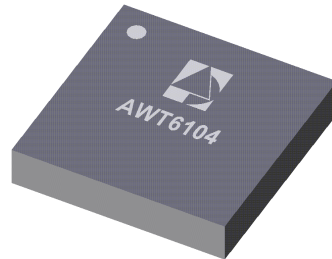


FEATURES

- InGaP HBT Technology
- High Efficiency 40% PCS
- Low Leakage Current (<25 μ A)
- SMT Module Package
- Small Foot Print (6mm X 6mm)
- Low Profile (1.6mm)
- 50 Ω Input and Output Matching
- Low Quiescent Current (Icq 50mA Typ)
- Shut Down & Mode Control

APPLICATIONS

- PCS TDMA Handsets



6x6mm Module Package

Description

The AWT6104 is a 3.5V power amplifier module for use in PCS TDMA wireless handsets and communication systems.

Absolute Minimum and Maximum Ratings

SIGNAL	MIN	MAX	UNITS
Supply Voltage (V_{CC})		+5	V
Input Power (RF_{IN})		+10	dBm
Control Voltage (V_{REF})		+3.5	V
V_{MOD} Voltage (V_{MOD})		+3.5	V
Storage Temperature (T_{STG})	-55	100	$^{\circ}$ C
Operating Temperature (T_C)	-25	80	$^{\circ}$ C

Electrical Specifications (TDMA 1850-1910 MHz)

(Unless otherwise specified: $V_{CC} = 3.5V$, $Z_{IN} = Z_{OUT} = 50\Omega$ System, $T_C = 25\text{ }^\circ\text{C}$)

Parameter	Minimum	Typical	Maximum	Units
Frequency Range	1850		1910	MHz
Supply Voltage Range	3.0	3.5	5.0	V
Ref. Voltage Range	2.75	2.8	2.9	V
Ref. Current		2		mA
Output Power, $V_{CC} = 3.5V$	30			dBm
Output Power, $V_{CC} = 3.0V$	29			dBm
Input VSWR			2:1	
Output VSWR			2:1	
Power Added Efficiency Pout = 30 dBm		40		%
Power Added Efficiency Pout = 16 dBm ($V_{MODE} = 2.7V$) Low Power Mode		7		%
Icq ($V_{MODE} = 2.7V$) Low Power Mode		50		mA
Linearity (P_{OUT} avg. = 30 dBm) & $V_{CC}=3.5V$	NADC - modulation			
ACPR +/- 30 kHz			-28	dBc
ACPR +/- 60 kHz			-48	dBc
ACPR +/- 90 kHz			-50	dBc
Noise at Receiver Band Pout ≤ 30 dbm			-85	dBm/30 kHz
Gain, $P_{OUT} = 30$ dBm		30		
Leakage Current $V_{CC} = 3.5V$; $V_{REF} = 0V$; $V_{MODE} = 2.7V$		25		μA
Harmonics 2fo, $P_{OUT} = 30$ dBm		-30		dBc
3fo, $P_{OUT} = 30$ dBm		-30		dBc
Stability (out of band load VSWR < 20:1) (in band load VSWR < 10:1)			-60	dBc, all spurious Pin - 50 dBm ... +0 dBm
Ruggedness Stress for no permanent degradation or failure, $V_{CC} = 5.0 V$	10:1			

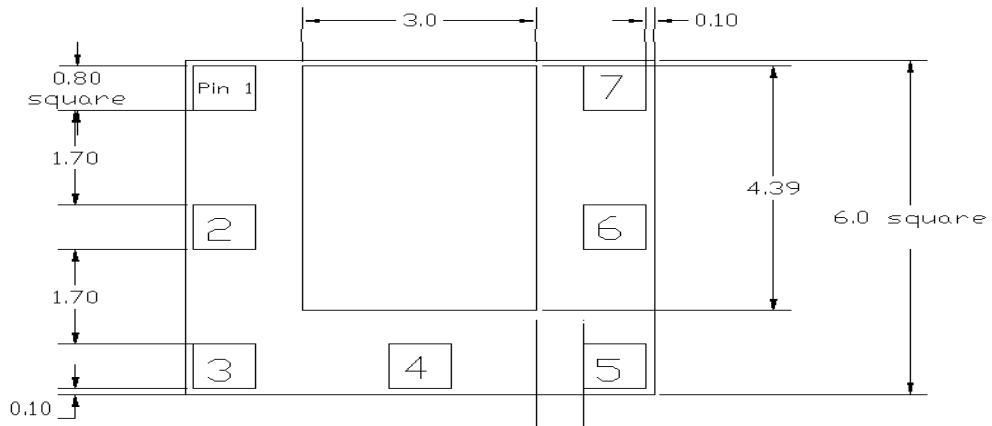
Bias Control

V_{MODE}	V	ICQ Typ	Power Range	P_{OUT} Levels	Mode
High	2.7	50 mA	Low	0-22 dBm	NADC PCS Low Power
Low	0	100 mA	High	22-30 dBm	NADC PCS High Power

Pin Description

Pin	Name	Description
1	V_{CC}	Supply Voltage
2	RF_{IN}	RF Input Signal
3	V_{REF}	Bias
4	V_{MODE}	Mode Control
5	V_{CC}	Supply Voltage
6	RF_{OUT}	RF output
7	GND	Ground

Package Outline Top View





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