Product Features

- 2.11 2.17 GHz
- 28 dB Gain
- -55 dBc ACLR @ +23 dBm Pavg
- +35 dBm P1dB
- +28 V Supply
- Power Down Mode
- RoHS-compliant flange-mount pkg

Applications

- WCDMA Power Amplifiers
- Repeaters

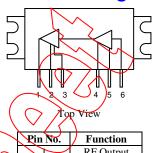
Product Description

The AP622 power amplifier module is a two-stage power amplifier module that operates over the frequency range of 2110 – 2170 MHz and is housed in a small, RoHS-compliant, flange-mount package. The multi-stage amplifier module has a 28 dB gain, P1dB of 35dBm, and ACLR of –55dBc at +23 dBm output power for WCDMA applications.

The AP622 uses a +28V high reliability InGaP/GaAs HBT process technology and does not require any external matching components. The amplifier module operates off a +28V supply; an internal active bias allows the amplifier to maintain high linearity over temperature. It has the added feature of a +5V power down control pin. A low-cost metal housing allows the device to have a low thermal resistance to ensure long lifetimes. All devices are 100% RF and DC tested.

The AP622 is targeted for use as a driver stage amplifier in wireless infrastructure where high linearity and high power is required. This combination makes the device an excellent candidate for next generation multi-carrier 3G base stations.

Functional Diagram



Pin No.	/ Function
	RF Output
2/4	Vcc
31/5	Vpd
>6	RF Input
Case	Ground

Specifications

W-CDMA 3GPP Test Model 1+64 DPCH, 60% clipping, PAR = 8.6 dB @ 0.01% Probability, 3.84 MHz BW, Vcc = +28V, Icq = 120 mA

Parameter	Units M	Тур	Max
Operational Bandwidth	MHz	2110 - 2170	
Output Channel Power	dBm	+23	
Power Gain	dB	28	
ACLR	dBc	-55	
Operating Current, Icc	(mA)	135	
Collector Efficiency	90	5	
Output P1dB	dBm	+35	
Quiescent Current, Icq	m _A	120	
Vpd	V/ V/	+5	
Vcc	V	+28	

Absolute Maximum Rating

Parameter	Rating	
Operating Case Temperature	-40 to +85 °C	
Storage Temperature	-55 to +150 °C	

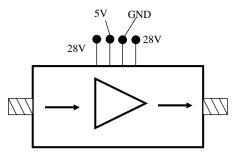
Ordering Information

Part No.	Description
AP622	PCS-band 4W HBT Amplifier Module

Operation of this device above any of these parameters may cause permanent damage.

Evaluation Board Bias Procedure

The following bias procedure is recommended to ensure proper functionality of AP622 in a laboratory environment. The sequencing is not required in the final system application.



Turn-on Sequence:

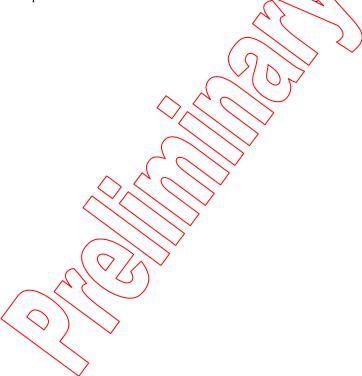
- 1. Attach input and output loads onto the evaluation board.
- 2. Turn on power supply Vcc = +28V.
- 3. Turn on power supply Vpd = +5V.
- 4. Turn on RF power.

Turn-off Sequence:

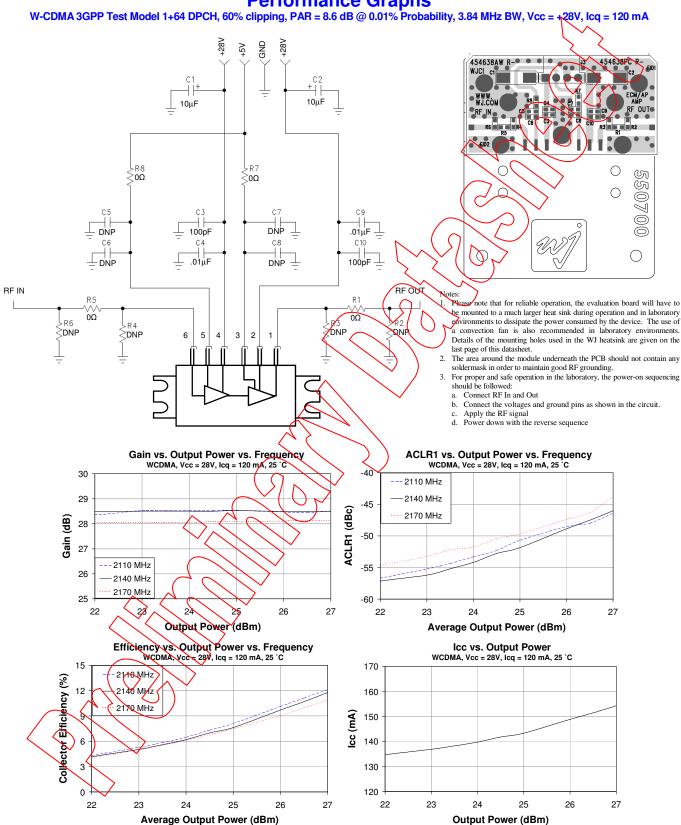
- 1. Turn off RF power.
- 2. Turn off power supply Vpd = +5V.
- 3. Turn off power supply Vcc = +28V.

Notes:

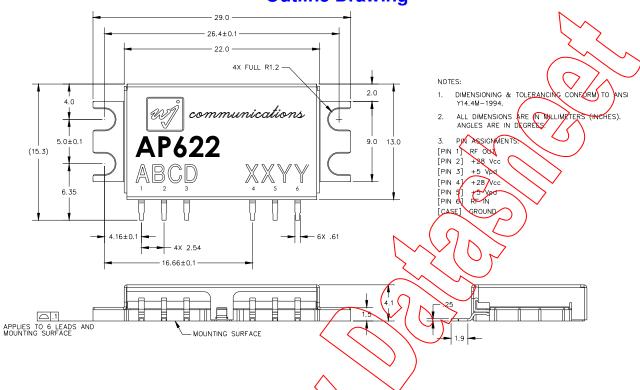
Vpd is used as a reference for the internal active bias circuity. It can be used to turn on/off the amplifier.



Performance Graphs



Outline Drawing



Outline Drawing for the Heatsink with the WJ Evaluation Board

