



# RF-LAMBDA

The power beyond expectations

R37G42GSA

## Low Noise Amplifier 37-42GHz NF: 3.5dB



- Point-to-Point Radios
- Point-to-Multi-Point Radios
- Military & Space
- Noise Figure: 3.5 dB
- P1dB: +12 dBm
- Gain: 22 dB
- Supply Voltage: +2.5V
- 50 Ohm Matched Input/Output
- Die Size: 1.80 x 0.73 x 0.1 mm

**Electrical Specifications,  $T_A = +25^\circ \text{C}$ ,  $V_{dd} = 2.5\text{V}$ ,  $I_{dd} = 52 \text{ mA}^*$**

| Parameter                                                                           | Min.    | Typ. | Max. | Units |
|-------------------------------------------------------------------------------------|---------|------|------|-------|
| Frequency Range                                                                     | 37 - 42 |      |      | GHz   |
| Gain                                                                                | 20      | 22   |      | dB    |
| Noise Figure                                                                        |         | 3.5  | 4.5  | dB    |
| Input Return Loss                                                                   |         | 4    |      | dB    |
| Output Return Loss                                                                  |         | 8    |      | dB    |
| Output Power for 1 dB Compression (P1dB)                                            |         | 12   |      | dBm   |
| Supply Current ( $I_{dd}$ )( $V_{dd} = 2.5\text{V}$ , $V_{gg} = -0.3\text{V}$ Typ.) |         | 52   |      | mA    |

### Absolute Maximum Ratings

|                                               |                 |
|-----------------------------------------------|-----------------|
| Drain Bias Voltage                            | +5 Vdc          |
| Gate Bias Voltage                             | -1 to +0.3 Vdc  |
| RF Input Power                                | -5 dBm          |
| Thermal Resistance<br>(channel to die bottom) | 137.8 ° C/W     |
| Storage Temperature                           | -65 to +150 ° C |
| Operating Temperature                         | -55 to +85 ° C  |



Low Noise Amplifier 1-11GHz NF: 3.5dB



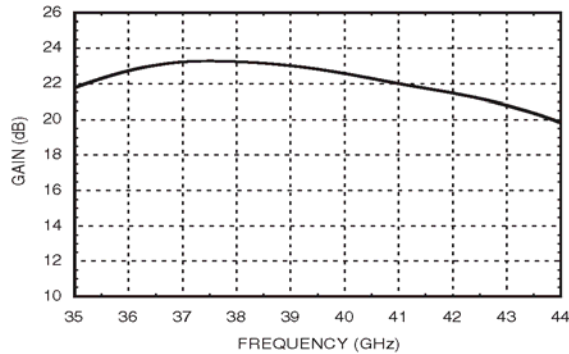
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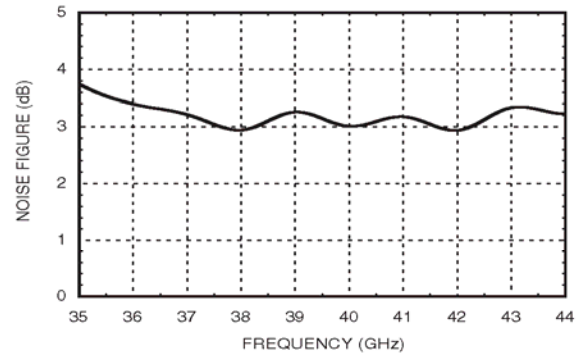
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Low Noise Amplifier 1-11GHz NF: 3.5dB

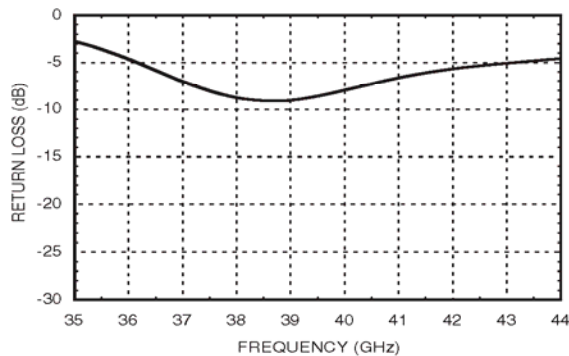
**Linear Gain vs. Frequency**



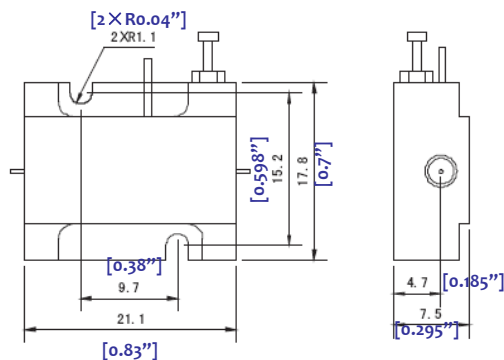
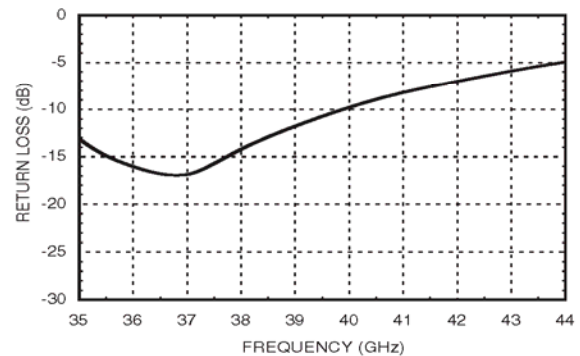
**Noise Figure vs. Frequency**



**Input Return Loss vs. Frequency**



**Output Return Loss vs. Frequency**



Heat Sink required during operation. (Heat Sink sold separately)

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