to 4.5	-98	5	2	12.7 x 12.7
VC0190-260TY	240 to 280	1.0 to 4.0	-113	5	3	12.7 x 12.7
VC0190-2450ATY	2400 to 2500	1.0 to 4.0	-97	4.5	0	12.7 x 12.7
VC0190-2453TY	2400 to 2506	0.5 to 4.5	-96	5	2	12.7 x 12.7
VC0190-2488TY	2487.32 to 2489.32	1.0 to 4.0	-95	5	3	12.7 x 12.7
VC0190-300TY	250 to 350	1.0 to 10.0	-112	5	0	12.7 x 12.7
VC0190-2600TY	2500 to 2700	0.5 to 4.5	-91	5	0	12.7 x 12.7
VC0190-2600ATY	2550 to 2650	0.5 to 4.5	-96	5	2	12.7 x 12.7
VC0190-2800TY	2750 to 2850	0.5 to 4.5	-96	5	2	12.7 x 12.7
VC0190-2925TY	2850 to 3000	1.0 to 10.0	-102	5	5	12.7 x 12.7
VC0190-295TY	290 to 300	1.0 to 4.0	-116	5	1	12.7 x 12.7
VC0190-2950TY	2900 to 3000	0.5 to 4.5	-94	5	2	12.7 x 12.7
VC0190-360TY	335 to 385	0.5 to 10.0	-114	5	0	12.7 x 12.7
VC0190-370TY	340 to 400	0.5 to 4.5	-108	5	2	12.7 x 12.7
VC0190-395TY	375 to 415	0.4 to 4.5	-113	5	0	12.7 x 12.7
VC0190-3925TY	3850 to 4000	1.0 to 10.0	-94	5	5	12.7 x 12.7
VC0190-4025TY	3950 to 4100	1.0 to 10.0	-94	5	5	12.7 x 12.7
VC0190-450ATY	400 to 500	1.0 to 9.0	-109	5	0	12.7 x 12.7
VC0190-419TY	405 to 433	0.5 to 4.5	-114	5	0	12.7 x 12.7
VC0190-450TY	442 to 458	0.5 to 4.5	-118	5	2	12.7 x 12.7
VC0190-492TY	466 to 517	0.6 to 4.4	-117	8	3	12.7 x 12.7
VC0190-548TY	535 to 560	0.5 to 4.8	-110	5	3	12.7 x 12.7
VC0190-630TY	600 to 660	0.5 to 4.5	-110	5	1	12.7 x 12.7
VC0190-640TY	620 to 660	0.5 to 4.5	-110	5	0	12.7 x 12.7
VC0190-680TY	667 to 693	1.0 to 4.0	-114	5	1	12.7 x 12.7
VC0190-70TY	68 to 72	1.0 to 4.0	-120	5	1	12.7 x 12.7
VC0190-775TY	700 to 850	1.0 to 9.5	-108	5	0	12.7 x 12.7
VC0190-744TY	724 to 764	2.0 to 8.0	-115	5	3	12.7 x 12.7
VC0190-112TY	759 to 150	1.0 to 16.0	-118	5	0	12.7 x 12.7
VC0190-810TY	797 to 823	1.0 to 4.0	-115	5	3	12.7 x 12.7
VC0190-900TY	800 to 1000	1.0 to 9.0	-106	5	0	12.7 x 12.7
VC0190-940TY	800 to 1080	0.5 to 5.0	-94	5	2	12.7 x 12.7
VC0190-818UY	804 to 826	1.0 to 4.0	-111	5	1	9.5 x 9.5
VC0190-818TY	805 to 830	1.0 to 3.9	-114	5	0	12.7 x 12.7
VC0190-836TY	823 to 849	1.0 to 4.0	-126	5	3	12.7 x 12.7
VC0190-845TY	832 to 858	1.0 to 4.0	-115	5	3	12.7 x 12.7
VC0190-884TY	842 to 926	1.0 to 10	-109	5	0	12.7 x 12.7
VC0190-860TY	845 to 875	1.0 to 4.0	-113	5	3	12.7 x 12.7
VC0190-880TY	865 to 895	0.5 to 4.8	-111	5	3	12.7 x 12.7
VC0190-882UY	874 to 889	1.0 to 4.0	-111	5	2	9.5 x 9.5
VC0190-888TY	875 to 901	1.0 to 4.0	-111	5	3	12.7 x 12.7
VC0190-1000TY	900 to 1100	0.7 to 4.3	-96	5	3	12.7 x 12.7
VC0190-915TY	902 to 928	1.0 to 4.0	-113	5	5	12.7 x 12.7
VC0190-964TY	951 to 977	1.0 to 4.0	-112	5	5	12.7 x 12.7
VC0190-964TY	951 to 977	1.0 to 4.0	-112	5.0	5.0	12.7 x 12.7
VC0190-992TY	979 to 1005	1.0 to 4.0	-113	5.0	3.0	12.7 x 12.7



VC0191

Part Number	Freq Range (MHz)	Vtune (V)	Phase Noise (dBc/Hz) at 10 kHz	Vcc (V)	Pout (dBm)	Package (dim. in mm)
VC0191-1305UY	1280 to 1330	0.4 to 4.0	-102	3	-3	9.5 x 9.5
VC0191-220UY	210 to 230	1.0 to 2.9	-115	3	0	9.5 x 9.5
VC0191-2450UY	2400 to 2500	0.4 to 2.7	-93	3	-3	9.5 x 9.5
VC0191-773UY	760 to 786	0.4 to 2.6	-109	3	-3	9.5 x 9.5
VC0191-836UY	823 to 849	0.4 to 2.6	-108	3	-3	9.5 x 9.5
VC0191-890UY	860 to 920	0.4 to 2.6	-102	3	-3	9.5 x 9.5
VC0191-902UY	889 to 915	0.4 to 2.6	-108	3	-3	9.5 x 9.5
VC0191-915UY	902 to 928	0.4 to 2.6	-109	3	-3	9.5 x 9.5
VC0191-926UY	913 to 939	0.4 to 2.6	-108	3	-3	9.5 x 9.5
VC0191-967XY	954 to 980	0.5 to 2.7	-106	3	-3	9.0 x 7.0
VC0191-1013UY	996 to 1031	0.4 to 2.6	-106	3	-3	9.5 x 9.5

PLL350

Part Number	Freq Range (MHz)	Step Size (kHz)	Phase Noise (dBc/Hz) at 100 kHz	Vcc (V)	Pout (dBm)	Package (dim. in mm)
PLL350-144Y	144	1000	-139	5	3	20.32 x 14.78
PLL350-768Y	768	125	-134	5	3	20.32 x 14.78
PLL350-1120Y	1090 to 1150	100	-128	5	2	20.32 x 14.78
PLL350-1260Y	1230 to 1290	100	-126	5	2	20.32 x 14.78
PLL350-1590Y	1560 to 1620	200	-122	5	3	20.32 x 14.78
PLL350-1627Y	1590 to 1665	200	-113	5	3	20.32 x 14.78
PLL350-1760AY	1730 to 1790	200	-120	5	0	20.32 x 14.78
PLL350-1760Y	1730 to 1790	200	-114	5	3	20.32 x 14.78
PLL350-1810Y	1780 to 1840	50	-127	5	3	20.32 x 14.78
PLL350-1842Y	1805 to 1880	200	-114	5	3	20.32 x 14.78
PLL350-1875Y	1840 to 1910	50	-126	5	3	20.32 x 14.78
PLL350-1960Y	1930 to 1990	200	-114	5	3	20.32 x 14.78
PLL350-2140A	2110 to 2170	200	-122	5	3	20.32 x 14.78
PLL350-2140Y	2110 to 2170	200	-122	5	3	20.32 x 14.78
PLL350-2444Y	2344 to 2544	250	-118	5	-1	20.32 x 14.78
PLL350-265Y	264 to 266	2.5	-135	5	5	20.32 x 14.78
PLL350-2944Y	2940 to 3048	125	-119	5	2	20.32 x 14.78
PLL350-777Y	760 to 795	200	-123	5	3	20.32 x 14.78
PLL350-881Y	869 to 894	200	-123	5	3	20.32 x 14.78
PLL350-942Y	925 to 960	200	-121	5	3	20.32 x 14.78

PLL IC: ADF4113

PLL400

Part Number	Freq Range (MHz)	Step Size (kHz)	Phase Noise (dBc/Hz) at 100 kHz	Vcc (V)	Pout (dBm)	Package (dim. in mm)
PLL400-1500Y	1450 to 1550	1000	-120	5	1	15.2 x 15.2
PLL400-1550Y	1510 to 1590	200	-125	5	1	15.2 x 15.2
PLL400-1950AY	1900 to 2000	200	-121	5	1	15.2 x 15.2
PLL400-2200AY	2000 to 2400	1000	-110	5	0	15.2 x 15.2
PLL400-735Y	717 to 752	200	-120	5	3	15.2 x 15.2
PLL400-864AY	851 to 877	30	-133	5	2	15.2 x 15.2
PLL400-875Y	750 to 1000	250	-111	5	0	15.2 x 15.2
PLL400-915AY	902 to 928	200	-133	5	3	15.2 x 15.2
PLL400-964AY	951 to 977	30	-132	5	3	15.2 x 15.2

PLL IC: ADF4113

Mixers

- Wideband operation with superior conversion loss and good isolation.
- Passive, no external power supply required.
- Small form factor 3 x 3 QFN package.

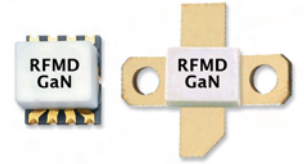
Part Number	RF Freq Range (MHz)	IF Freq Range (MHz)	Conv Loss (dB)	NF (dB)	IIP3 (dBm)	IIP2 (dBm)	1dB Gain Comp (dBm)	LO/RF Isolation (dB)	LO/IF Isolation (dB)	RF/IF Isolation (dB)	Package (dim. in mm)
NEW RFMX0180	12000 to 24000	DC to 2000	8	7	18	40	7	30	35	35	QFN 4 x 4

Wideband Switches

- Wide range of broadband switches with excellent isolation and insertion loss.
- Available in both die and package forms.
- Additional products coming soon.

Part Number	Type	Freq Range (MHz)	Insertion Loss (dB)	Isolation (dB)	OP1dB (dBm)	Vcc (V)	Package (dim. in mm)
FMS2014-001	SPDT	—	0.5 at 1.8 GHz	>28.0 at 1.8 GHz	—	5	QFN 3 x 3 x 0.9
FMS2016-001	SP4T	—	0.65 at 1.85 GHz	>30.0 at 1.8 GHz	—	—	QFN 3 x 3 x 0.9
FMS2016-005	SP4T Reflective	—	0.65 at 1.8 GHz	>30.0 at 1.8 GHz	—	—	QFN 3 x 3 x 0.9
FMS2020-001	SPDT	DC to 6000	0.5 at 2.5 GHz, 1.0 at 6 GHz	25.0 at 2.5 GHz	42.0 at 5 GHz	—	QFN 3 x 3 x 0.9
FMS2023	SPST Absorptive	DC to 20,000	1.0 at 20 GHz	50.0 at 20 GHz	24.0 at 20 GHz	—	Die 1.91 x 1.11
FMS2024	SPST Reflective	DC to 20,000	1.4 at 20 GHz	37.0 at 20 GHz	24.0 at 20 GHz	—	Die 1.91 x 1.11
FMS2027	SPDT Absorptive	DC to 20,000	2.1 at 20 GHz	42.0 at 20 GHz	21.0 at 18 GHz	—	Die 0.93 x 1.33
FMS2028	SP6T	—	<0.41 (Tx) at 1.8 GHz	>42.0 at 1.8 GHz	—	—	Die 0.85 x 0.99
FMS2029-000	SPST Absorptive	DC to 20,000	1.6 at 15 GHz	57.0 at 15 GHz	26.0	—	Die
FMS2031-001	SPDT	DC to 6000	0.6 at 3.8 GHz	<36.0 at 3.8 GHz	>42.0	2.65 to 5.00	QFN 3 x 3

High Power GaN Devices



ADVANCED NOTIFICATION – GaN based High Power Transistors and Power ICs to be released by end of 2009.

High Power Transistors

- Power performance from 10W to 120W and very wide tunable bandwidth.
- Superior combination of high power and bandwidth offered by GaN versus competing GaAs and Si technologies.
- Very high peak efficiency.
- Suitable for applications such as broadcast, industrial, military communications, electronic warfare, high power radar, aerospace, and avionics.

Part Number	Freq Range (MHz)	Gain (dB) at 2.1 GHz	P3dB (W) at 2.1 GHz	Drain Eff. (%) at 2.1 GHz	Vd (V)	Idq (mA)	Package Style
NEW RF3931	DC to 4000	14	30	65	48	130	Ceramic 360
NEW RF3932	DC to 4000	14	60	65	48	220	Ceramic 360
NEW RF3933	DC to 4000	14	90	65	48	310	Ceramic 360

GaN Based Power ICs

- High peak efficiency across very wide operating bandwidths.
- Power ICs housed in thermally efficient, small form factor SMT packages.
- Suitable for applications such as military communications, software definable radios (SDRs), public mobile radio, and general purpose amplifiers.

Part Number	Freq Range (MHz)	Gain (dB)	P3dB (W)	Drain Eff. (GHz)	Vd (V)	Id (mA)	Package Style
NEW RF3826	30 to 2200	10	10	40	28	44	AIN SOIC-8 Outline
NEW RFHA1000	100 to 1000	14	15	50	28	60	AIN SOIC-8 Outline

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