



### CATV Line Amplifier

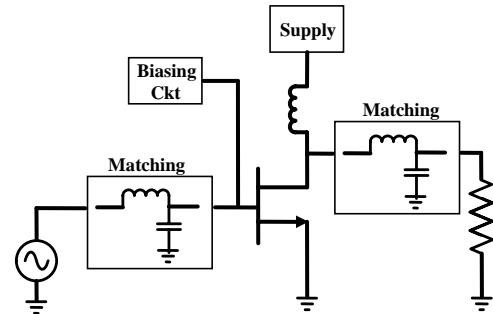
RJCT01

#### Description

The **RJCT01** is a CATV Line Amplifier IP block, designed on 0.18um SiGe BiCMOS technology. The amplifier provides low distortion and noise figure along with flat gain. The part works with a supply Voltage of +6.0 V.

This can operates from 40 to 870 MHz band with 20 dB gain. The device is unconditionally stable throughout the band.

#### Functional Diagram



#### Applications

- CABLE TV

#### Key Features

- 0.5 dB Gain Flatness
- Low Cost, Small Size
- High Performance

#### Electrical Specification

Conditions: Vdd = 6.0 V & TA=25 °C

Parameter	Min	Typical	Max	Units
Frequency Range	40		870	MHz
Gain	20.5		21	dB
Power Output (P1 dB)		16		dBm
Input Return Loss		8		dB
Output Return Loss		12		dB
Supply Current		73.6		mA
Supply voltage		6		V

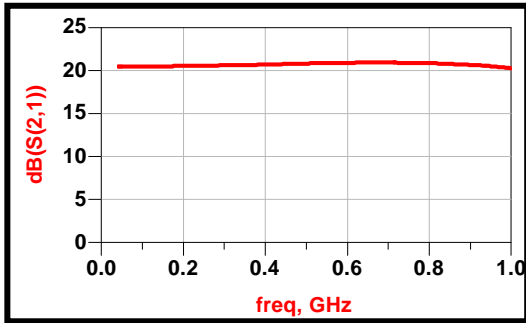


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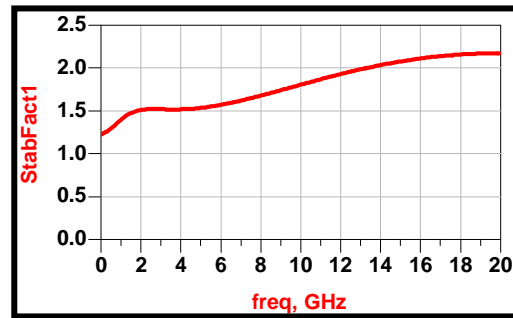
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Simulated Results

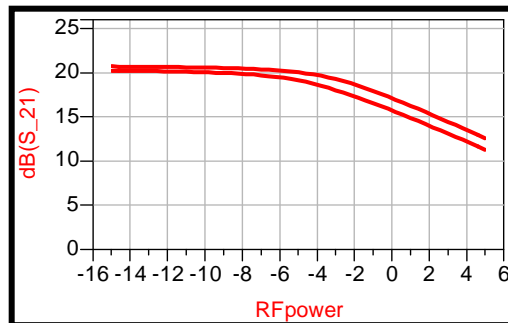
Gain Vs Frequency



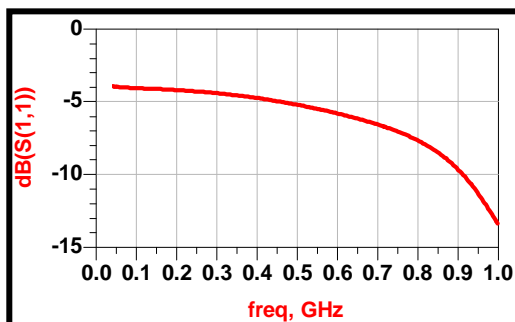
Stability Factor



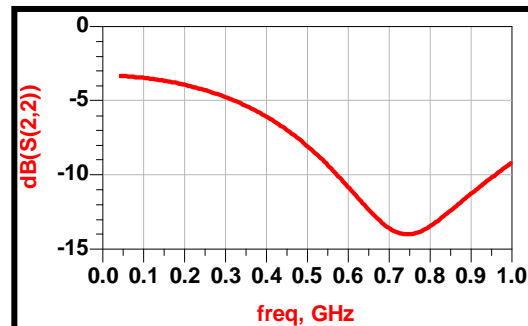
Gain Vs Pin



Input return Loss Vs Freq



Output Return Loss Vs Freq





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**Layout**

