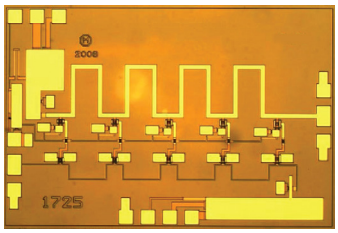
EMD1725-D Low Noise Amplifier

DC-40 GHz GaAs PHEMT MMIC Distributed Amplifier



Eclipse Microdevices EMD1725 is a 40 GHz GaAs MMIC PHEMPT Distributed general purpose Low Noise Amplifier. This LNA has a Small signal gain of 15 dB and is ideal for applications that requires a typical P1dB output power of +15 dBm at 36 GHz, while requiring only 110mA from a + 8 Volt supply. The EMD1725 has a slightly positive gain slope above 15 GHz which is ideal for most commercial and industrial applications. The device comes in a small die size of 2.3mm X 1.55mm X 0.1mm thick. The 1725 requires an off chip choke & blocking caps for broadband operation.

Technical Characteristics

Product Features
13.4 dB Gain @ 33 GHz
12.5 dB Gain +18.0 dBm P1dB Output Power @ 33 GHz in @ 10 GHz
+8.0V @ 110 mA typical supply voltage
Excellent Input & Output VSWR

Max. Ratings	
RF Input Power:	+18.0 dBm
Drain Voltage (Vdd):	+10.0 VDC
Gate Voltage (Vgg):	-2.0 to 0 VDC
Max. T_J 85° C:	+110°C
Storage Temperature:	-55 to +150°

Electrical Specifications @ +25°C, Vdd= 8.0, Ids= 108 mA

Parameters	Freq. (GHz)	Min.	Typical	Max.	Units
Gain	2 15 25 33		12.1 12.5 13.5 13.4		dB dB dB dB
Gain Flatness	DC to 20.0 GHz 20.0 to 33.0		+/- 0.20 +/- 1.00	+/- 0.40 +/- 1.50	dB dB
Gain Variation Over Temperature				0.02	dB/°C
Noise Figure	2 15 25 33		4.8 3.5 4.7 5		dB
Input Return Loss			11		dB
Output Return Loss			10		dB
1dB Compression Point	2 15 25 33		19 19 20.5 18		dBm dBm dBm dBm
Saturated Output Power	2 15 25 33		20 21 23 19		dBm dBm dBm dBm

Product Export Classification
ECCN: EAR 99 (NLR)
HTS: 8542.33.0001

06/26

About EclipseMDI

ECLIPSE MDI is located in San Jose, California. ECLIPSE has been developing high performance analog semiconductors for use in wireless radio frequency (RF), microwave, and millimeter wave for commercial and industrial applications. ECLIPSE has formed a strategic alliances - with foundries that feature leading state-of-the-art process technologies and with manufacturing facilities for high-volume production of innovative RFIC's.

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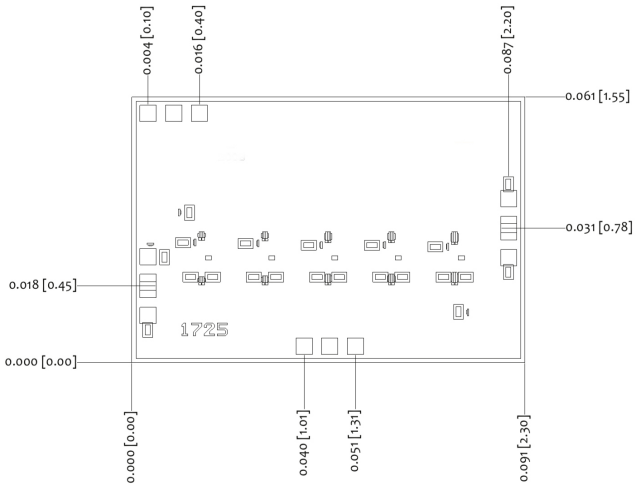
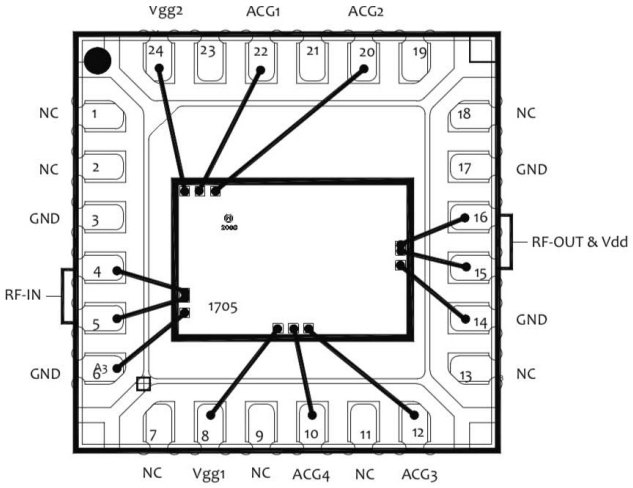
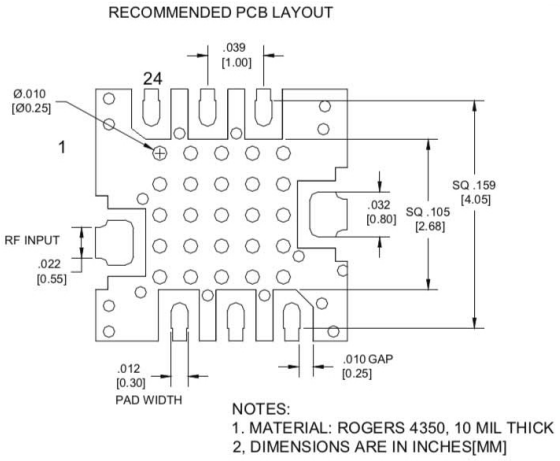
Outline Drawing



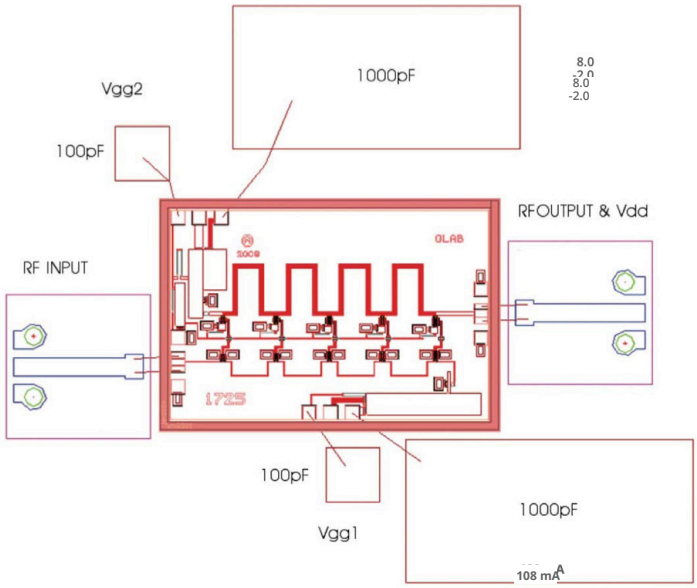
Functional block diagram



Recommended PCB layout



Application Circuit



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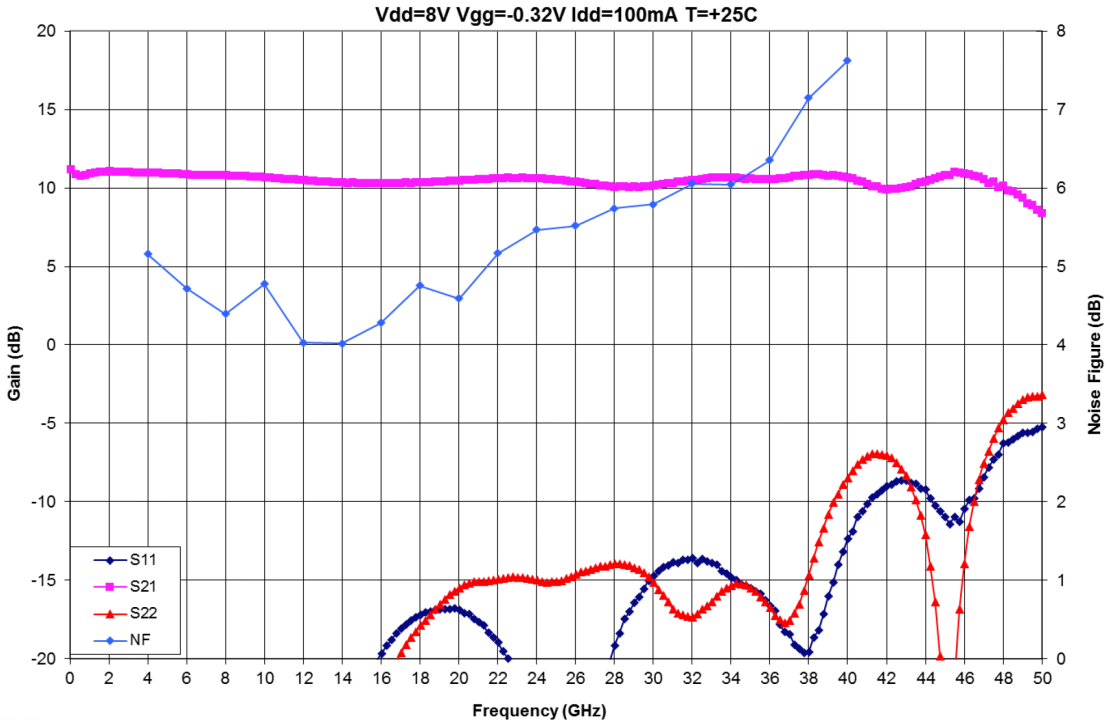
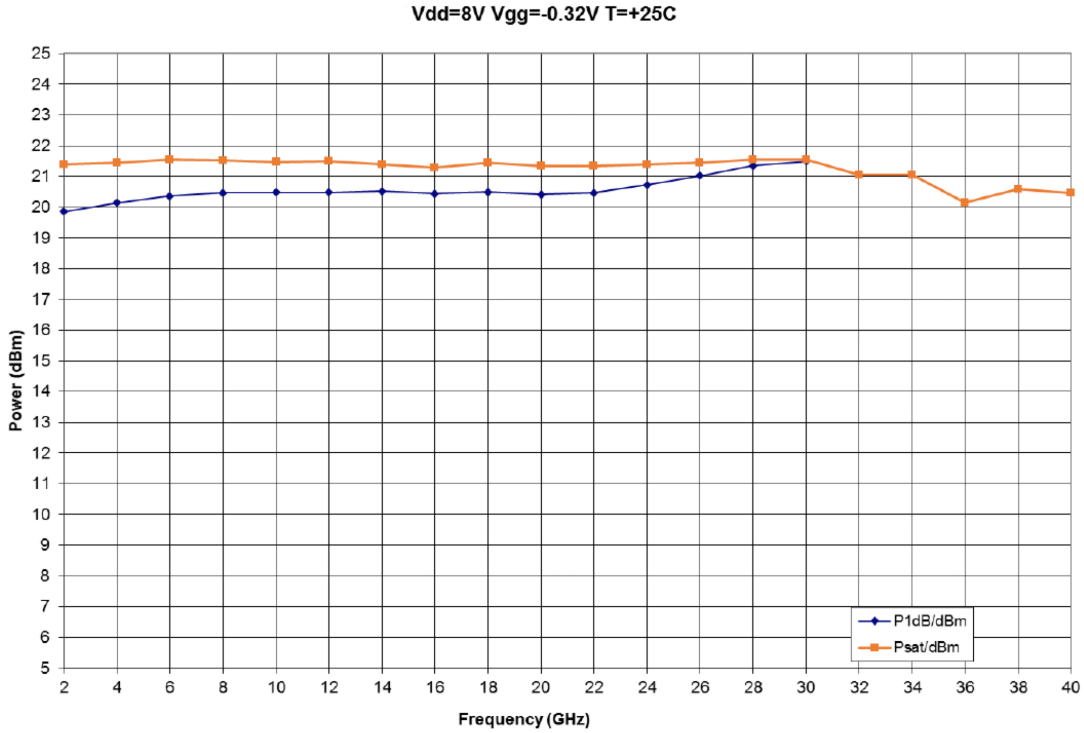
S-parameters/Noise Figure



Power Out



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