

High linearity low noise amplifier

AM-2503 is designed as compact low noise amplifier. High linearity and gain, wide band and good noise parameters make AM-2503 very attractive in low signal receiving applications.

Features:

- High gain
- High linearity
- Flat gain-frequency response
- Low noise
- Solid case
- Small dimensions



Application areas:

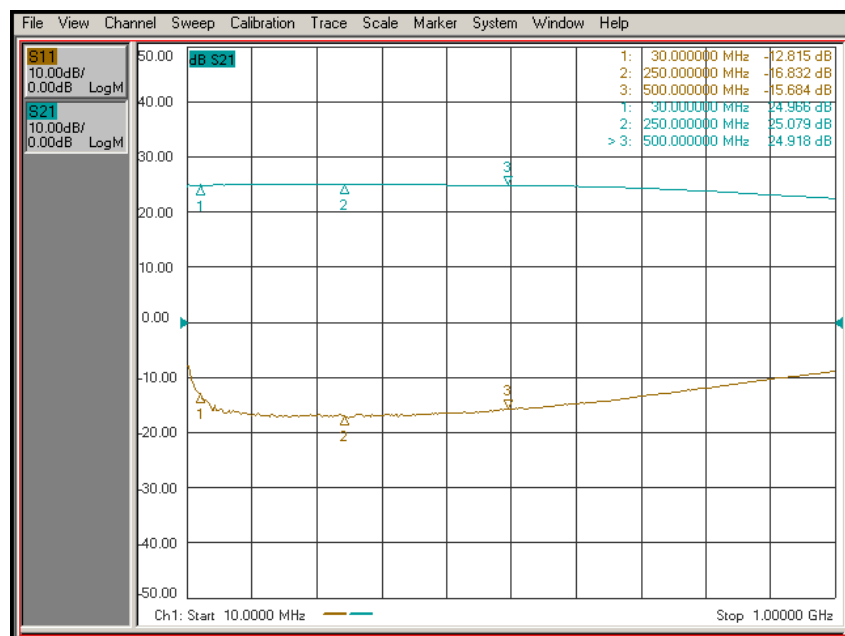
- Small signals receiving
- IF signal amplification

Product description:

AM-2503 represents special purpose low noise amplifier. Thanks to well thought-out design the amplifier AM-2503 has high stable gain and linearity, flatness of gain-frequency response and wide operation band 20-500MHz.

Amplifying input signal by 25dB, AM-2503 contributes very small own noise, due to what it can be possible to receive very weak signals.

AM-2503 is equipped with SMA-female connectors. The impedance of input/output is 50 Ohm, what is the most commonly used impedance in such type applications.



Gain vs. frequency (upper green curve)
Input matching vs. frequency (lower yellow curve)



Absolute maximum ratings:

Parameter	Value
Device voltage	20V
Input RF power	+3dBm
Output load VSWR	20:1

Operation requirements:

- 1) Use with external heat conducting radiator only. Not observing the requirement, the device may be damaged.

Technical specifications:

Parameter	Value	Comment
Frequency range	20-500MHz	
Impedance	50Ohm	
Gain:		T=23°C
30MHz	25dB	
250MHz	25dB	
500MHz	25dB	
Flatness	±0.7dB	
Input VSWR typical:		50Ohm load
30MHz	1.7:1	
250MHz	1.4:1	
500MHz	1.5:1	
Output VSWR typical:		50Ohm load
30MHz	1.3:1	
250MHz	1.4:1	
500MHz	1.4:1	
Isolation:		
30MHz	40dB	
250MHz	40dB	
500MHz	41dB	
Noise figure:		T=23°C
30MHz	1.9dB	
250MHz	1.7dB	
500MHz	1.8dB	
Output P _{1dB} :		
30MHz	24dBm	
250MHz	24dBm	
500MHz	24dBm	
Output IP ₃ :		Two tones f ₁ and f ₂ , Δf= f ₂ -f ₁ =1MHz, P _{f1} =0dBm, P _{f2} =0dBm
30MHz	35dBm	
250MHz	36dBm	
500MHz	37dBm	
Power consumption	15V/250mA	
Connector type	SMA-female	
Dimensions	50x40x13mm	Without connectors