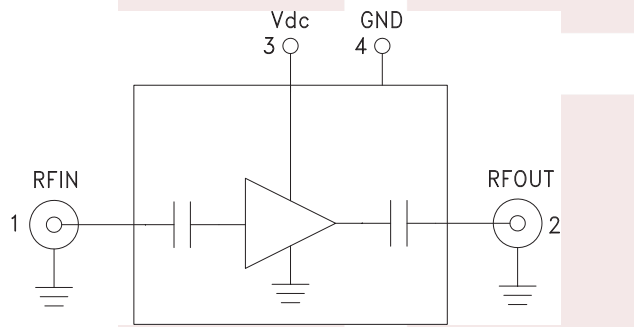


6 dB NF Low Phase Noise Amplifier Operating From 3 GHz to 8 GHz with 11 dB Gain, 14 dBm P1dB and SMA

The FMAM1035 is a low phase noise amplifier that operates across the frequency range from 3 GHz to 8 GHz. The design utilizes GaAs HBT MMIC technology and exhibits ultra low phase noise of -162 dBc/Hz @ 1 kHz offset frequency. The design also exhibits high dynamic range with typical performance that includes 11 dB of small signal gain, 6 dB noise figure, up to +14 dBm of output power at P1dB, +25 dBm output IP3, while using a +7V single DC supply. The wideband distributed amplifier design input/output ports are internally matched to 50 ohms and are DC blocked. The drop-in package is hermetically sealed with field replaceable SMA connectors and has an operating temperature range of -55°C to +85°C. And for added confidence, this rugged package assembly is designed to meet MIL-STD-883 test conditions for Hermeticity and Temperature Cycle.

Functional Block Diagram



Electrical Specifications (TA = +25°C , DC Voltage = 7Vdc , DC Current = 250mA)

Description	Min	Typ	Max	Unit
Frequency Range	3		8	GHz
Small Signal Gain		11		dB
Output at 1 dB Compression Point		+14		dBm
Output 3rd Intercept Point		+25		dBm
Noise Figure		6		dB
Operating DC Voltage		7		Volts
Operating DC Current			250	mA
Operating Temperature Range	-55		+85	°C



Features:

- Low Phase Noise Amplifier
- Wide Frequency band
- Highly Linear GaAs HBT MMIC Technology
- Phase Noise -162 dBc/Hz @ 1KHz offset
- Gain 11 dB
- High Output IP3 +25 dBm
- P1dB up to +14 dBm
- Hermetically Sealed Module
- Mil Spec Compliant
- Field Replaceable SMA Connectors
- -55°C to +85°C Operating Temperature

Applications:

- Electronic Warfare
- Microwave Radio
- VSAT
- Radar
- Space Systems
- Test Instrumentation
- Telecom Infrastructure

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Performance by Frequency

Description	Min.	Typ.	Max.	Units
Frequency Range		3 - 8		GHz
Vdc Range	6.5	7	8	V
Gain	9	11		dB
Gain Variation Over Temperature		0.01		dB/ °C
Noise Figure		6		dB
Input Return Loss		18		dB
Output Return Loss		20		dB
Output Power For 1 dB Compression (P1dB)	+11	+14		dBm
Saturated Output Power (Psat)		+21		dBm
Output Third Order Intercept (IP3)		+25		dBm
Phase Noise @ 100 Hz, Psat, 6 GHz		-148		dBc/Hz
Phase Noise @ 1 KHz, Psat, 6 GHz		-162		dBc/Hz
Phase Noise @ 10 KHz, Psat, 6 GHz		-168		dBc/Hz
Supply Current (Quiescent)		110	150	mA
Supply Current (Under RF Drive)			250	mA

Mechanical Specifications

Size

Length	1.14 in [28.96 mm]
Width	1.9 in [48.26 mm]
Height	0.56 in [14.22 mm]
Weight	0.417 lbs [189.15 g]

Connector Option	Field Replaceable
Input Connector	SMA Female
Output Connector	SMA Female

Environmental Specifications

Temperature

Operating Range	-55 to +85 deg C
Storage Range	-65 to +150 deg C

Temperature Cycling	MIL-STD-883, Method 101C, Cond B
Hermetic Seal	Gross Leak MIL-STD-883 Method 1014C1/Fine Leak MIL-STD-883, Method 1014A2, 5 x 10 ⁻⁸ atm cc
ESD Sensitivity	ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in ESD Workstation.



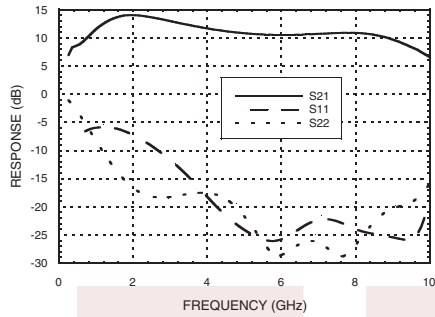
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

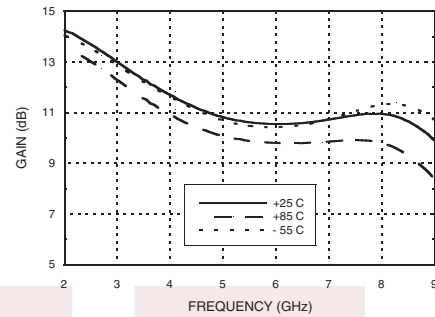
- Notes:
- Values at 25 °C, sea level

Typical Performance Data

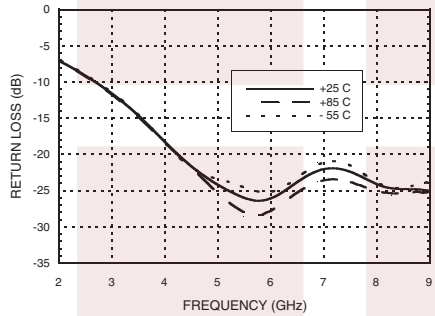
Broadband, Gain & Return Loss



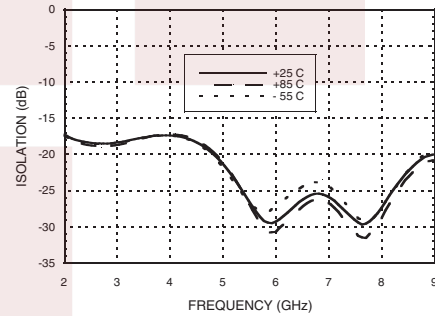
Gain vs. Temperature



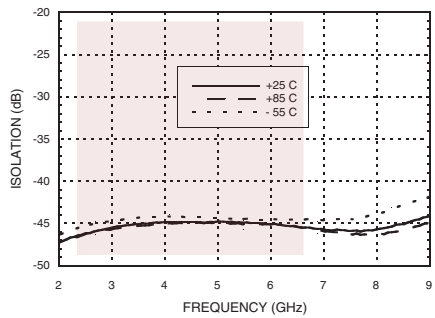
Input Return Loss vs. Temperature



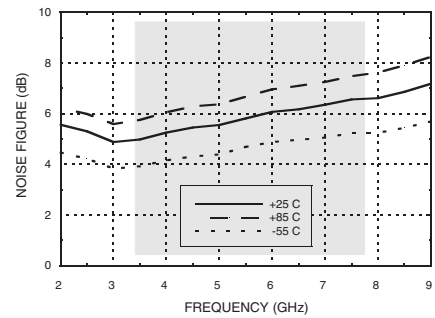
Output Return Loss vs. Temperature



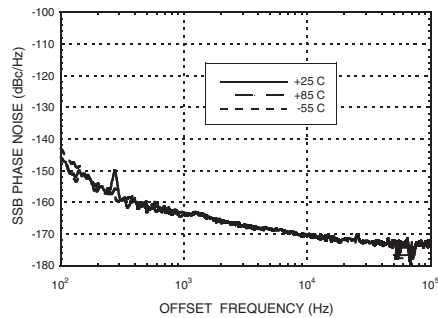
Reverse Isolation vs. Temperature



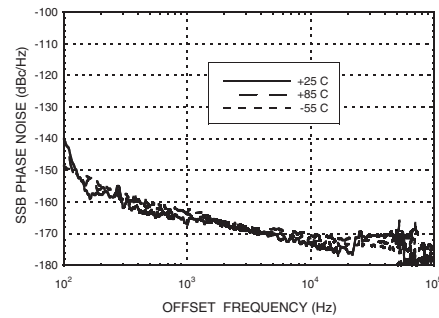
Noise Figure vs. Temperature



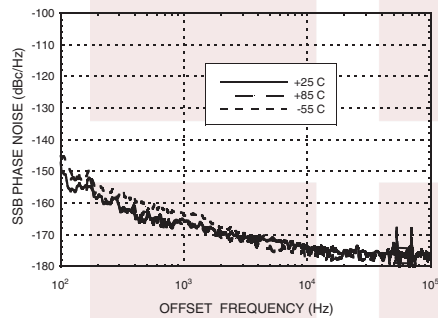
Phase Noise at Pout = 10 dBm @ 5.12 GHz



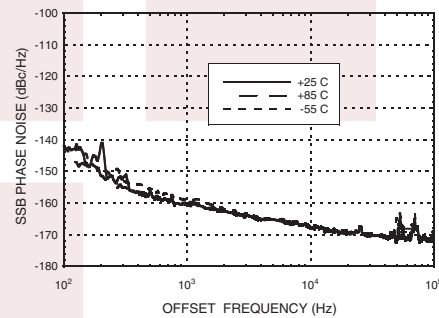
Phase Noise at Pout = P1dB @ 5.12 GHz



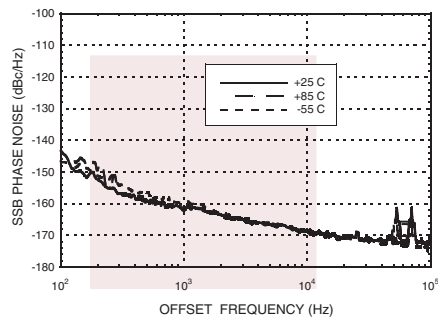
Phase Noise at Pout = Psat @ 5.12 GHz



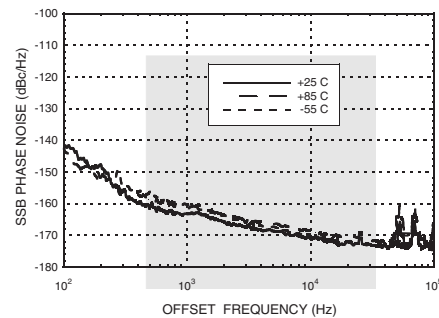
Phase Noise at Pout = 10 dBm @ 7 GHz



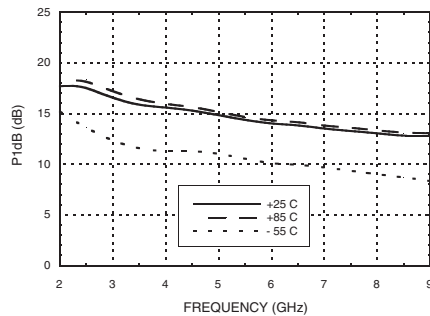
Phase Noise at Pout = P1dB @ 7 GHz



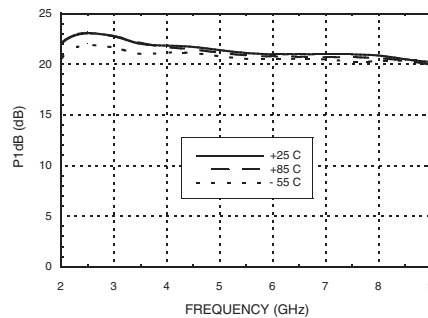
Phase Noise at Pout = Psat @ 7 GHz



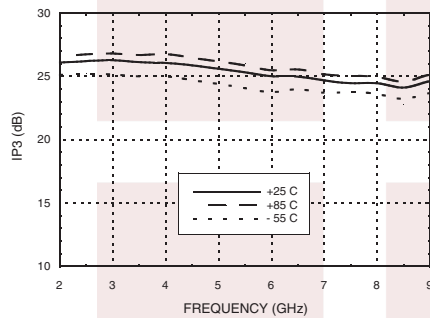
Output P1dB vs. Temperature



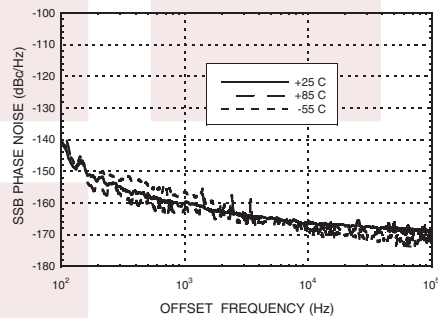
Output Psat vs. Temperature



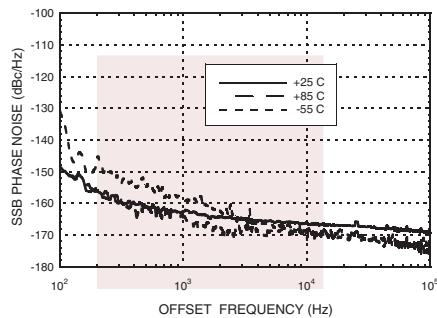
Output IP3 vs. Temperature



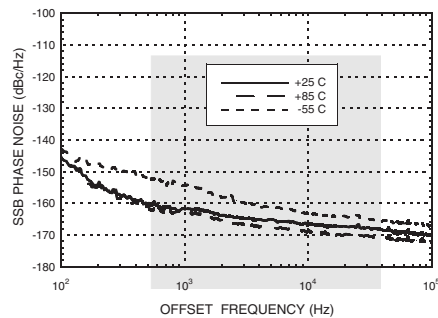
Phase Noise at Pout = 10 dBm @ 3.5 GHz



Phase Noise at Pout = P1dB @ 3.5 GHz



Phase Noise at Pout = Psat @ 3.5 GHz



6 dB NF Low Phase Noise Amplifier Operating From 3 GHz to 8 GHz with 11 dB Gain, 14 dBm P1dB and SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [6 dB NF Low Phase Noise Amplifier Operating From 3 GHz to 8 GHz with 11 dB Gain, 14 dBm P1dB and SMA FMAM1035](https://www.fairviewmicrowave.com/6db-nf-low-phase-noise-amplifier-11db-fmam1035-p.aspx)

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