

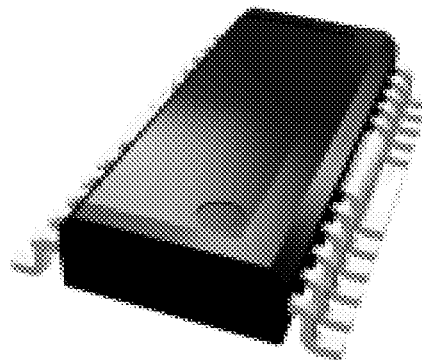
AMPS 800 MHz Band 4.8V GaAs Power Amplifier IC

DESCRIPTION

The AWT198A is a monolithic power amplifier IC suited for AMPS portable handset applications

FEATURES

- High Output Power
- Intelligent Power Management™ with Temperature Compensation
- Low Harmonics
- Small Size
- 28 Pin ssop Plastic Package
- Surface Mount Package with Integrated Heat Slug
- 50Ω Input Impedance
- Low Cost



S6
SSOP-28
28 Pin Plastic Package w/ Heat Slug

MAXIMUM RATINGS

Static sensitive electronic devices. Do not operate or store near strong electrostatic fields. Take proper ESD precautions.

Pin	Rating		Max	Notes
	Min	Max		
Pin 1 - D1	0	+7.5V	V	-
Pin 5 - RFIN	+/-7.5	+10	dBm	-
Pin 10 - VREF	0	+ 5	V	-
Pin 11 - VDDC	0	+7.5	V	-
Pin 12 - VSS_IN	(-) 5		V	-
Pin 15 - D2	0	+7.5	V	-
Pin19 - D3B	0	+7.5	V	-
Pin 24- D3A	0	+7.5	V	-

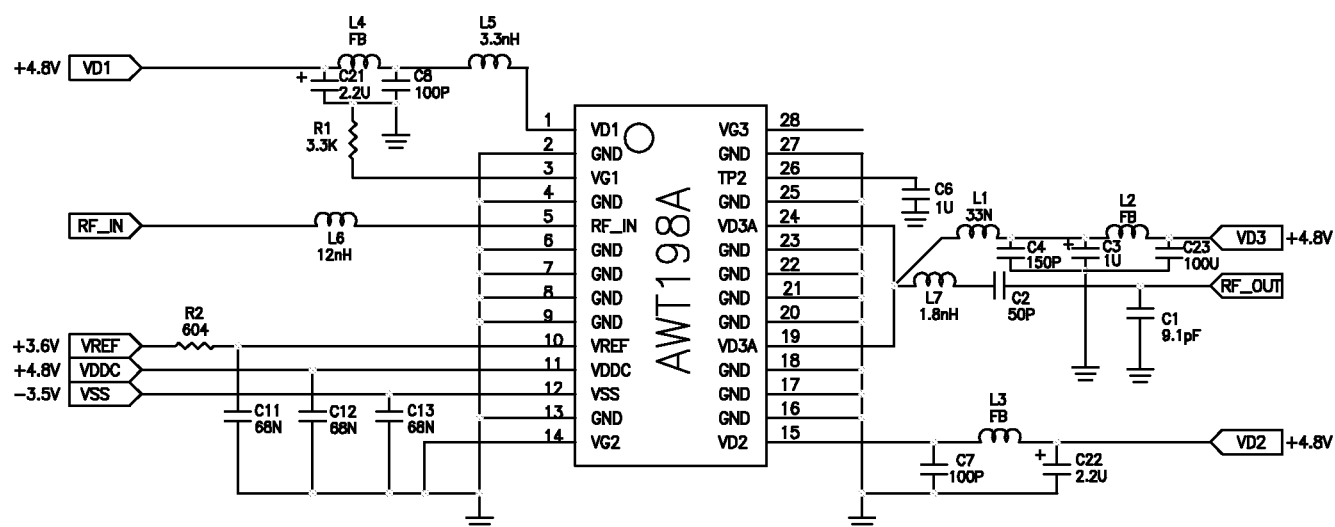
PARAMETER	SYMBOL	MIN	TYP	MAX	PARAMETER
Frequency	fo	824	-	849	MHz
Power Output	Pout	31.5	-	-	dBm
Power Added Efficiency	PAE	57	62	-	%
Large Signal Gain	-	-	29	-	dB
Harmonics (@ 31.5dBm)	2fo	25	-	-	dBc
	3fo	30			
	4fo	30			

Stability: -80 dBc, all spurious
outputs relative to desired signal

- - 5:1 -

VSWR load, all pV99914D1.32 50.46 re 4 74 74 4o3o3 32.1

TEST CIRCUIT



Pin	Signal	Description
1	Vd1	Drain of the 1st stage (+4.8v)
2	GND	RF and DC Ground
3	Vg1	Gate of first stage (bias Indication and tuning)
4	GND	RF and DC Ground
5	RFIN	RF power input,DC blocked
6,7,8,9	GND	RF and DC Ground (The “Batwing”)
10	VREF	Part of biasing control circuit should be set to 3.6 V
11	Vddc	Bias circuit Supply (+4.8)
12	VSS_IN	Negative Supply (-3.5V)
13	GND	RF and DC Ground
14	Vg2	Gate of 2nd stage (bias Indication and tuning)
15	Vd2	Drain of the 1st stage
16,17,18	GND	RF and DC Ground
19	D3A	3rd stage drain supply (4.8V) and RF out
20,21,22,23	GND	RF and DC ground (the “BATWING”)
24	D3A	3rd stage drain supply (4.8V) and RF out
25	GND	RF and DC Ground
26	TP2	Same as gate 3
27	GND	RF and DC Ground
28	Vg3	Gate of 3rd stage(bias Indication and tuning)

RECOMMENDED OPERATING PROCEDURE ON THE EVALUATION BOARD

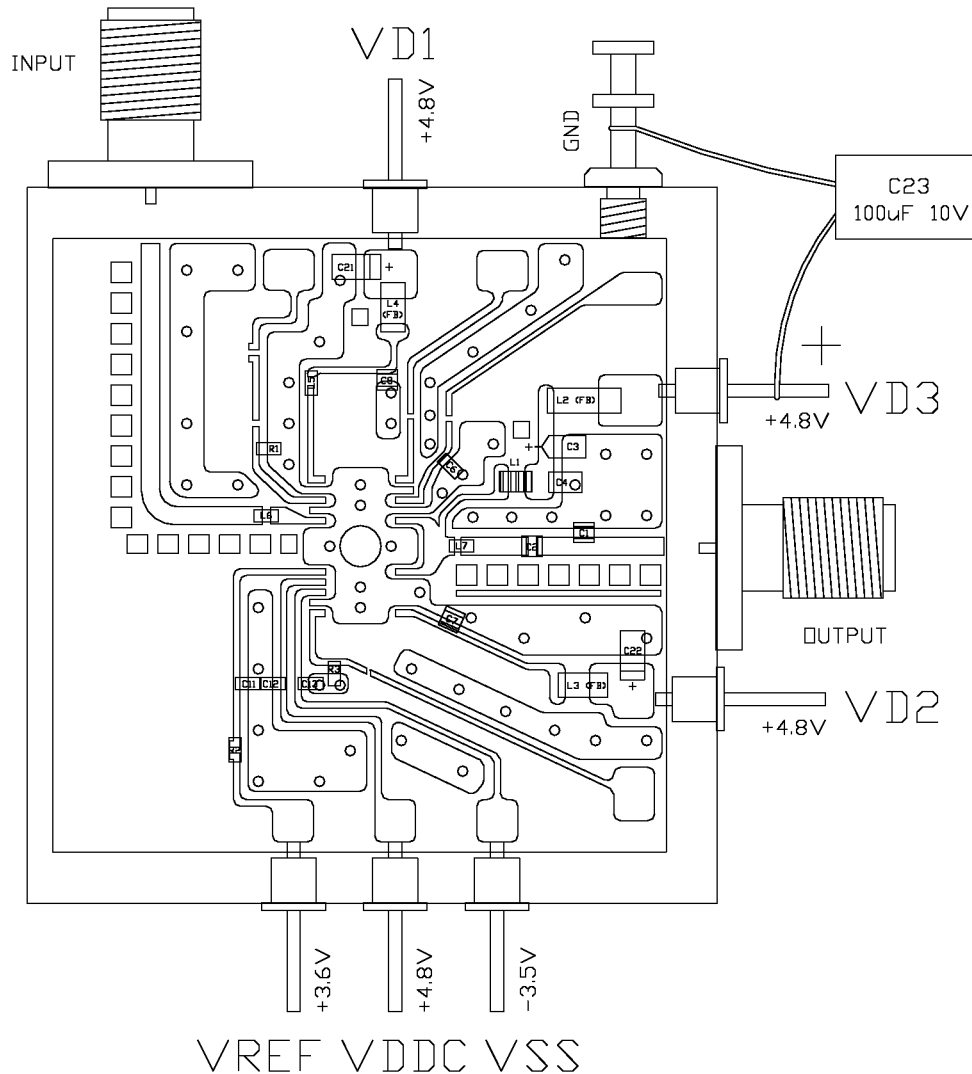
Power Up

- Begin by setting all power supplies to zero volts, and input power to zero dBm.
- Make sure that the input RF power is turned off.
- Turn on Vss (Pin 12) to (-)3.5V
- Turn on Vds1(Pin 1), Vds2(Pin 15), Vds3(Pins 19 and 24) and Vddc (Pin 11) which are tied together on the fixture, and set to +4.8V. Little drain current should be flowing at this time and Vref to 3.6 V.
- Turn RF on and adjust input power to get $P_{out} = 31.5$ dBm .

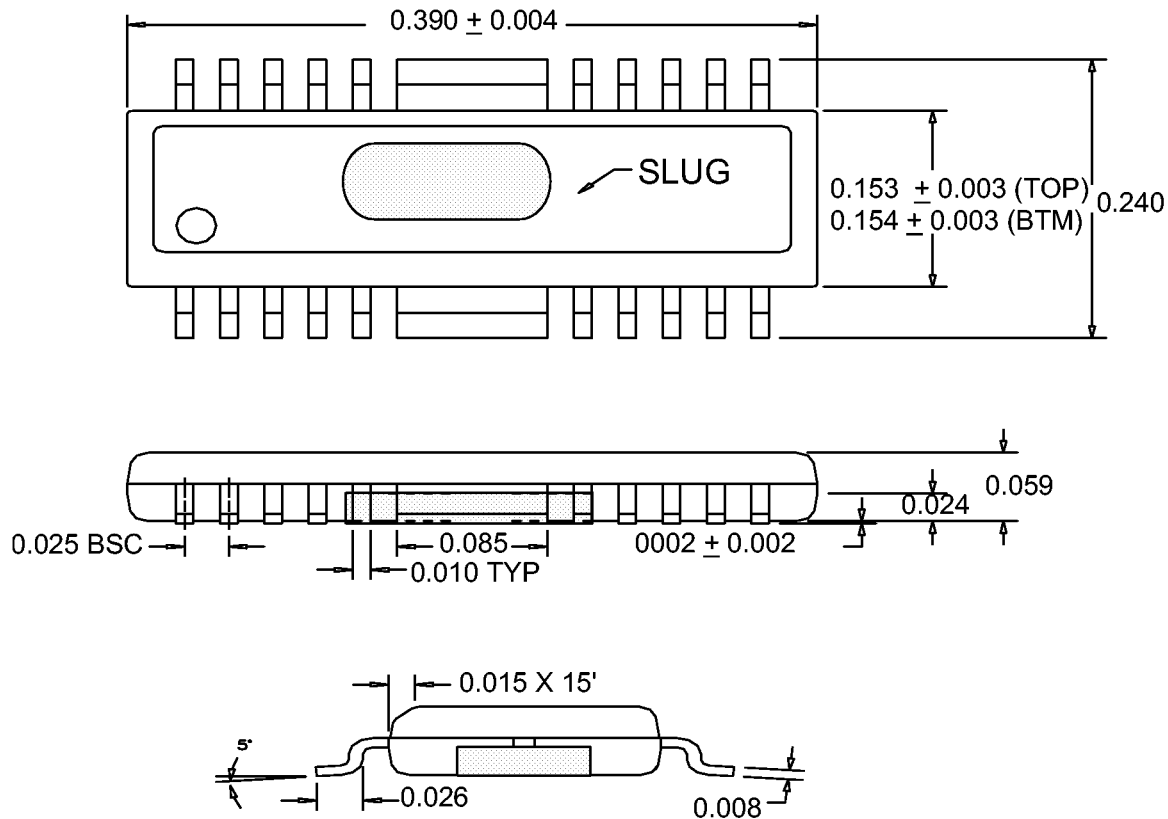
Power Down

To power down the device follow the above procedure in reverse order.

TEST CIRCUIT ELECTRICAL SCHEMATIC



CASE OUTLINE AND PIN DESCRIPTION



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WARNING

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