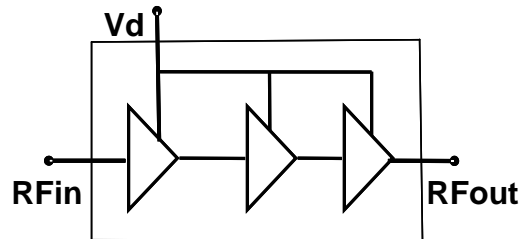


18 – 40 GHz Low Noise Amplifier Module

Features

- ◆ Frequency Range: 18 - 40 GHz
- ◆ 5 dB Noise Figure
- ◆ 27 dB Gain
- ◆ 13 dBm P1dB
- ◆ Single supply operation +12 V
- ◆ Input Return Loss of 15 dB (Typ)
- ◆ Output Return Loss of 10 dB (Typ)
- ◆ Nominal Bias 12V@ 175 mA
- ◆ 0.15-um InGaAs pHEMT Technology
- ◆ Small form factor

Functional Diagram



Typical Applications

- ◆ Millimeter-wave Point-to-Point Radio
- ◆ LMDS
- ◆ SATCOM
- ◆ VSAT Applications

Description

The LA184027M is a connectorised LNA module operating in 18 – 40 GHz frequency range. The LNA exhibits 27 dB of nominal gain and has a max. noise figure of 5 dB. The typical input/output return loss of the LNA is about 15 and 10 dB respectively. The nominal 1dB compression point is 13dBm. The module operates from a single +12 V supply.

The LNA features a small form factor with field replaceable K-type connectors. The module can be used as drop-in if required.

Absolute Maximum Ratings ⁽¹⁾

Parameter	Absolute Maximum	Units
Drain bias voltage (Vd)	+15	volts
RF input power (RFin at Vd=12V)	+20	dBm
Operating temperature	-55 to +85	°C
Storage Temperature	-65 to +150	°C

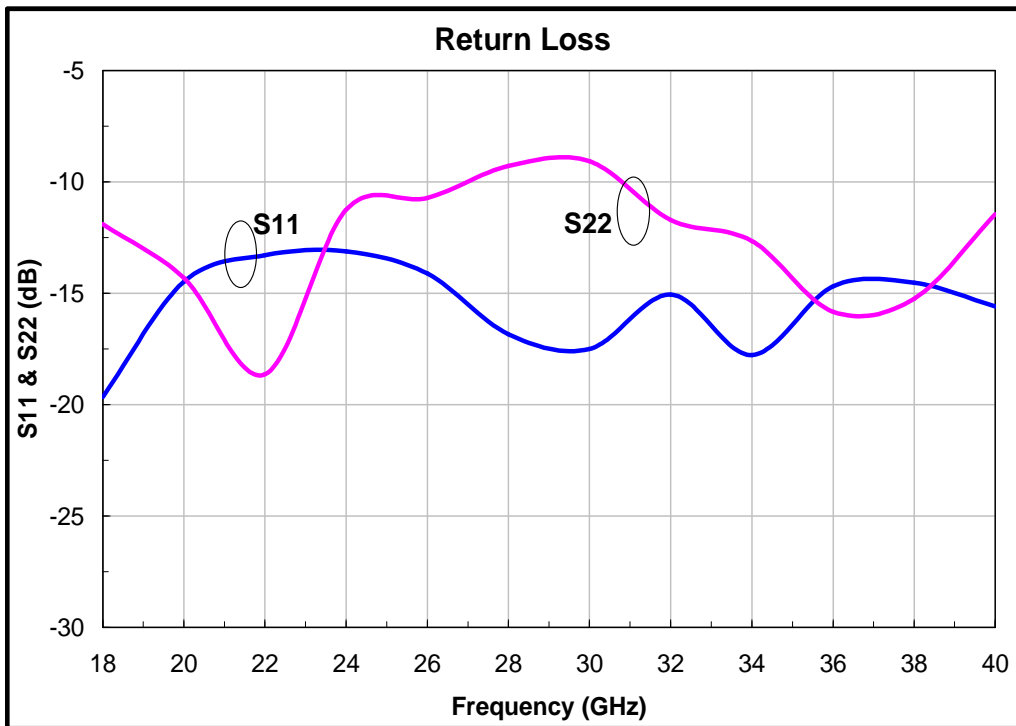
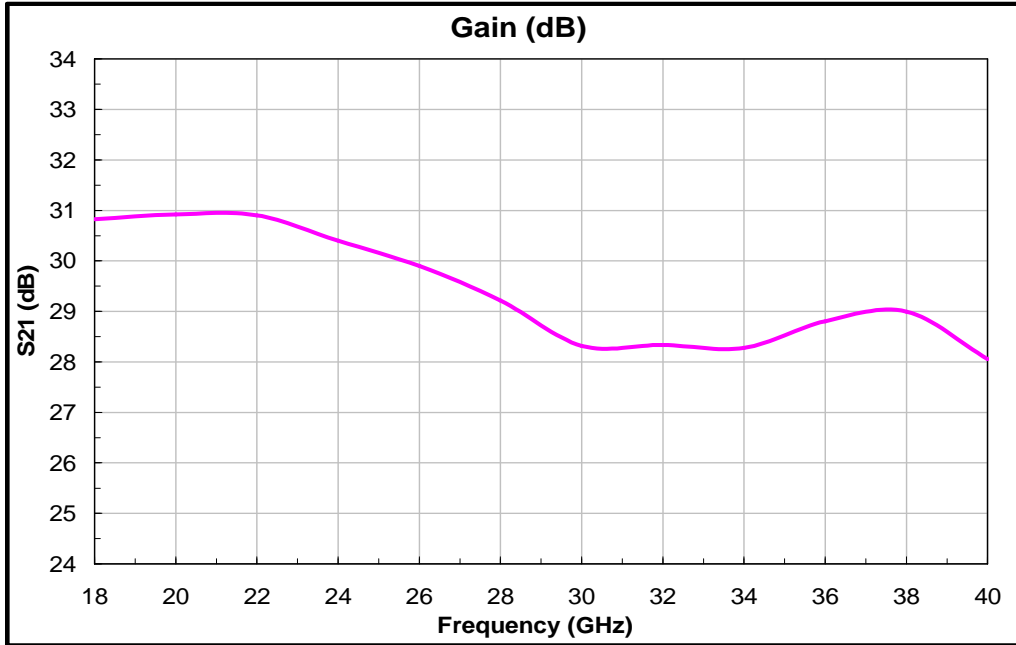
1. Operation beyond these limits may cause permanent damage to the component

Electrical Specifications @ $T_A = 25\text{ }^\circ\text{C}$, $V_d = +12\text{V}$, $Z_o = 50\text{ }\Omega$

Parameter	Typ.	Units
Frequency Range	18 - 40	GHz
Gain	27	dB
Gain Flatness	± 2	dB
Noise Figure (max.)	5	dB
Input Return Loss	15	dB
Output Return Loss	10	dB
Output Power (P1dB)	+13	dBm
Supply Current (I _d)	175	mA

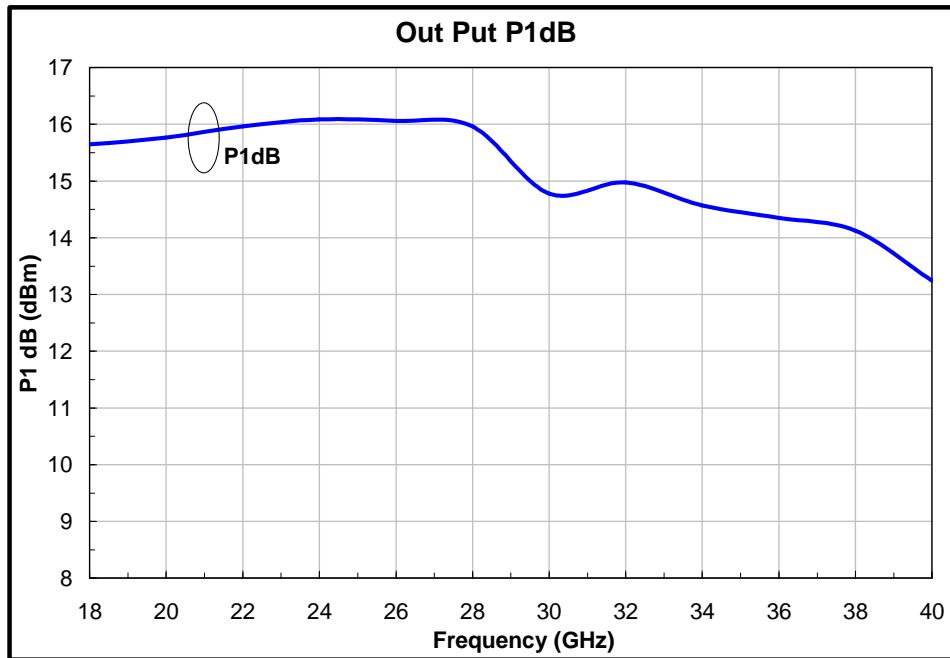
Test fixture data

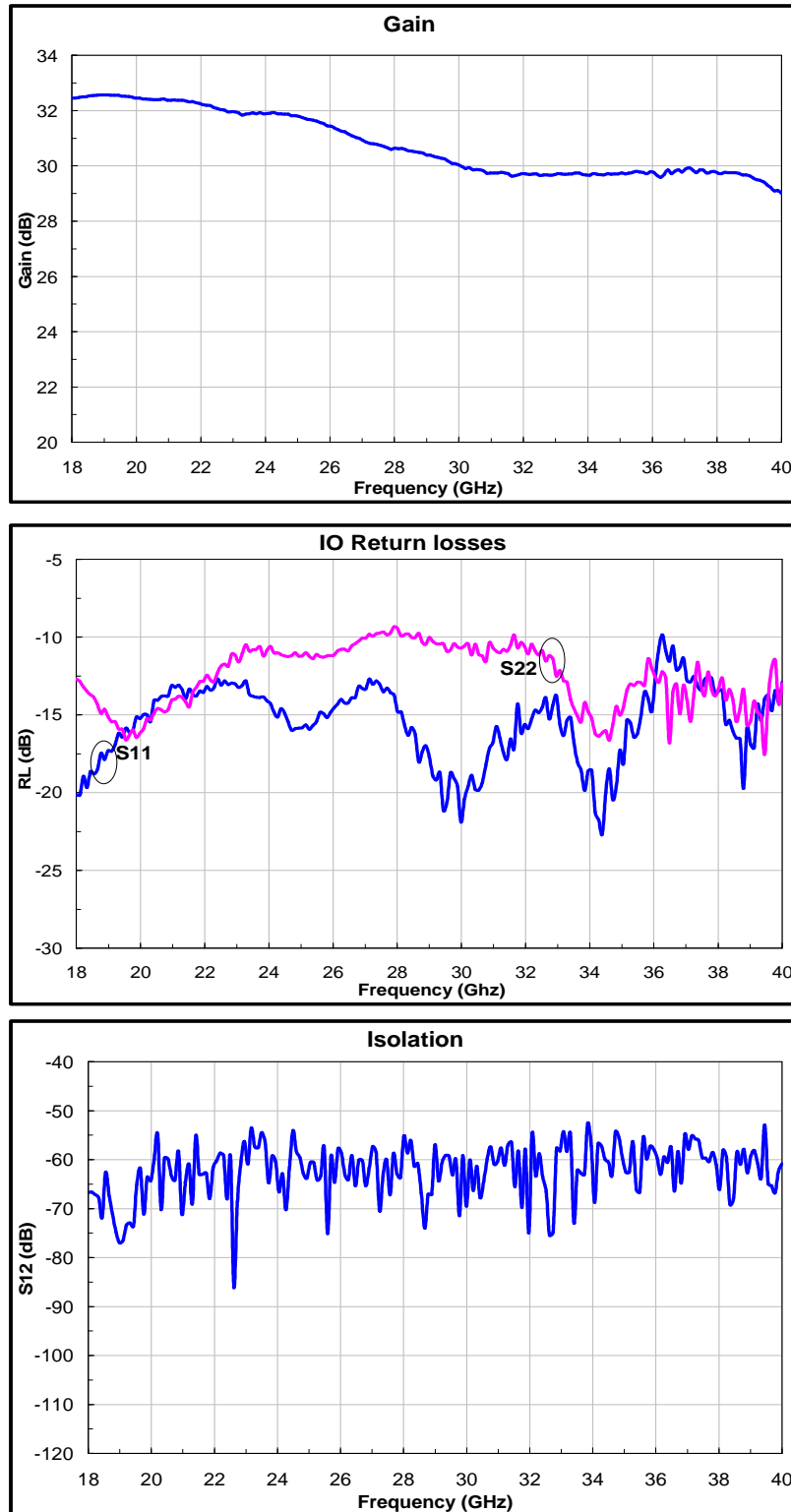
$V_d = 12\text{ V}$, Total Current = 175 mA, $T_A = 25\text{ }^\circ\text{C}$



Test fixture data

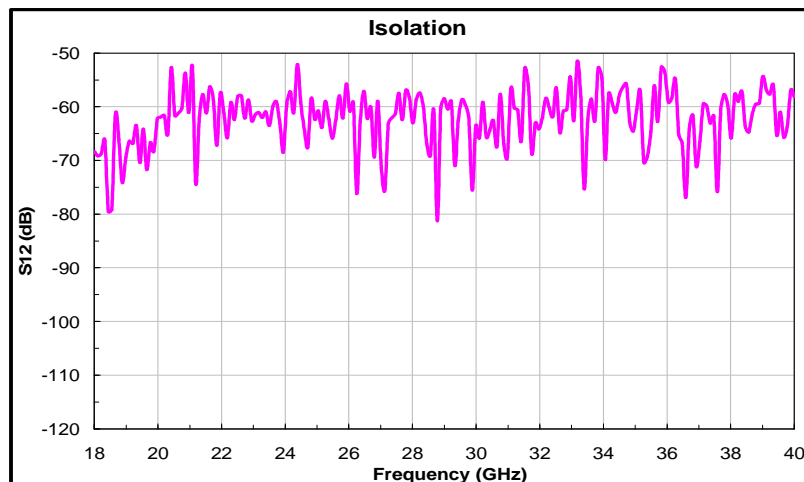
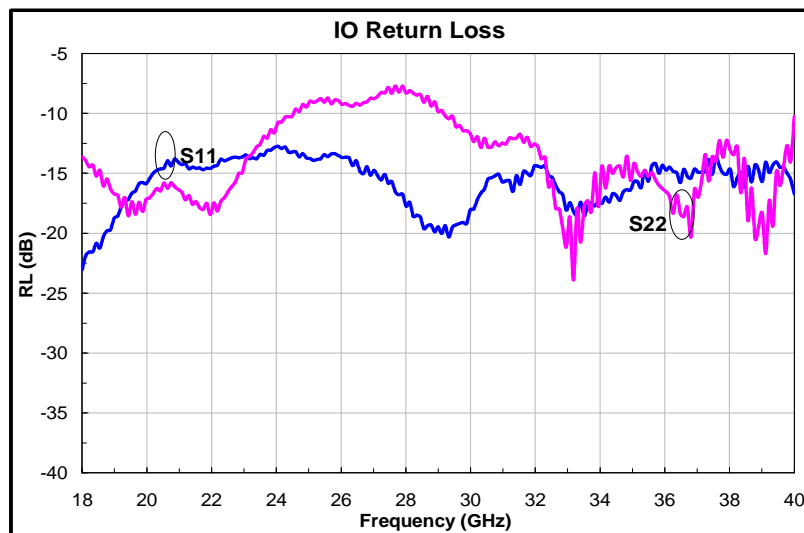
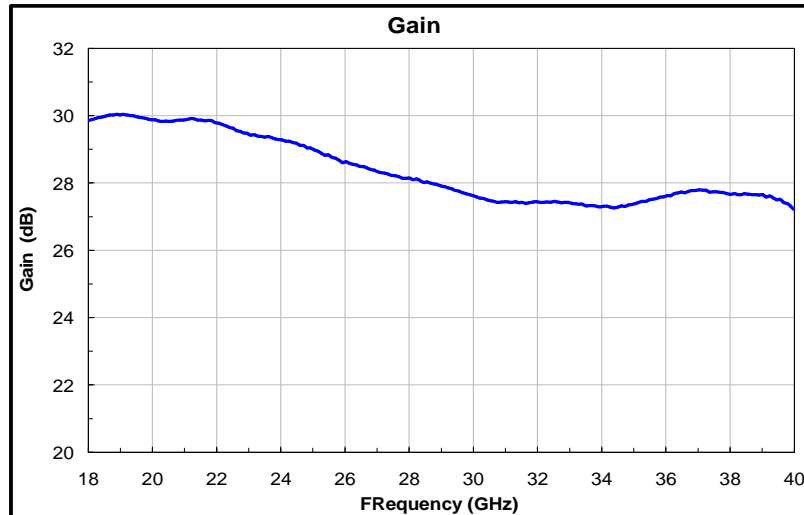
$V_d = 12\text{ V}$, Total Current = 175 mA, $T_A = 25\text{ }^\circ\text{C}$



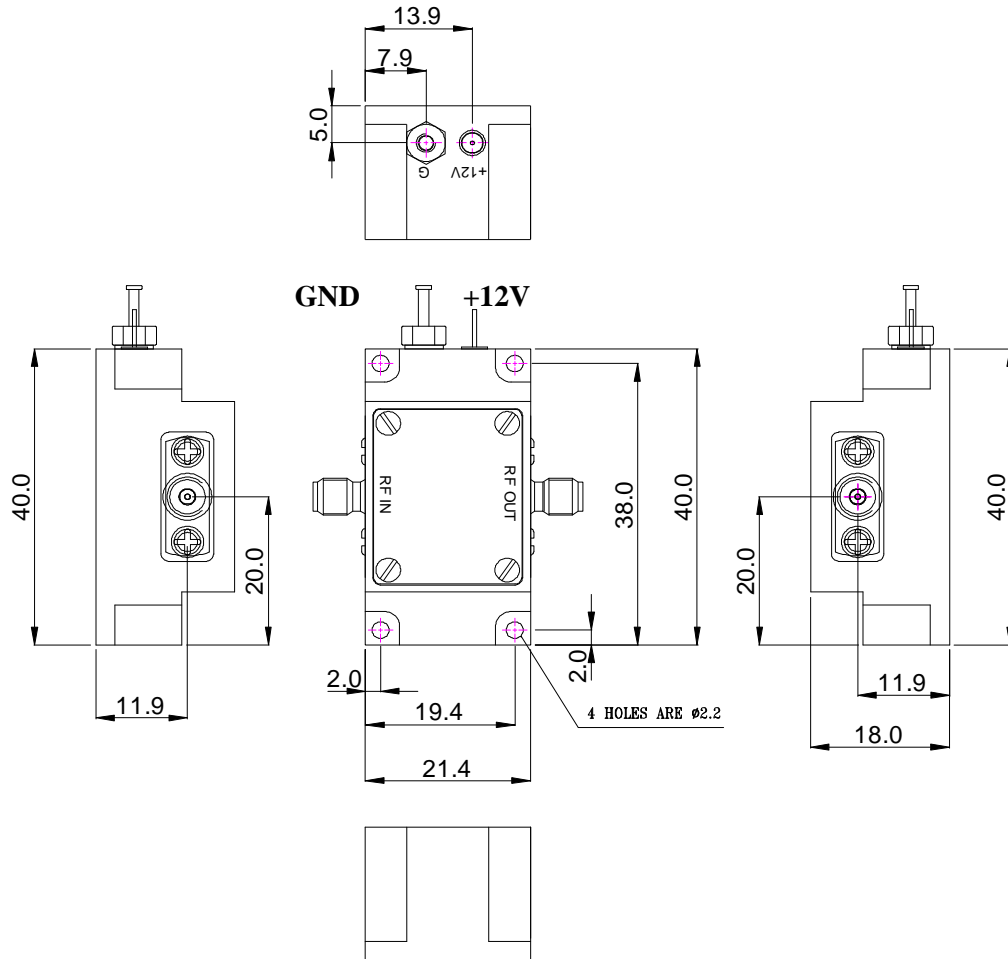
Test fixture data over Temperature*V_d = 12 V, Total Current = 175 mA, Temperature = -10 °C*

Test fixture data over Temperature

$V_d = 12\text{ V}$, Total Current = 175 mA, Temperature = +55 °C



Mechanical Characteristics



Units: Millimeters



GaAs MMIC devices are susceptible to Electrostatic discharge. Proper precautions should be observed during handling, assembly & testing

All information and Specifications are subject to change without prior notice