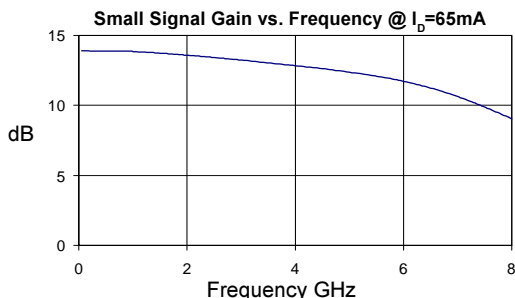




Product Description

Sirenza Microdevices' SNA-486 is a high performance Gallium Arsenide HBT MMIC Amplifier. A Darlington configuration is utilized for broadband performance up to 6.5 GHz. The heterojunction increases breakdown voltage and minimizes leakage current between junctions. Cancellation of emitter junction non-linearities results in higher suppression of intermodulation products. Typical IP3 at 850 MHz with 65mA is 32.3 dBm.

These unconditionally stable amplifiers provide 13.6 dB of gain and 17.5 dBm of 1dB compressed power and require only a single positive voltage supply. Only 2 DC-blocking capacitors, a bias resistor and an optional inductor are needed for operation.



SNA-486

DC-6.5 GHz, Cascadable GaAs HBT MMIC Amplifier

NGA-486 Recommended for New Designs



Product Features

- High Output IP3: 32.3 dBm @ 850 MHz
- Cascadable 50 Ohm Gain Block
- Patented GaAs HBT Technology
- Operates From Single Supply

Applications

- Cellular, PCS, CDPD, Wireless Data, SONET

Symbol	Parameter	Frequency	Units	Min.	Typ.	Max.
P_{1dB}	Output Power at 1dB Compression	850 MHz	dBm		17.1	
		1950 MHz	dBm		17.5	
		2400 MHz	dBm		17.5	
OIP_3	Output Third Order Intercept Point	850 MHz	dBm		32.3	
		1950 MHz	dBm		30.9	
		2400 MHz	dBm		30.6	
S_{21}	Small Signal Gain	850 MHz	dB	12.5	13.9	
		1950 MHz	dB		13.6	
		2400 MHz	dB		13.5	
Bandwidth	(Determined by S_{11} , S_{22} Values)		MHz		6500	
$VSWR_{IN}$	Input VSWR	DC-6500 MHz	-		1.7:1	
$VSWR_{OUT}$	Output VSWR	DC-6500 MHz	-		1.6:1	
S_{12}	Reverse Isolation	850 MHz	dB		18.3	
		1950 MHz	dB		18.2	
		2400 MHz	dB		18.2	
NF	Noise Figure	1950 MHz	dB		5.0	
V_D	Device Operating Voltage		V	4.5	5.0	5.5
$R_{TH, j-l}$	Thermal Resistance (junction - lead)		$^{\circ}\text{C/W}$		254	

Test Conditions:

$$V_S = 8\text{ V}$$

$$R_{BIAS} = 47\text{ Ohms}$$

$$I_D = 65\text{ mA Typ.}$$

$$T_L = 25^{\circ}\text{C}$$

$$OIP_3\text{ Tone Spacing} = 1\text{ MHz, } P_{out}\text{ per tone} = 0\text{ dBm}$$

$$Z_S = Z_L = 50\text{ Ohms}$$