



# RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

## RO2G06GSM

### Driver Amplifier 2GHz ~ 6GHz

#### Features

- Gain: 14dB Typical
- Noise Figure: 4.5dB Typical
- P1dB Output Power: +13dBm Typical
- Supply Voltage: +5V

#### Typical Applications

- Wireless Infrastructure
- RF Microwave & VSAT
- Military & Aerospace
- Test Instrument



Electrical Specifications, TA = +25 °C, Vcc = +5V

| Parameter                                        | Min.                                                  | Typ. | Max. | Units  |
|--------------------------------------------------|-------------------------------------------------------|------|------|--------|
| Frequency Range                                  | 2                                                     |      | 6    | GHz    |
| Gain                                             |                                                       | 14   |      | dB     |
| Gain Flatness                                    |                                                       | -    |      | dB     |
| Gain Variation Over Temperature<br>(-45°C~+85°C) |                                                       | -    |      | dB     |
| Noise Figure                                     |                                                       | 4.5  |      | dB     |
| Input VSWR                                       |                                                       | 1.5  |      | : 1    |
| Output VSWR                                      |                                                       | 1.5  |      | : 1    |
| Output 1dB Compression Point (P1dB)              |                                                       | 13   |      | dBm    |
| Saturated Output Power (Psat)                    |                                                       | -    |      | dBm    |
| Output Third Order Intercept (IP3)               |                                                       | 23.5 |      | dBm    |
| Supply Current(Vcc=+5V)                          |                                                       | 45   |      | mA     |
| Isolation S12                                    |                                                       | -    |      | dB     |
| Weight                                           | -                                                     |      |      | Ounces |
| Impedance                                        | 50                                                    |      |      | Ohms   |
| Input / Output Connectors                        | SMA                                                   |      |      |        |
| Finish                                           | Standard: Gold 40 micron; Nickel 220 micron thickness |      |      |        |
|                                                  | Option: Gold 80 micron; Nickel 180 micron thickness   |      |      |        |
| Material                                         | Aluminum / copper                                     |      |      |        |
| Package Sealing                                  | Epoxy Sealing (Standard)                              |      |      |        |
|                                                  | Hermetically Sealed (Optional)                        |      |      |        |

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## R02G06GSM

### Absolute Maximum Ratings

|                   |        |
|-------------------|--------|
| Operating Voltage | +9V    |
| RF Input Power    | +20dBm |

### Biasing Up Procedure

|                     |                          |
|---------------------|--------------------------|
| Step 1              | Connect Ground Pin       |
| Step 2              | Connect input and output |
| step3               | Connect +5V biasing      |
| Power OFF Procedure |                          |
| Step 1              | Turn off +5V biasing     |
| Step 2              | Remove RF connection     |
| Step 3              | Remove Ground.           |

### Environmental Specifications and Test Standards

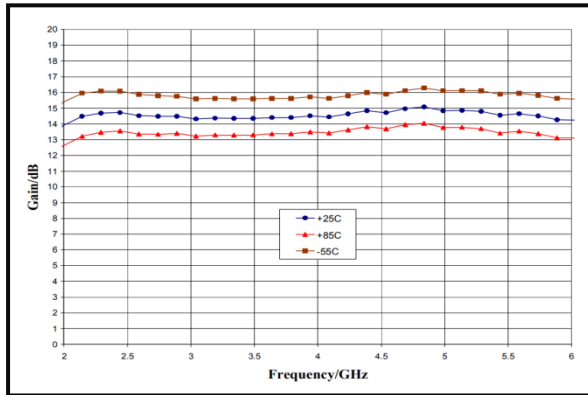
| Parameter                        | Standard      | Description                                                                                                                                                                                                     |
|----------------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operational Temperature          | MIL-STD-39016 | -45°C~+85°C                                                                                                                                                                                                     |
| Storage Temperature              |               | -50°C~+125°C                                                                                                                                                                                                    |
| Thermal Shock                    |               | 1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)                                                                                                                                                                       |
| Electrical & Temperature Burn In |               | Temperature +85°C for 72 Hours                                                                                                                                                                                  |
| Shock                            |               | 1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s<br>2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s<br>3. Total 18 times (6 directions, 3 repetitions per direction). |
| Altitude                         |               | Standard: 30,000 Ft (Epoxy Sealed Controlled Environment)<br>Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)                                                                                             |
| Hermetically Sealed (Optional)   | MIL-STD-883   | MIL-STD-883 (For Hermetically Sealed Units)                                                                                                                                                                     |
| Random Vibration                 | MIL-STD-202   | Test Method 214A. Test Condition I. Test Condition Letter C.<br>Duration 15 minutes                                                                                                                             |

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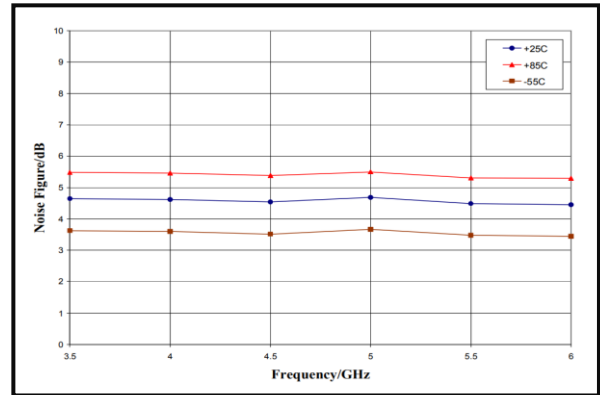


### Typical Performance Plots

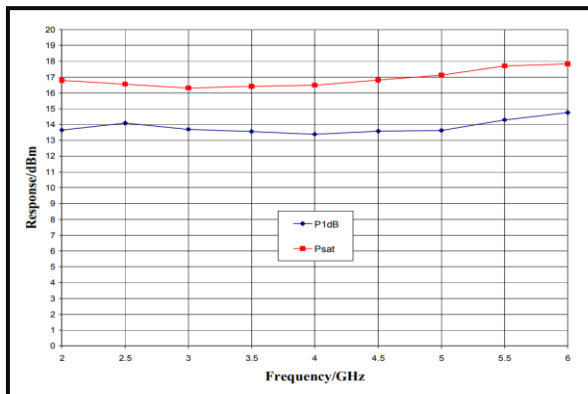
#### Gain vs. Temperature



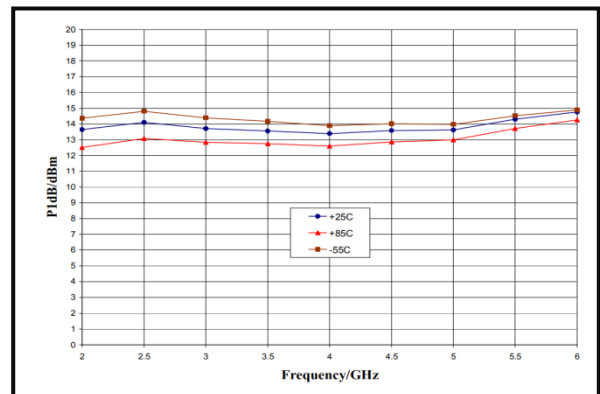
#### Noise Figure vs. Temperature



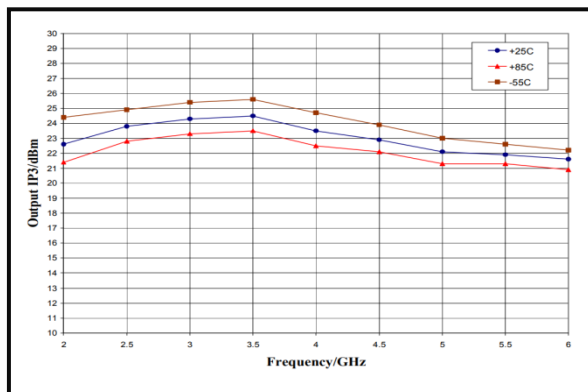
#### Output Power



#### P1dB vs. Frequency



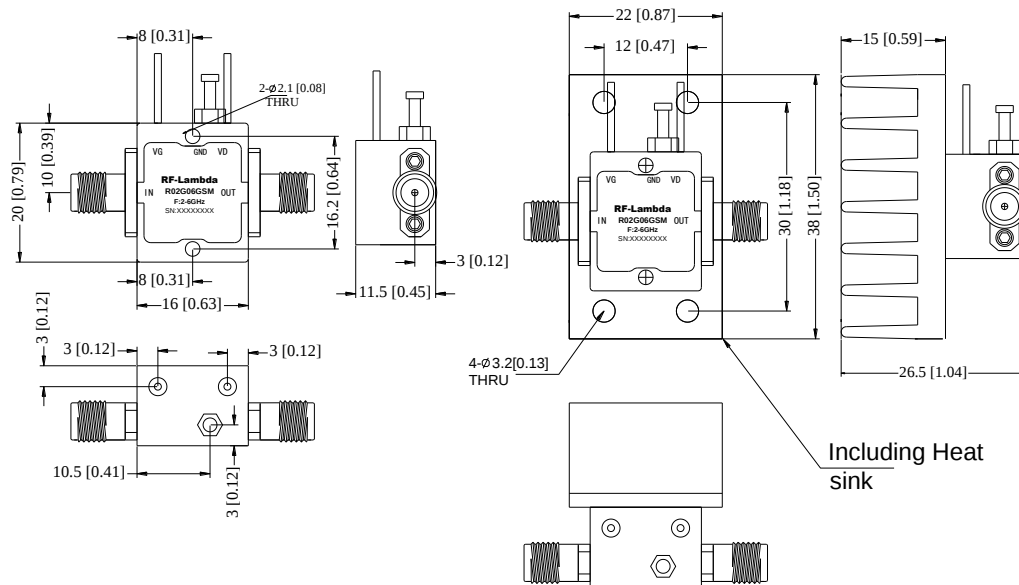
#### Output Third Order Intercept (IP3)





### Outline Drawing:

All Dimensions in mm [inches]



Heat Sink required during operation (Sold Separately)



### Ordering Information

| Part No.  | ECCN  | Description             |
|-----------|-------|-------------------------|
| R02G06GSM | EAR99 | 2-6GHz Driver Amplifier |

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