Certified ISO 9001 UL REGISTERED FIRM A8969

Microwave Technology

Ultra Linear Amplifier
1800 to 2100 MHz

- **-72 dBc ACPR @ Pout = 12 dBm**
- **+48 dBm IP3**
- **+28.5 dBm P1dB**
- **14 dB Gain**
- **+7.0V Single DC Supply**
- **Surface Mount Package**

The **ULA-808-82** is a modular amplifier designed to meet the ultralinear transmitter output requirements of worldwide wireless base station systems. The amplifier exhibits an extremely high IP3 (+48 dBm). The device is self contained with all matching and bias circuitry included. Typical applications for this device include driver stages for single channel and multicarrier feed forward linear amplifiers. It is also useful for a lower power micro-cell amplifier output stage where excellent multitone intermodulation performance is required. Some applications for this device are: CDMA, TDMA, GSM, GPRS, EDGE, UMTS, WCDMA, cdma2000, TD-SCDMA

Specifications

Vdd= 7.0 V, Zo= 50 Ω, T = +25ºC

Symbol	Parameter	Min.	Typ.	Max.	Unit
Freq	Frequency Range	1800		2100	MHz
SSG	Small Signal Gain	13.0	14.0		dB
P1dB	P out at 1 dB Compression		+28.5		dBm
IP3	Third-order Intercept (1)	+45.0	+48.0		dBm
VSWR	Input / Output		2.0:1 / 3.0:1		
△GOF	Gain Variation over Freq.		±0.25	±0.5	dB
△GOT	Gain Variation over Temp.		-0.012		dB/ºC
Idd	DC Current		380	450	mA
Θth	FET Thermal Resistance (2)		26		ºC/W

(1) Two tone tests at P out = +13 dBm/tone, centered at 1950 MHz with 20 MHz separation
(2) When calculating typical Tch, use FET VDS=6.3V, IDS=380mA

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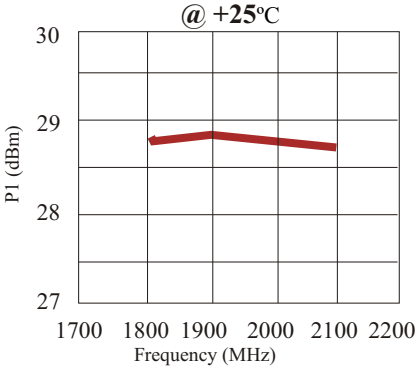
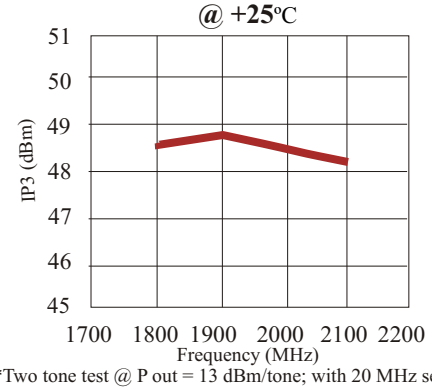
Output Power at P1dB
@ +25ºC

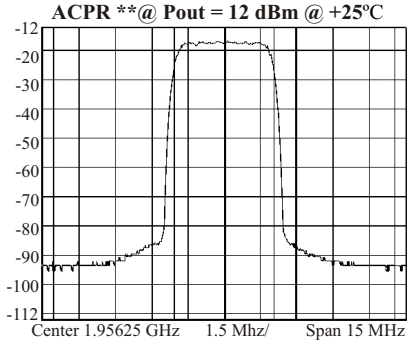


IP3* vs. Frequency
@ +25ºC



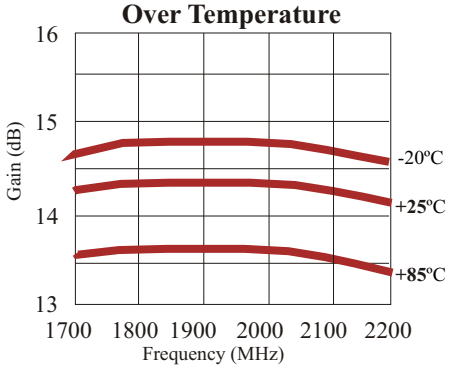
*Two tone test @ P out = 13 dBm/tone; with 20 MHz separation

ACPR **@ Pout = 12 dBm @ +25ºC



**3GPP, TS 25.411, Test Model 1, 64 Ch.,
Ch. BW = 3.84 MHz; Ch. Spacing = 5MHz

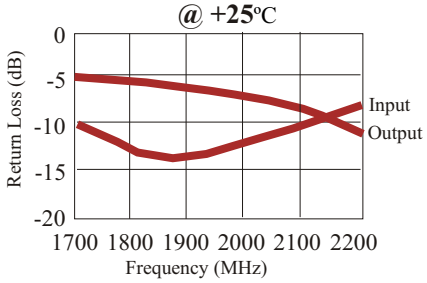
Gain vs. Frequency
Over Temperature



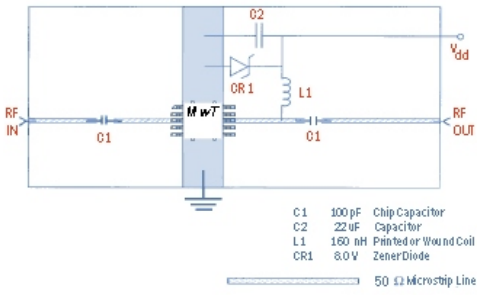
Absolute Maximum Ratings

Bias Voltage	8.0V
RF Input Power	500 mW
Case Operating Temperature	+85ºC
Storage Temperature	-65ºC to +125ºC

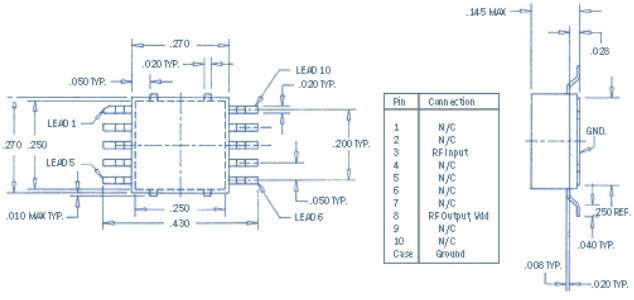
Return Loss vs. Frequency
@ +25ºC



Application Circuit



ULA-808-82 Outline Drawing



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