





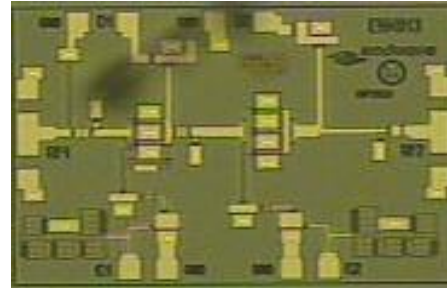


Features

-  Broadband Performance: 18 to 28 GHz
-  Gain: 19 dB, typical
-  Output IP3: +29 dBm typical
-  Output P1dB: +22 dBm typical
-  ESD Protection Gate Bias Circuitry
-  100% DC and RF tested
-  Die size: 1.85 x 1.312 x 0.1 mm

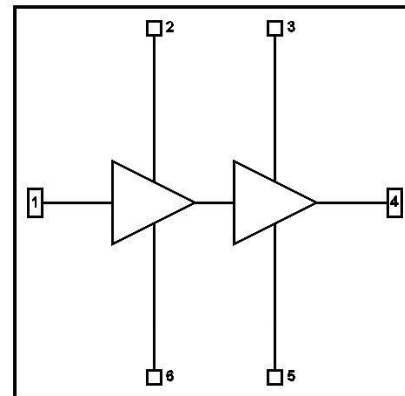
Device Photo



Description

The Endwave *EWP2801ZZ* is a 0.15um GaAs pHEMT broadband medium power amplifier MMIC. The high linearity medium power amplifier with +29 dBm typical output IP3 at 26.5GHz and +22 dBm output P1dB at 26.5 GHz is optimal as a PA itself or as a driver to higher power applications. The chip has integrated ESD protection gate bias circuitry and may be used for a wide range of applications from defense electronics to commercial communication systems. All parts are 100% DC and RF tested and visually inspected using Mil-Std-883 Method 2010.

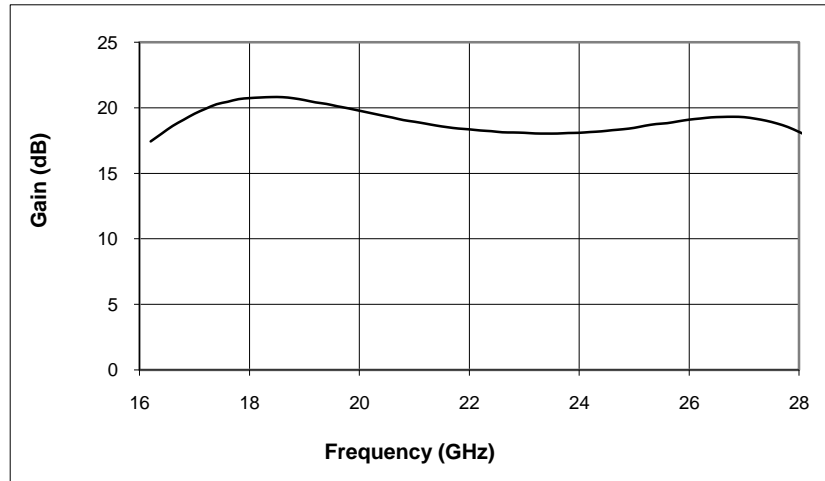
Block Diagram



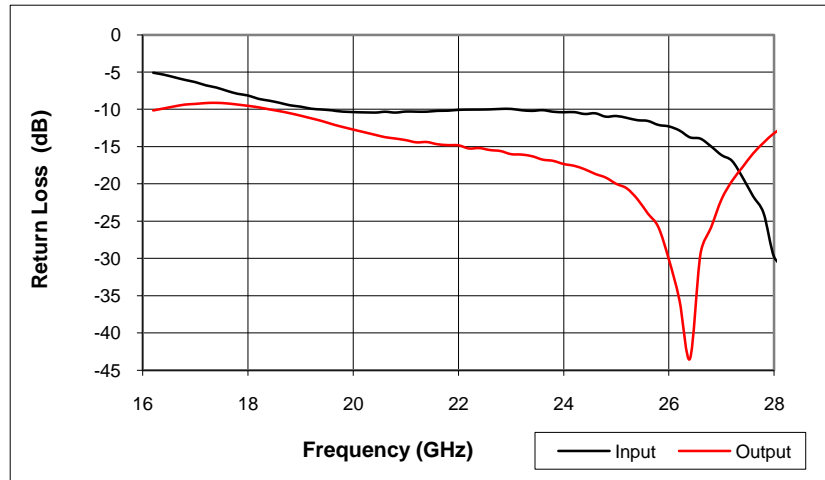
Electrical Characteristics (Temperature = +25 °C)

Parameter	Min.	Typ.	Max.	Units
Frequency Range	18		28	GHz
Gain		19		dB
Input Return Loss		10		dB
Output Return Loss		10		dB
Output IP3		29		dBm
Output P1dB		22		dBm
Saturated Output Power		24		dBm
Drain Bias Voltages (Vd1, Vd2)		5		V
Drain Bias Currents (Id1)		80		mA
Drain Bias Currents (Id2)		120		mA
Gain Bias Voltages (Vg1, 2)		-0.65		V

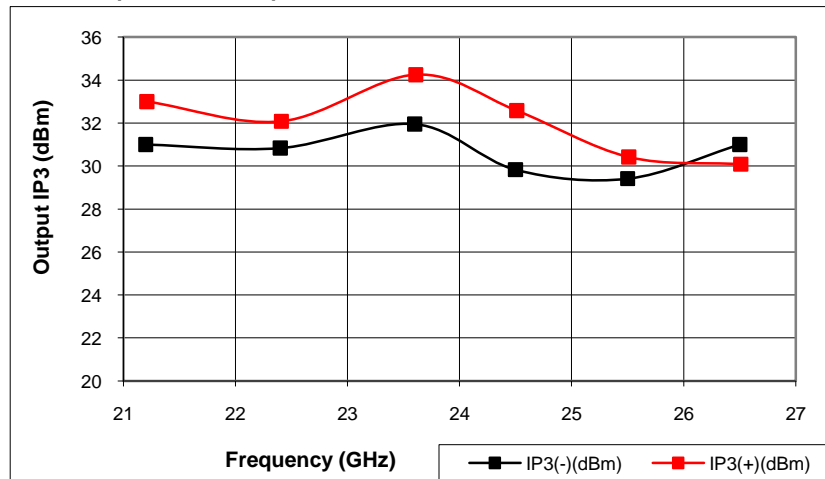
Gain vs. Frequency
Bias Condition: $V_d = +5.0V$, $I_d = 200mA$



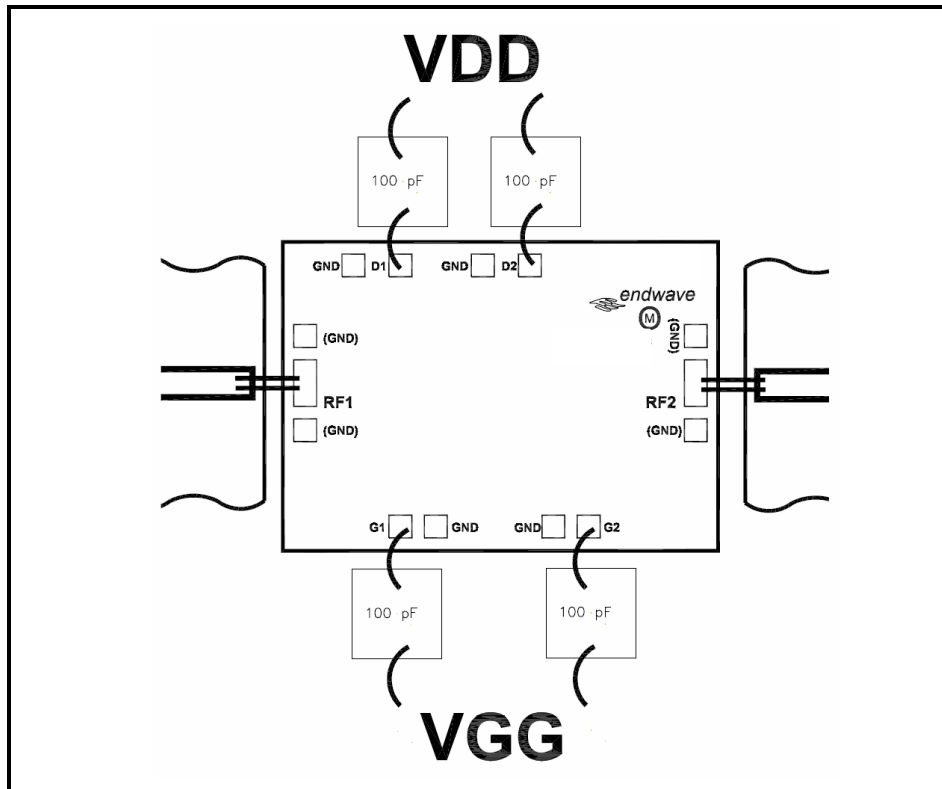
Return Loss vs. Frequency
Bias Condition: $V_d = +5.0V$, $I_d = 200mA$



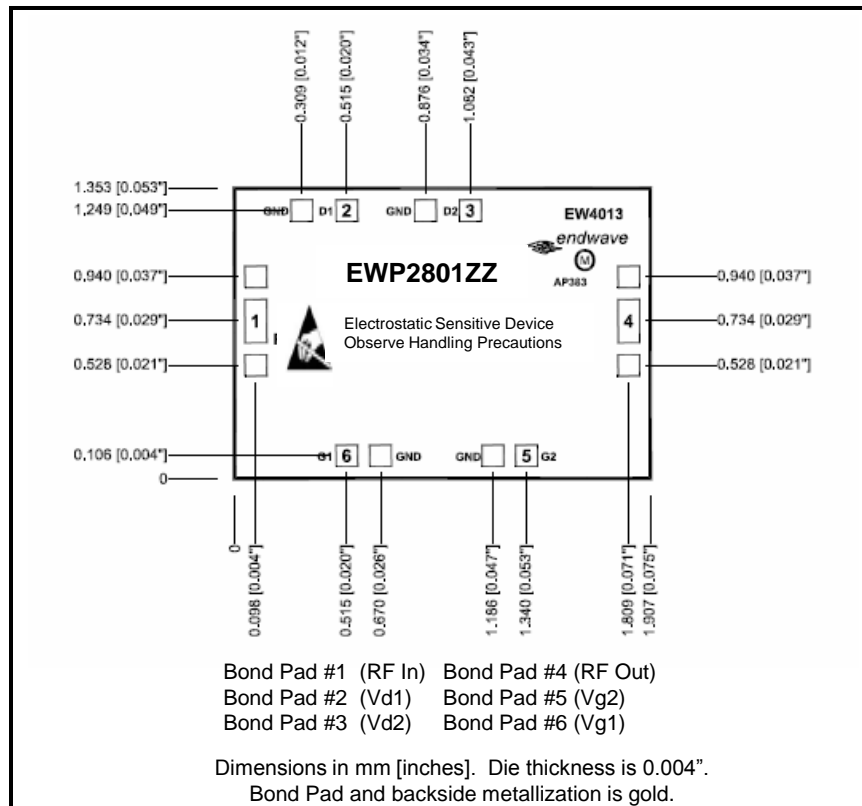
Output IP3 vs. Frequency
RF Input at $-4.0dBm$ per tone, Bias Condition: $V_d = +5.0V$, $I_d = 200 mA$



Assembly Drawing



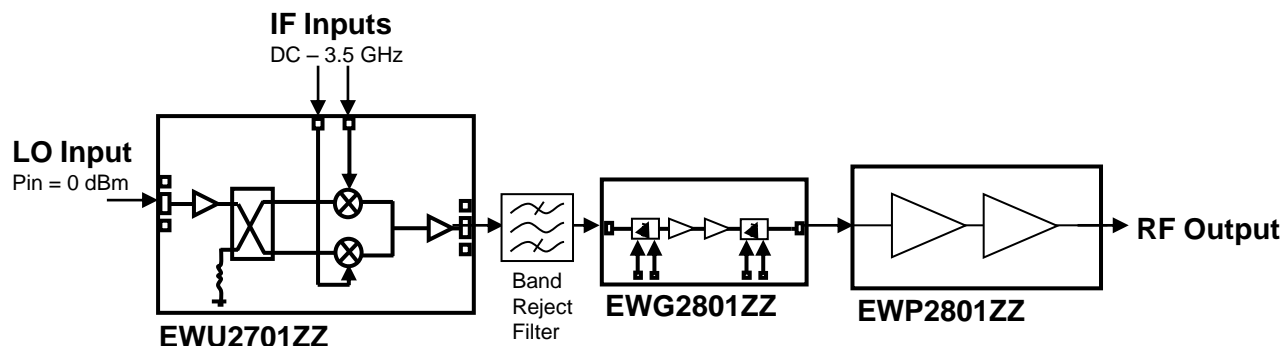
Outline Drawing



Absolute Maximum Ratings

RF Input Power (max gain)	+10 dBm
Supply Voltage (Vd1, 2, 3)	+5.5 V
Supply Current (Id1+ Id2)	300 mA
Supply Voltage (Vg1, 2)	-2.5 to 0V
Storage Temperature	-65 to +150°C
Operating Temperature	-40 to +85°C
Channel Temperature	175°C

Typical Application



Support Documentation

Support documentation including Assembly Notes, Application Notes and Qualification Procedures can be found on our website at www.endwave.com.

Ordering Information

Part Number	Description
EWP2801ZZ	RoHs Compliant bare die in waffle or gel packs