






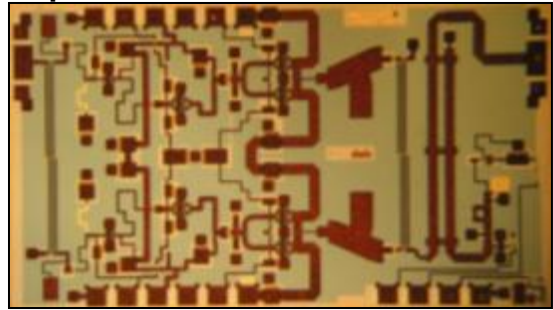


Features

-  Broadband Performance: 17.5 to 20 GHz
-  Gain: 30 dB typical
-  Output IP3: +32 dBm typical
-  Output P1dB: +24 dBm typical
-  Psat: +27 dBm typical
-  100% DC and RF tested
-  Die size: 3.6 x 2.08 x 0.1 mm

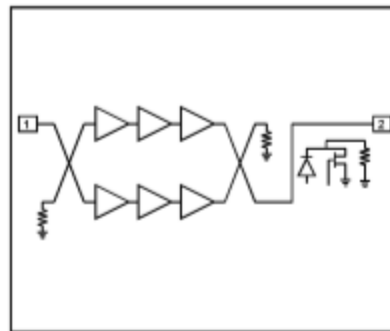
Chip Device Photo



Description

The Endwave *EWP1801ZZ* is a 0.15um GaAs pHEMT medium power amplifier with integrated power detector MMIC. The high linearity medium power amplifier with +32 dBm typical output IP3 and +24 dBm output P1dB is optimal as a PA itself or as a driver to higher power applications. The chip 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.

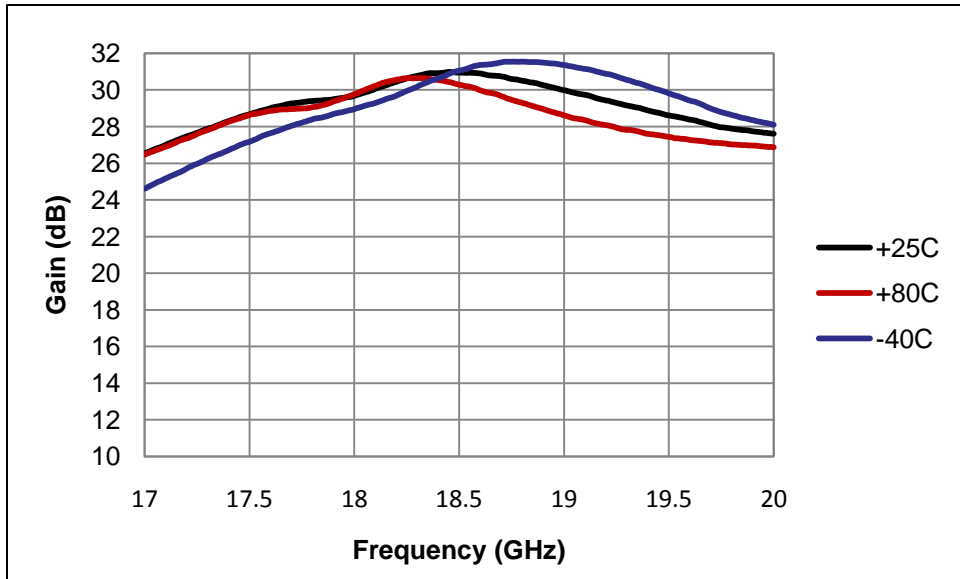
Block Diagram



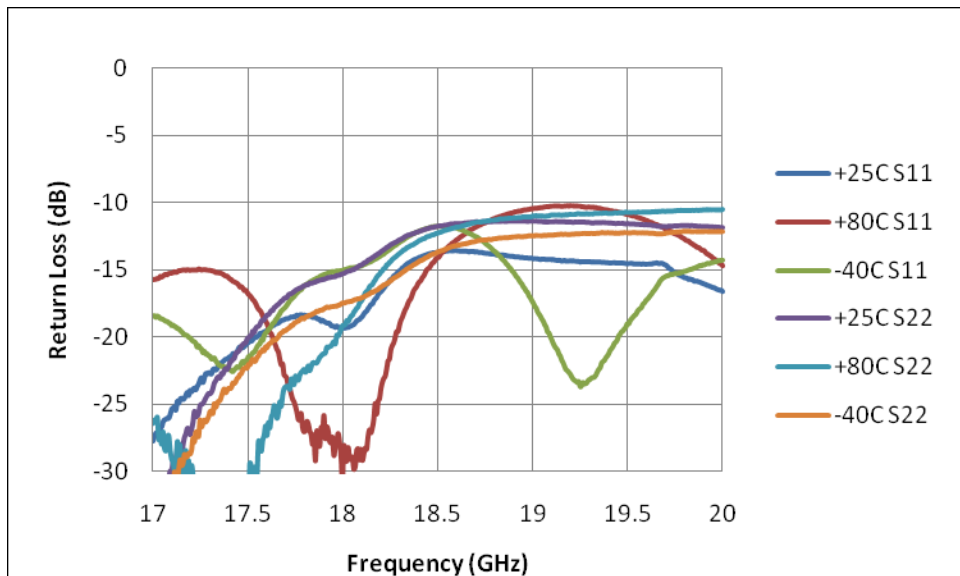
Electrical Characteristics (Temperature = +25 °C)

Parameter	Min.	Typ.	Max.	Units
Frequency Range	17.5		20	GHz
Gain		30		dB
Input Return Loss		12		dB
Output Return Loss		12		dB
Output IP3		32		dB
Output P1dB		24		dBm
Saturated Output Power		27		dBm
Drain Bias Voltages (Vd1,2,3)	3.9	4	4.5	V
Drain Bias Currents (Id1+Id2+Id3)		500		mA
Gate Bias Voltages (Vg1)		-0.67		V

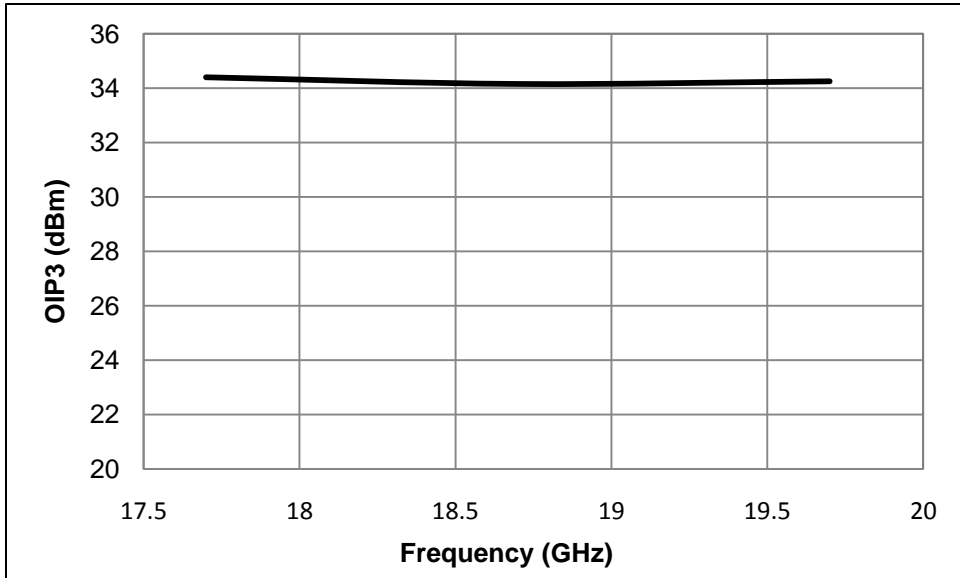
Gain vs. Frequency
(Vd = +4V and Id = 480 mA)



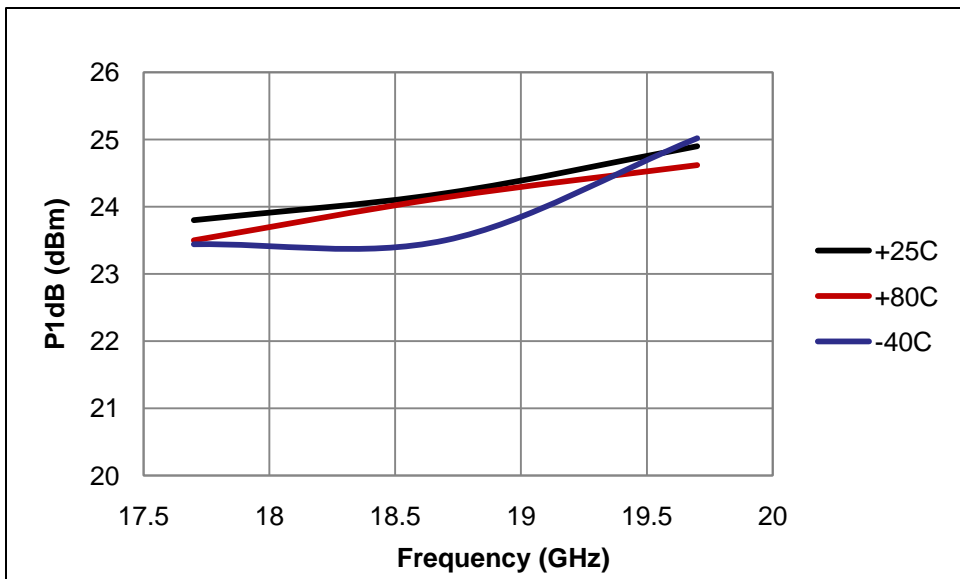
Return Loss vs. Frequency
(Vd = +4V and Id = 480mA)



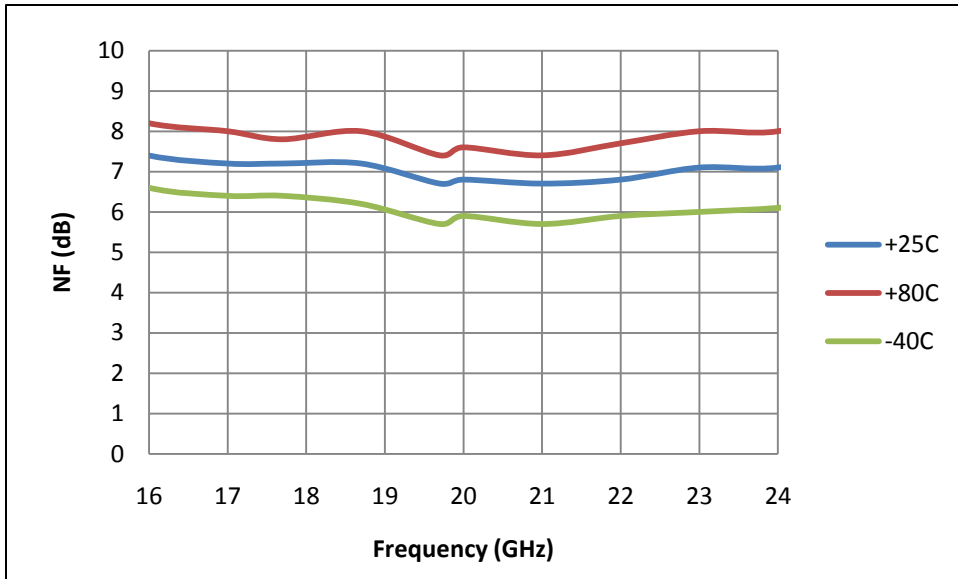
OIP3 vs. Frequency
(Vd = +4V and Id = 480 mA)



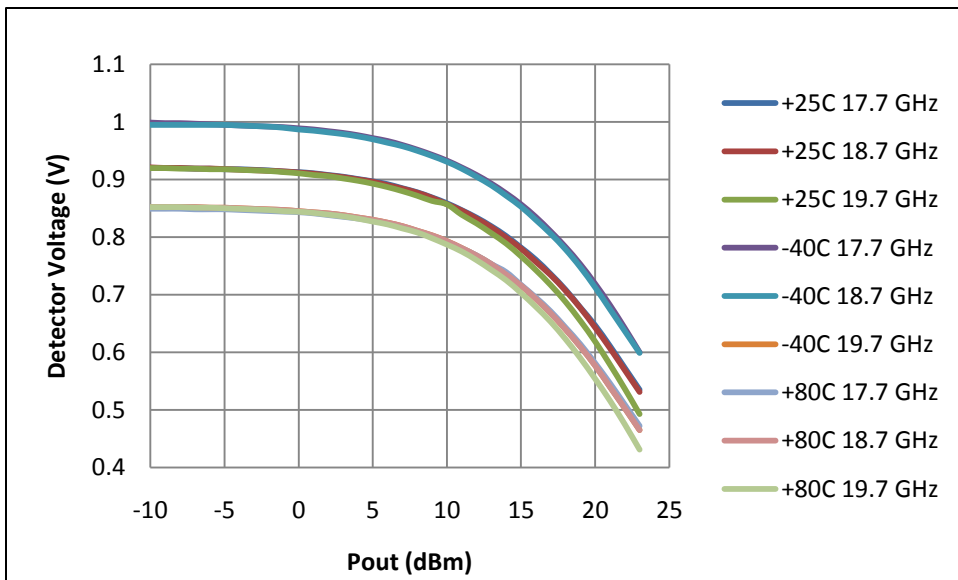
Output P1dB vs. Frequency
(VD = +4V and Id = 480 mA)



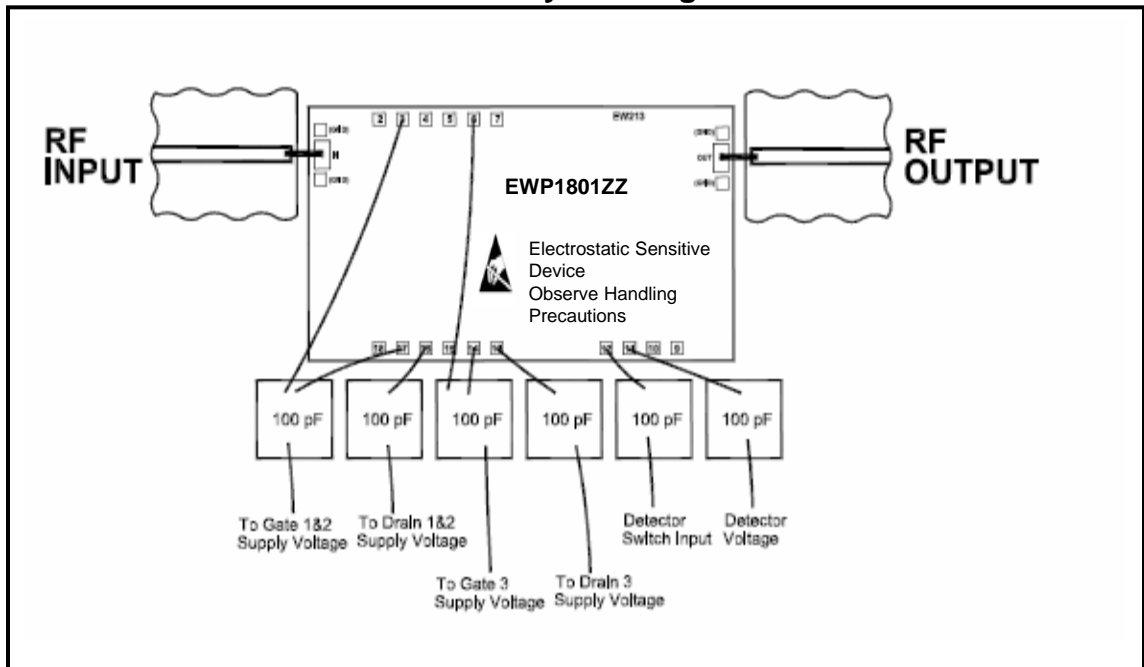
NF vs. Frequency
(Vd = +4V and Id = 340 mA)



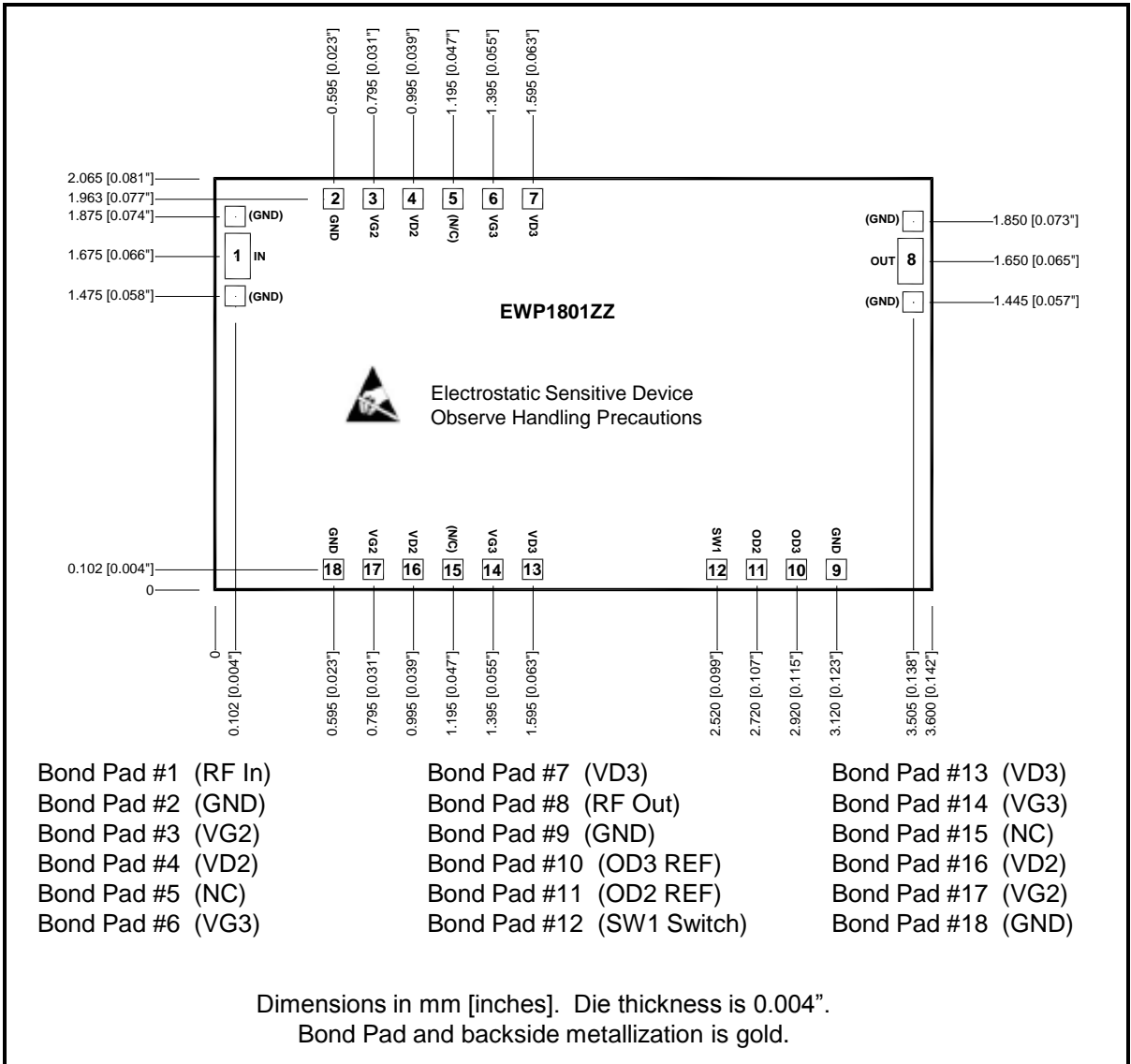
Detector Voltage vs. Frequency
(VD = +4V and Id = 480 mA)



Assembly Drawing



Outline Drawing

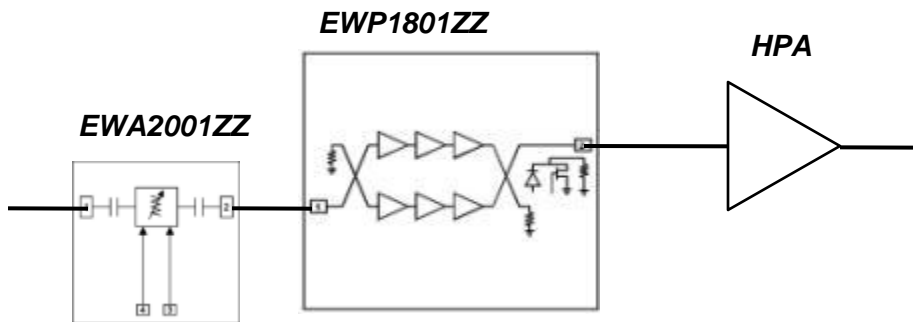


Medium Power Amplifier - Chip

Absolute Maximum Ratings

RF Input Power (max gain)	+10 dBm
Supply Voltage (Vd1, 2, 3)	+5.5 V
Supply Current (Id1+ Id2+ Id3)	300 mA
Supply Voltage (Vg1, 2, and3)	-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
<i>EWP1801ZZ</i>	<i>RoHs Compliant</i> bare die in wafer or gel packs