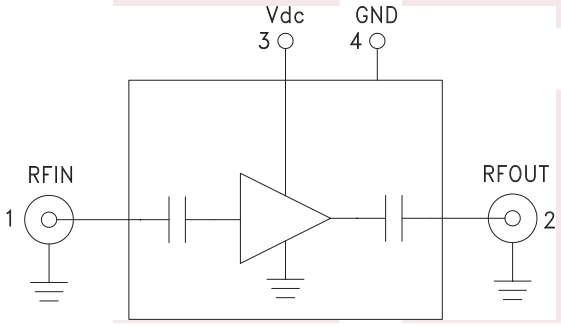
Fairview Microwave
RF COMPONENTS ON DEMAND. Done!

FMAM1035
DATA SHEET

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 incudes 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



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

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

Fairview Microwave
1130 Junction Dr. #100
Allen, TX 75013
Tel: 1-800-715-4396 / (972) 649-6678
Fax: (972) 649-6689
www.fairviewmicrowave.com
sales@fairviewmicrowave.com

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)

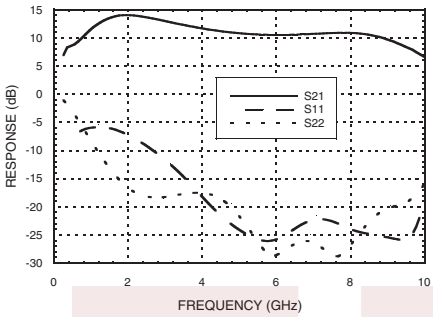
Plotted and Other Data

Notes:

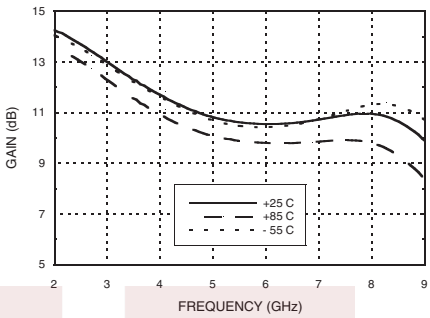
- Values at 25 °C, sea level

Typical Performance Data

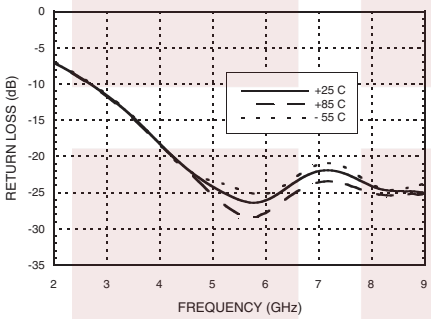
Broadband, Gain & Return Loss



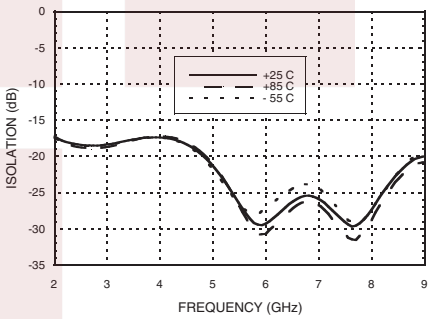
Gain vs. Temperature



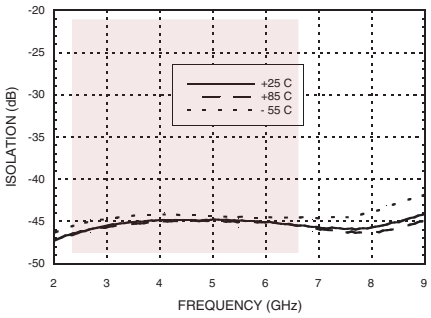
Input Return Loss vs. Temperature



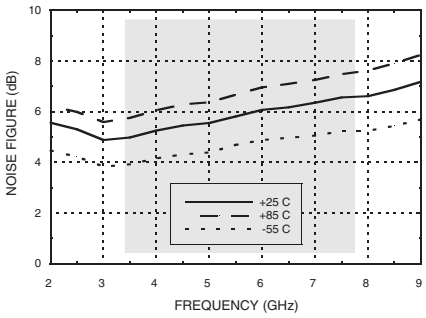
Output Return Loss vs. Temperature



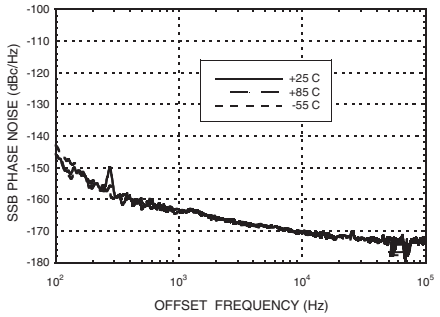
Reverse Isolation vs. Temperature



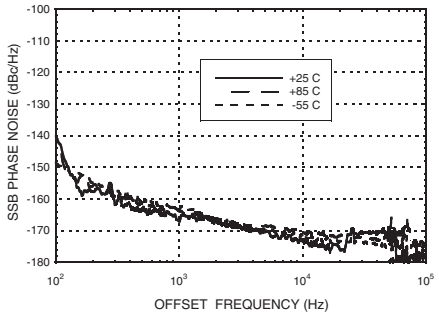
Noise Figure vs. Temperature



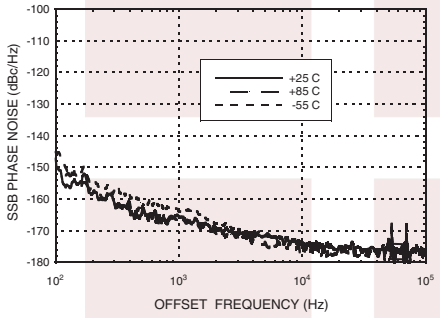
Phase Noise at Pout = 10 dBm @ 5.12 GHz



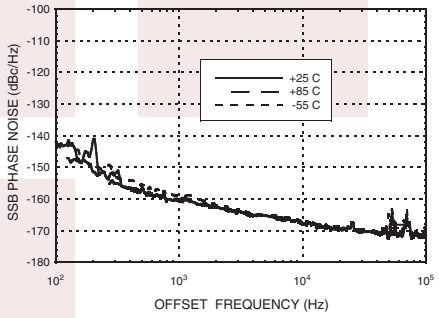
Phase Noise at Pout = P1dB @ 5.12 GHz



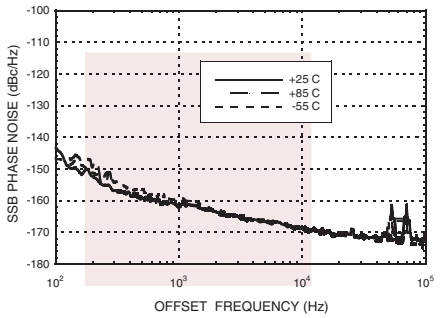
Phase Noise at Pout = Psat @ 5.12 GHz



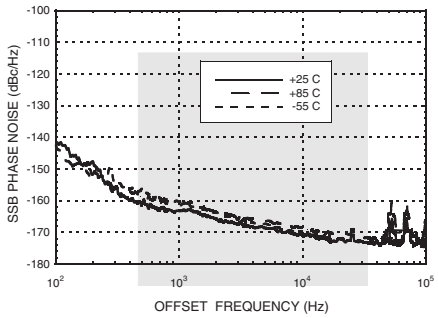
Phase Noise at Pout = 10 dBm @ 7 GHz



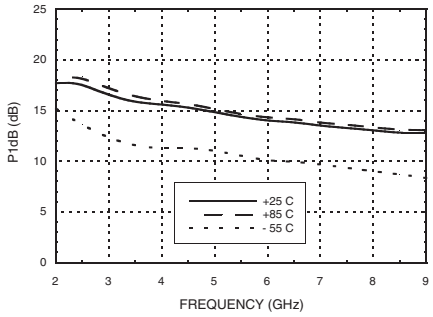
Phase Noise at Pout = P1dB @ 7 GHz



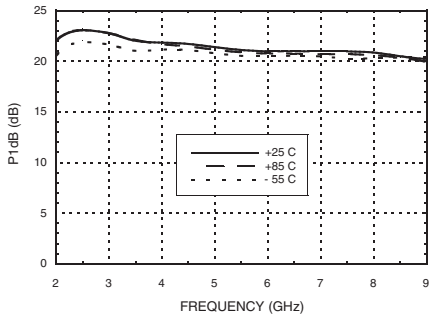
Phase Noise at Pout = Psat @ 7 GHz



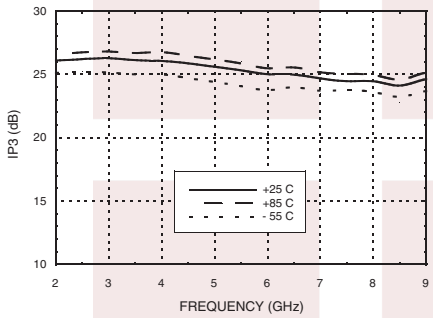
Output P1dB vs. Temperature



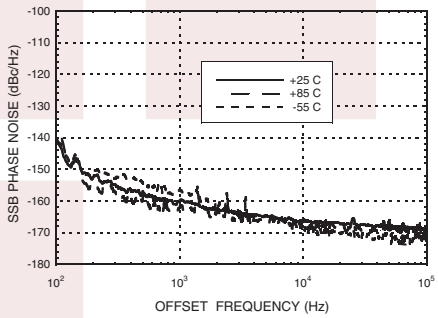
Output Psat vs. Temperature



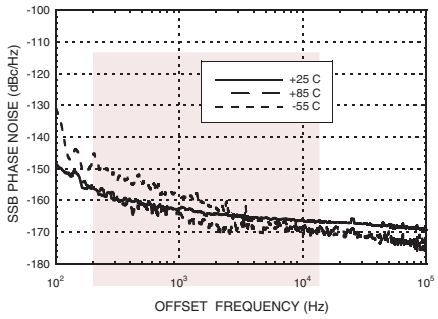
Output IP3 vs. Temperature



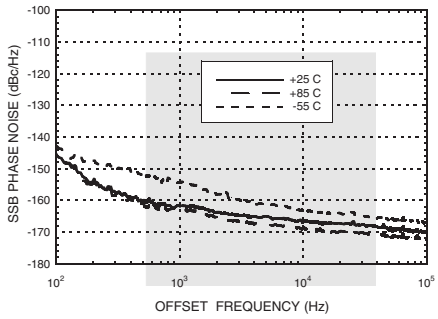
Phase Noise at Pout = 10 dBm @ 3.5 GHz



Phase Noise at Pout = P1dB @ 3.5 GHz



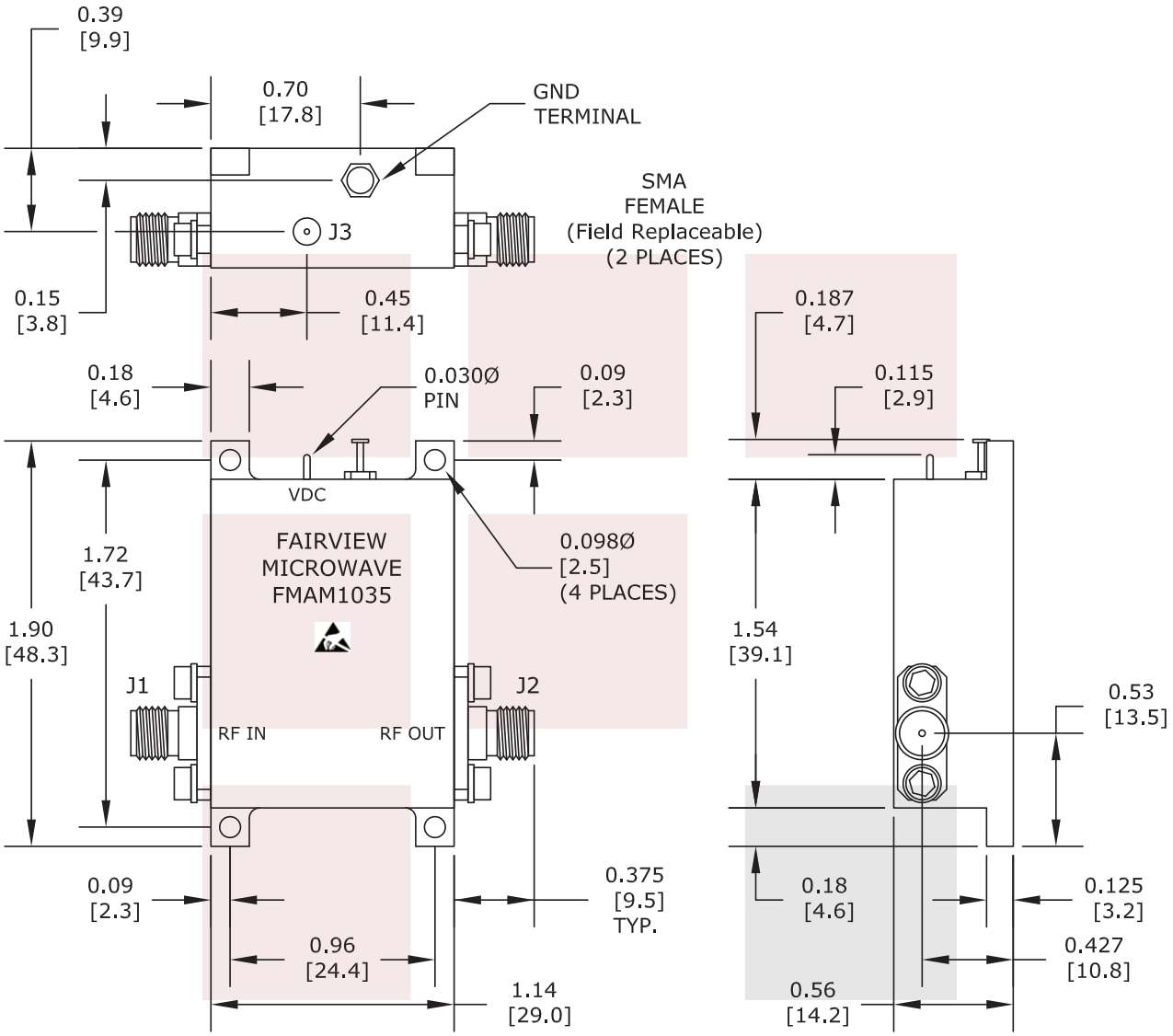
Phase Noise at Pout = Psat @ 3.5 GHz



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

URL: https://www.fairviewmicrowave.com/6db-nf-low-phase-noise-amplifier-11db-fmam1035-p.aspx



NOTE:
HEAT SINK REQUIRED FOR PROPER OPERATION,
UNIT IS COOLED BY CONDUCTING TO HEAT SINK.

FAIRVIEW MICROWAVE INC. ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM	NOTES: 1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL. 2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME. 3. DIMENSIONS ARE IN INCHES [mm].				
TITLE 6 dB NF Low Phase Noise Amplifier Operating From 3 GHz to 8 GHz with 11 dB Gain, 14 dBm P1dB and SMA	DWG NO FMAM1035		CAGE CODE 3FKR5		
CAD FILE 070816	SHEET	SCALE N/A	SIZE A	2233	