



Features

- Frequency: 0.1-27GHz
- Small Signal Gain: 12dB Typical
- Gain Flatness: ± 2.5 dB Typical
- Noise Figure: 2.0dB Typical
- P1dB: 18dBm Typical
- Power Supply:
VD=+7.5V@55mA ,VG=+0.6V
- Input/Output: 50 Ω
- Chip Size: 0.995 x 0.8 x 0.1mm

Typical Applications

- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

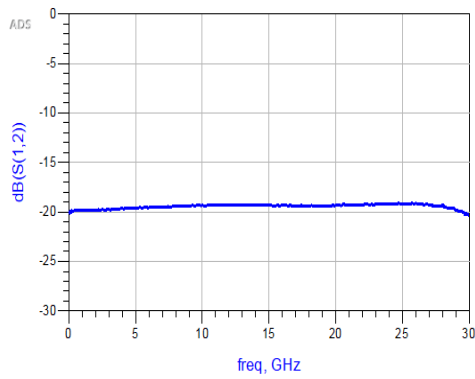
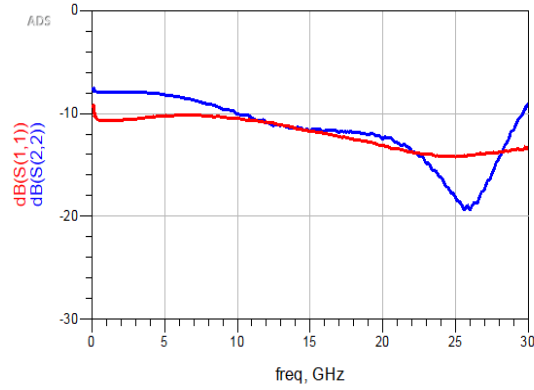
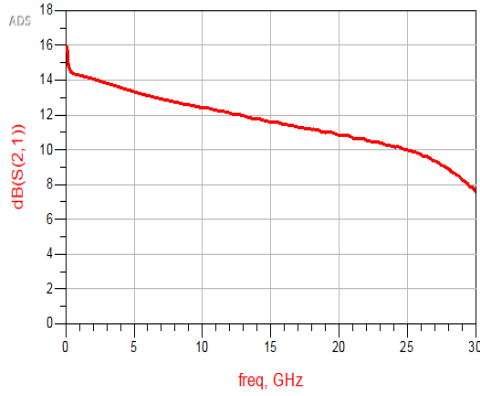
Electrical Specifications

TA = +25°C, VD = +7.5V with 30 Ω , VG=+0.6V , IDD = 55mA Typical

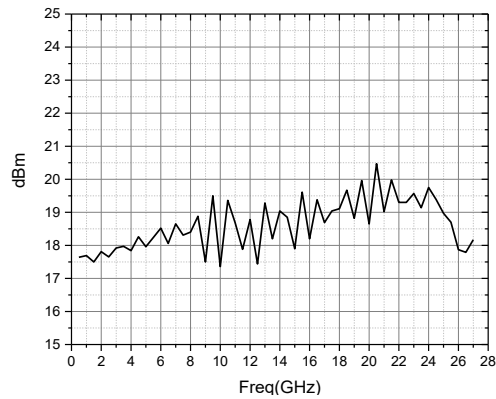
Parameters	Min.	Typ.	Max.	Units
Frequency	0.1		27	GHz
Small Signal Gain	9	12		dB
Gain Flatness		± 2.5		dB
Noise Figure		2.0		dB
P1dB - Output 1dB Compression		18		dBm
Psat - Saturated Output Power		19		dBm
OIP3 - Output Third Order Intercept		28		dBm
Input Return Loss		-10		dB
Output Return Loss		-8		dB



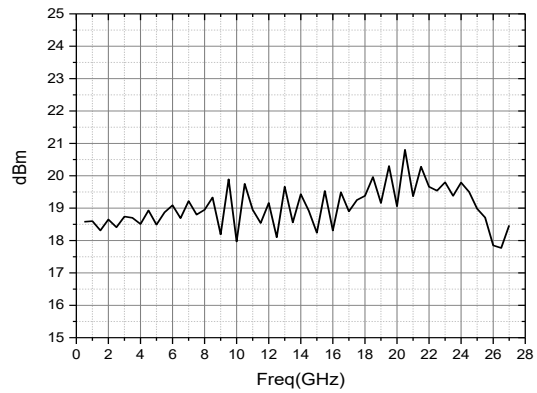
Measurement Plots: S-parameters



Measurement Plots: P1dB

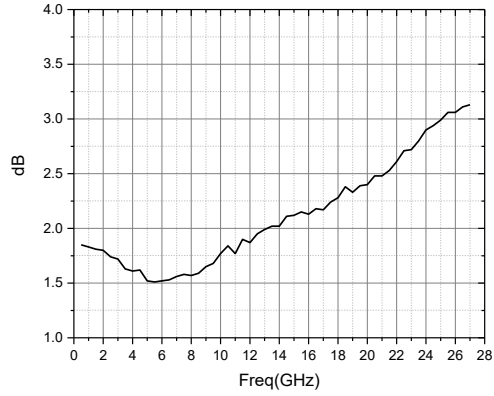


Measurement Plots: P5dB





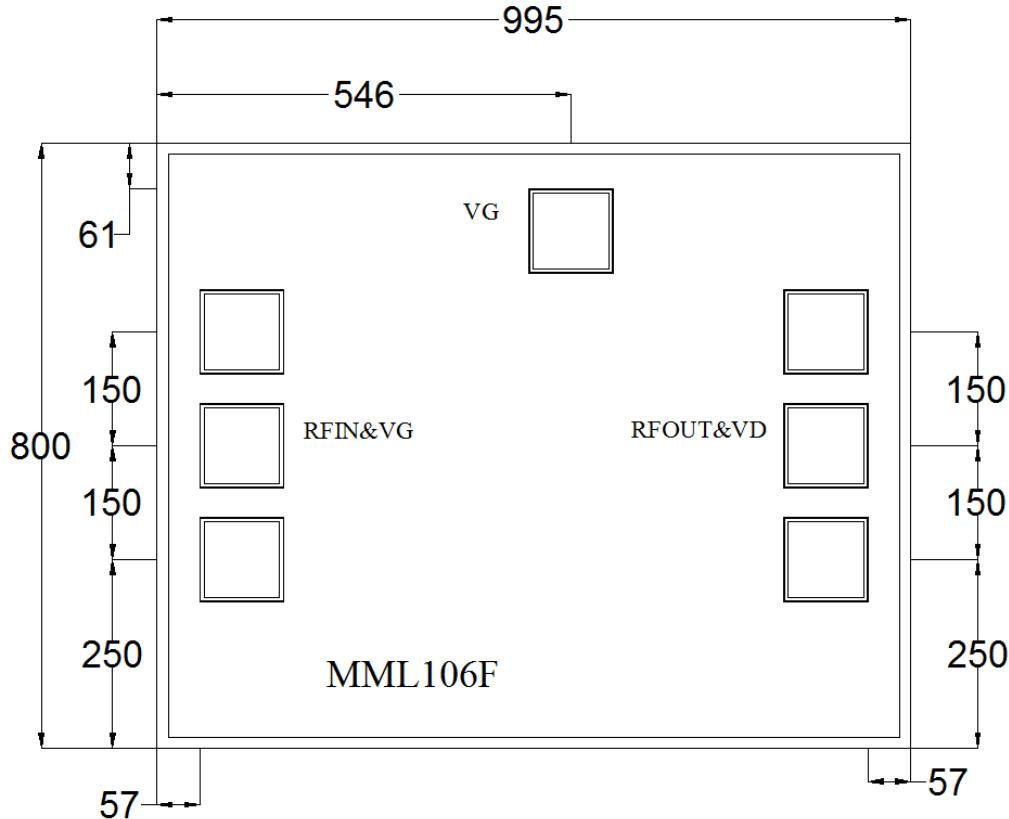
Measurement Plots: Noise Figure





Outline Drawing:

All Dimensions in μm

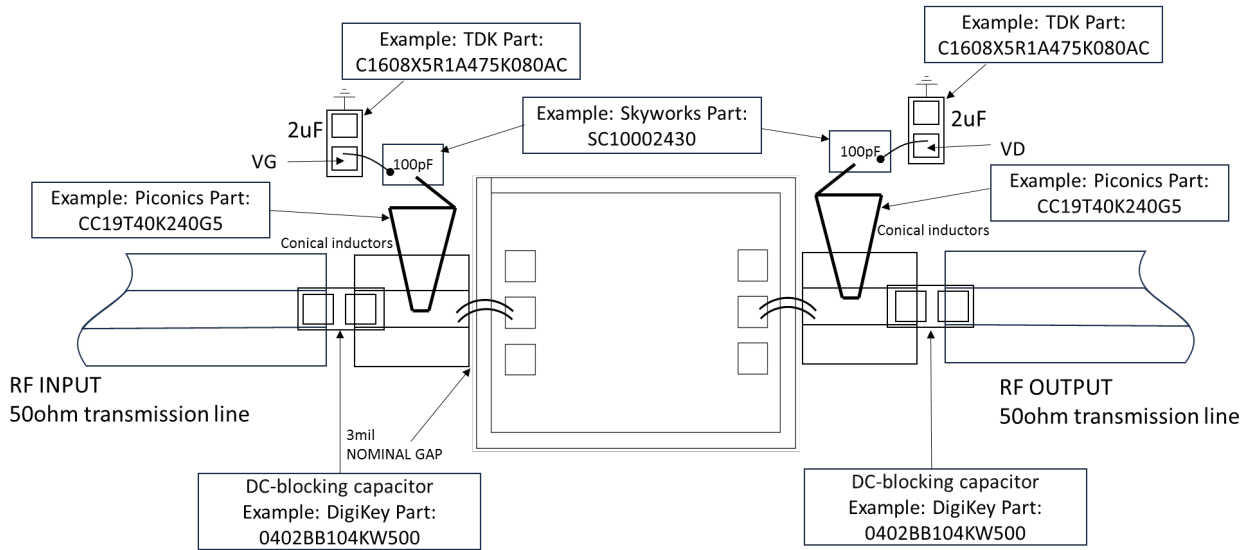


Notes:

1. Die thickness: 100 μm
2. DC bond pad is 100*100 μm^2
3. RF IN/OUT bond pad is 100*100 μm^2
4. Bond pad metalization: Gold
5. Backside metalization: Gold



Assembly Drawing



No	Function	Description
1	RF IN & VG	RF signal input terminal; connected to 50Ω circuit; blocking capacitor required; The gate bias of the amplifier requires an external inductor and 100pF,2uF bypass capacitors.
2	RF OUT & VD	RF signal output terminal; connected to 50Ω circuit; blocking capacitor required; The amplifier drain bias requires an external inductor and 100pF,2uF bypass capacitors.
3	VG	N/A
4	Die Bottom	Die bottom must be connected to RF and dc ground.



MILLER MMIC

MML106F

V1.0.0

GaAs MMIC Low Noise Amplifier
0.1-27GHz

MML106F

GaAs Low Noise Amplifier MMIC 0.1 - 27GHz

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