**Features:**

**Frequency: DC-30GHz**

**Small Singal Gain: 16dB**

**Flatness:≤±0.2dB@DC-26GHz**

**Noise Figure:≤4dB**

**P-1dB: 26dBm**

**Psat:27dBm**

**Supplying: +8V/180mA**

**50Ohm Input/Output**

**100% In-situ Testing**

**Chip Size: 2.94 x 1.35 x 0.1mm**

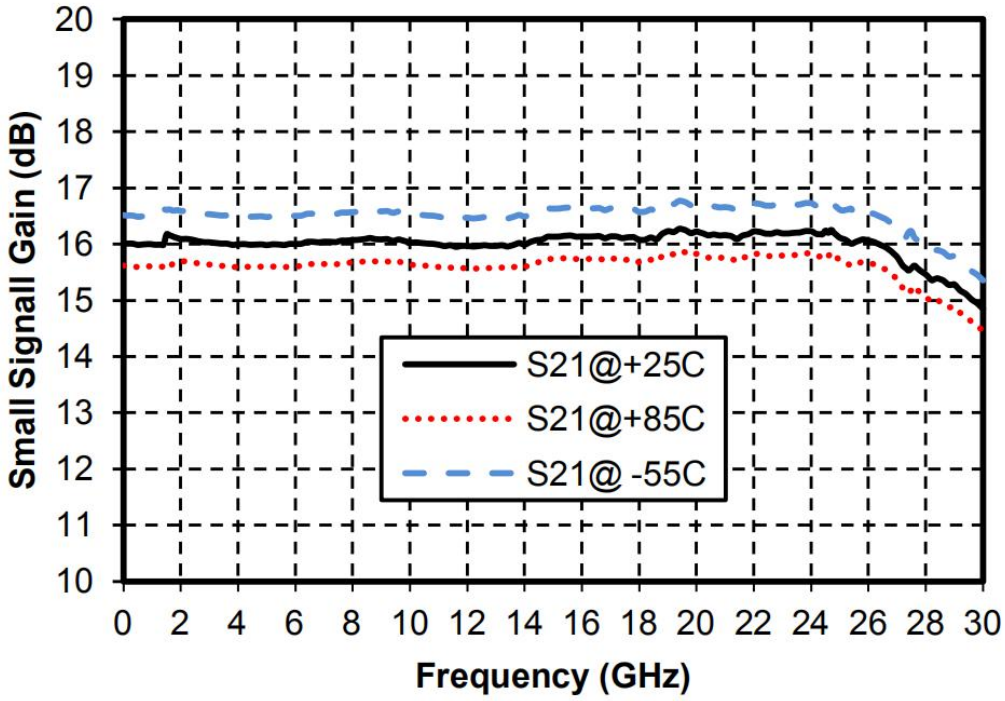
**Description:**

**The YTLA-0030-27 is a Wide Band Low Noise Amplifier which operates betwee DC～30GHz，This model is with 16dB of small Singal gain with small signal gain 27dBm and has the best flatness with ≤± 0.4dB@DC-26GHz among the world's brand devices for !It adopts +8V of its supplying!**

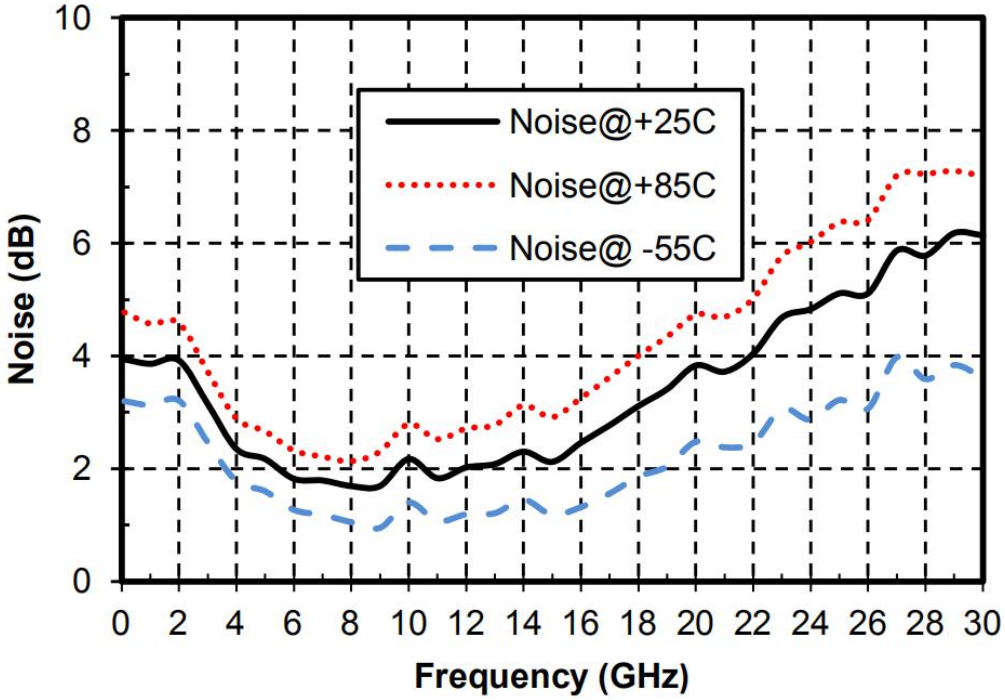
| Limited Parameter | |
|---|---|
| Max Drain Voltage | 14V |
| Max Gate Voltage | -3V |
| Max Input Power | +20dBm |
| Working Temperature | -55 ~ +85° C |
| Storage Temperature | -65 ~ +150° C |

| Features | Min | Typical | Max | Min | Typical | Max | Min | Typical | Max | Unite |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency | | DC-18 | | | 18-26 | | | 26-30 | | GHz |
| Small Singal Grain | 15.9 | 16 | 16.1 | 16 | 16 | 16.2 | 16 | 15 | 14.8 | dB |
| Flatness | | ±0.2 | | | ±0.2 | | | ±0.9 | | dB |
| Noise Figure | 2 | 2.5 | 3.9 | 3.1 | 4 | 5.1 | 5.1 | 6 | 6.1 | dB |
| P-1dB | 25.9 | 26 | 27.3 | 25.2 | 25 | 26.2 | 25.2 | 24 | 24.2 | dBm |
| Psat | 26.9 | 27 | 28.3 | 26 | 26.5 | 27 | 26 | 25.5 | 25.2 | dBm |
| Input Return Loss | | 15 | | | 18 | | | 15 | | dB |
| Output Return Loss | | 20 | | | 16 | | | 13 | | dB |
| By tuning the vg terminal voltage-2v ~ 0 v, the terminal voltage of 180ma and vg is expected to be-0.6v. | | | | | | | | | | |

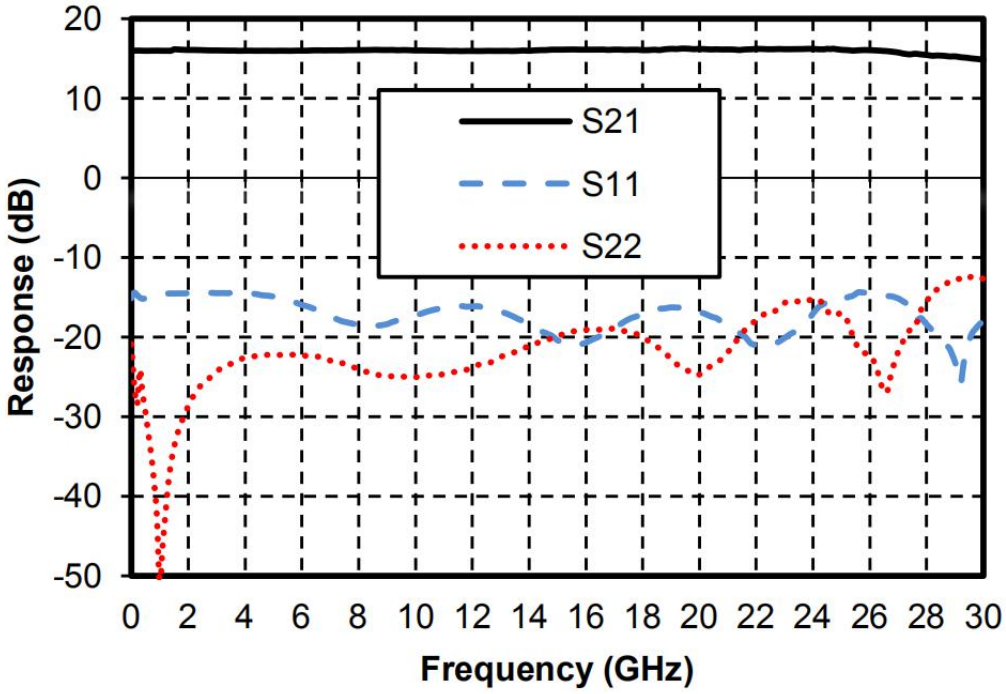
## Gain VS Temperature



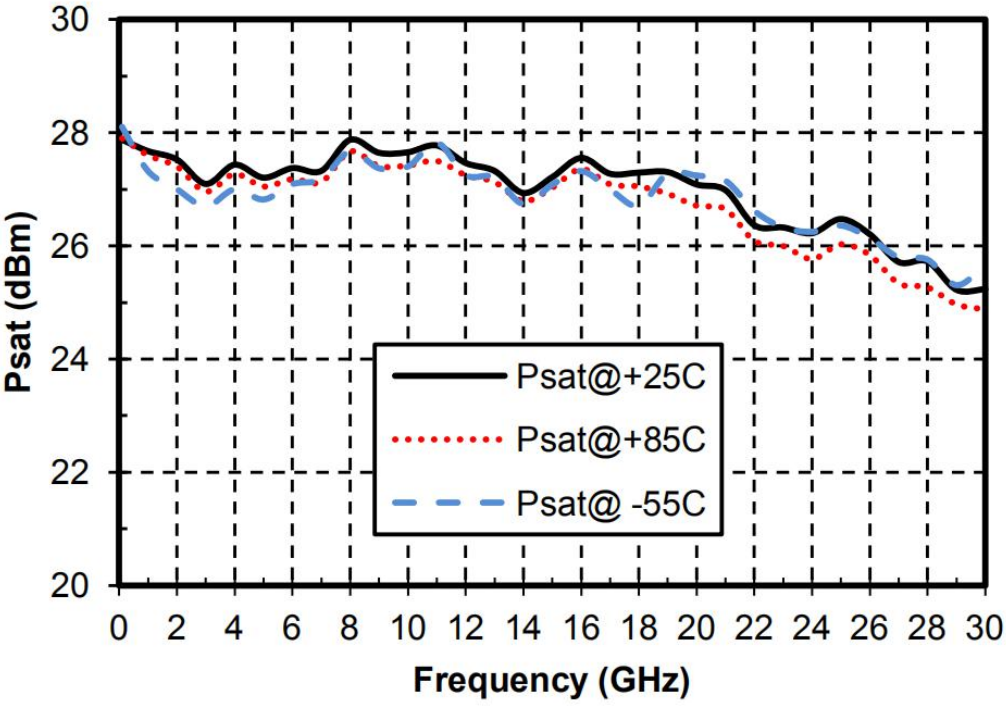

**Noise Figure VS Frequency**



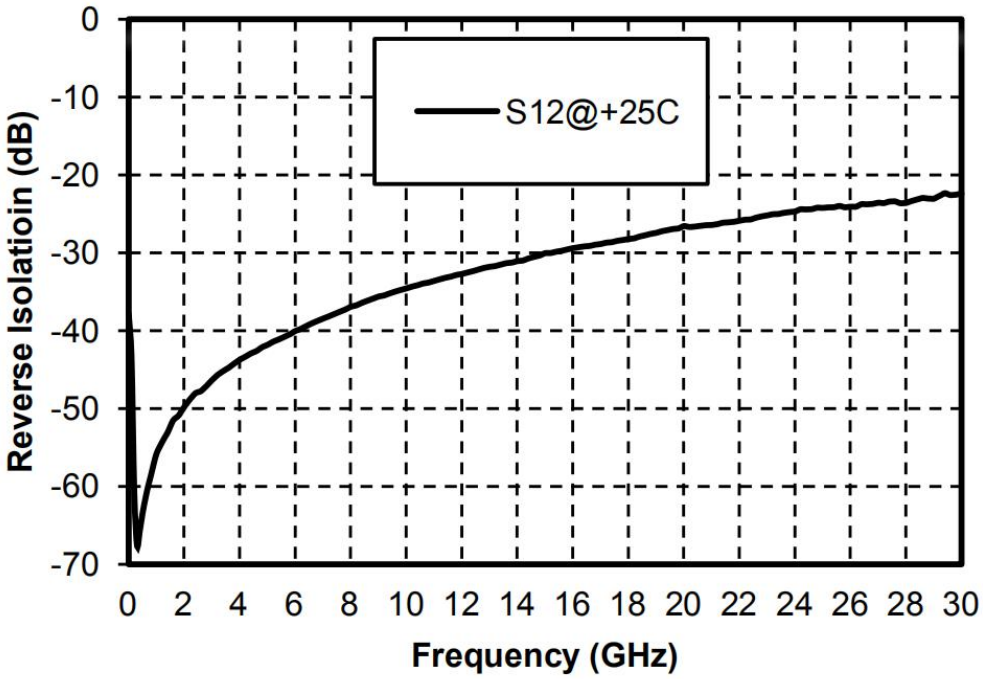

**Input/Output Return Loss&Gain VS Frequency**



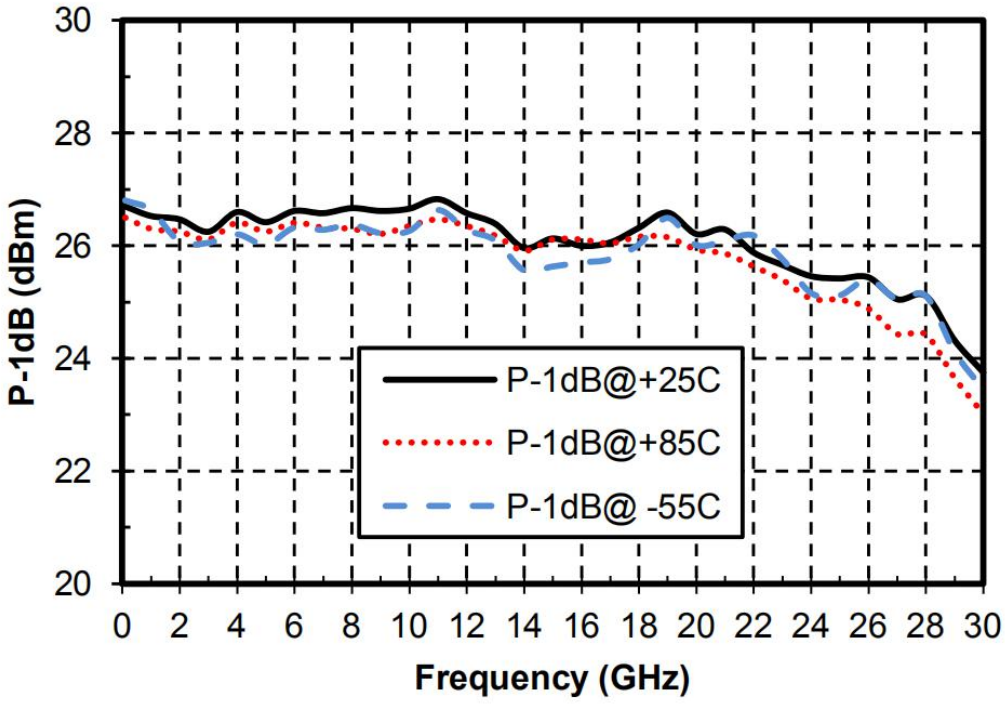

**Psat VS Frequency**



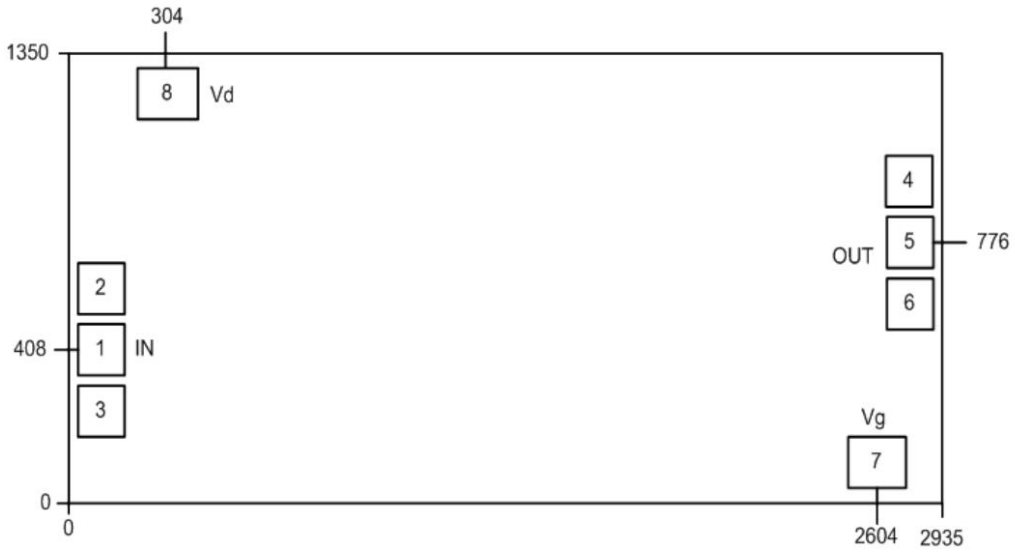

**Reverse Isolation VS Frequency**



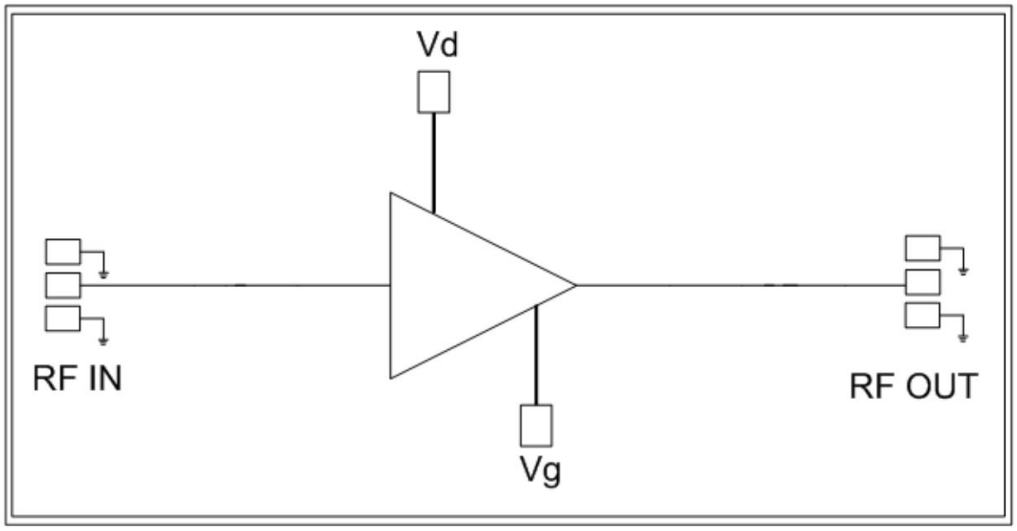

**P-1dB VS Frequency**



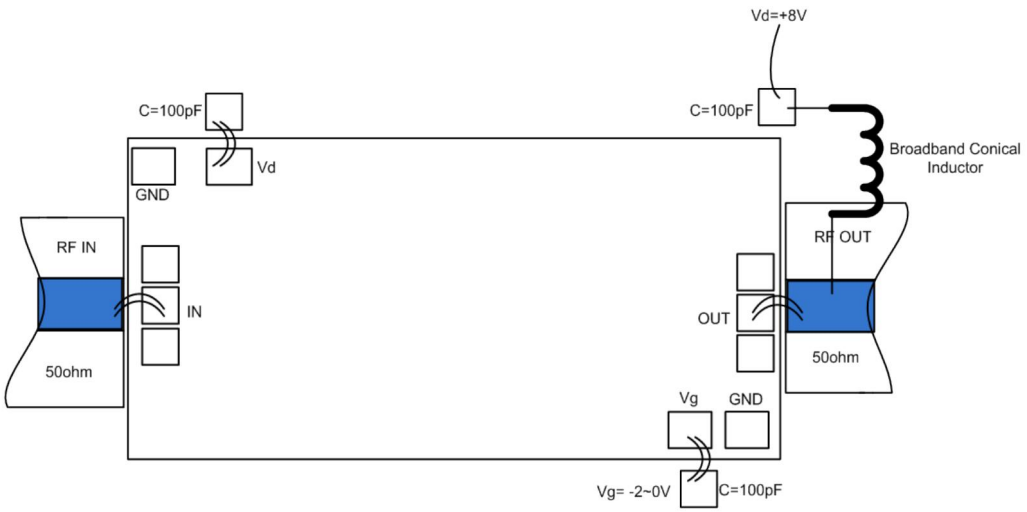

**Outline Drawing:( μm)**




**Functional Diagram：**




**Assembly Diagram**:




## Handling Precautions

**1.All bare die are placed in either Waffle or Gel based ESD protective containers,all die should be stored in a dry nitrogen environment.**
**2.Cleanliness: Handle the chips in a clean environment. DO NOT attempt to clean the chip using liquid cleaning systems**
**3.Follow ESD precautions to protect against ESD strikes**
**Handle the chip along the edges with a vacuum collet or with a sharp pair of bent tweezers. The surface of the chip has fragile air bridges and should not be touched with vacuum collet, tweezers, or fingers**
**4.Eutectic Die Attach: A 80/20 gold tin preform is recommended with a work surface temperature of 255 ° C and a tool temperature of 265 ° C. When hot 90/10 nitrogen/hydrogen gas is applied, tool tip temperature should**
**5.Epoxy Die Attach: Apply a minimum amount of epoxy to the mounting surface so that a thin epoxy fillet is observed around the perimeter of the chip once it is placed into position. Cure epoxy per the manufacturer’s schedule**
**6.Ball or wedge bond with 0.025mm (1 mil) diameter pure gold wire. Thermosonic wirebonding with a nominal stage temperature of 150 ° C and a ball bonding force of 40 to 50 grams or wedge bonding force of 18 to 22 grams is recommended. Use the minimum level of ultrasonic energy to achieve reliable wirebonds. Wirebonds should be started on the chip and terminated on the package or substrate. All bonds should be as short as possible <0.31mm (12 mils).**