

FEATURES

- **LOW VOLTAGE OPERATION:**
V_{DD} = 3.3 V
- **LOW CURRENT OPERATION :**
I_{DD} = 37 mA TYP @ V_{DD} = 3.3 V, f_{RF} = 1850 to 1910 MHz,
P_{OUT} = +8 dBm
- **LOW DISTORTION:**
PADJ1 = -42 dBc TYP @ V_{DD} = 3.3 V,
f_{RF} = 1850 to 1910 MHz, P_{OUT} = + 8 dBm
- **6 PIN MINI-MOLD PACKAGE**

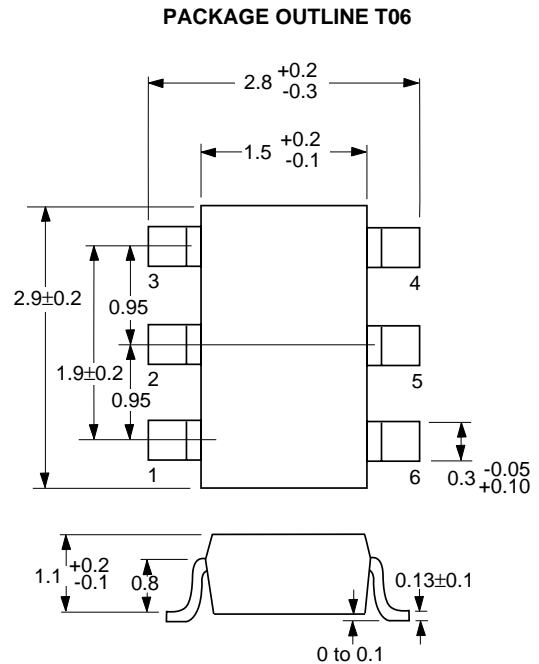
DESCRIPTION

The UPG174TA is an L-Band PA driver amplifier developed for digital cellular telephone and PCS applications. This device features high output power and low distortion with 3.3 V low voltage and 37 mA low current operation. It is housed in a very small 6 pin mini-mold package available on tape and reel.

APPLICATION

- Digital Cellular: (PCS) TDMA, etc.

OUTLINE DIMENSIONS (Units in mm)



ELECTRICAL CHARACTERISTICS

(T_A = -35 to +75 °C, V_{DD1,2} = +3.3 V, π/4DQPSK modulated input signal, external input/output matching)

PART NUMBER PACKAGE OUTLINE			UPG174TA T06		
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP	MAX
f	Operating Frequency	MHz	1850		1910
GP	Power Gain P _{IN} = -22 dBm	dB	26	30	
I _{DD}	Total Current P _{IN} = -22 dBm	mA		37	46
PADJ1	Adjacent Channel Power Leakage 1 P _{OUT} = +8 dBm Δf = ± 30 KHz	dBc		-42	-32
PADJ2	Adjacent Channel Power Leakage 2 P _{OUT} = +8 dBm Δf = ± 60 KHz	dBc		-66	-54
RLIN	Input Return Loss	dB		10	
RL OUT	Output Return Loss External matching	dB		10	

ABSOLUTE MAXIMUM RATINGS¹ (T_A = 25°C)

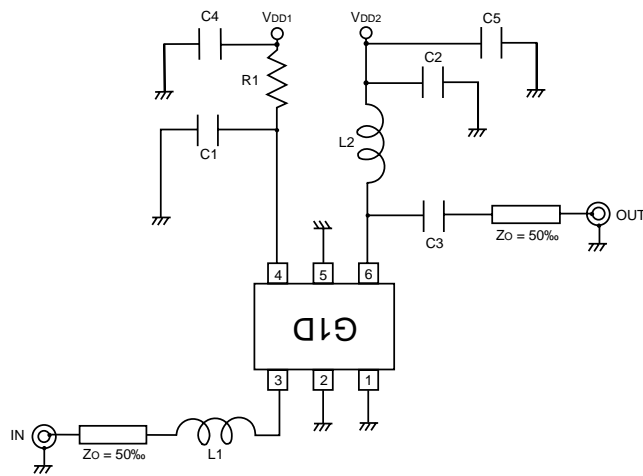
SYMBOLS	PARAMETERS	UNITS	RATINGS
V _{DD1,2}	Supply Voltage 1, 2	V	6.0
P _{IN}	Input Power	dBm	-10
P _T	Total Power Dissipation ²	mW	170
T _{OP}	Operating Temperature	°C	-35 to +75
T _{STG}	Storage Temperature	°C	-35 to +150

Notes:

1. Operation in excess of any one of these parameters may result in permanent damage.
2. Mounted on a 50 x 50 x 1.6mm double copper clad epoxy glass PWB, T_A = +85 °C.

EVALUATION CIRCUIT

(V_{DD1} = V_{DD2} = +2.8 V, f = 1429 to 1453 MHz)



C1, C2, C4, C5	1000 pF
C3	1.8 pF
R1	10 Ω
L1	5.6 nH
L2	2.7 nH

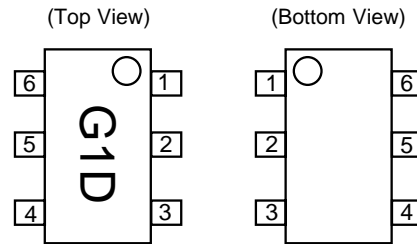
ORDERING INFORMATION

PART NUMBER	QTY
UPG174TA-E3	3 Kpcs Per Reel

RECOMMENDED OPERATING CONDITIONS

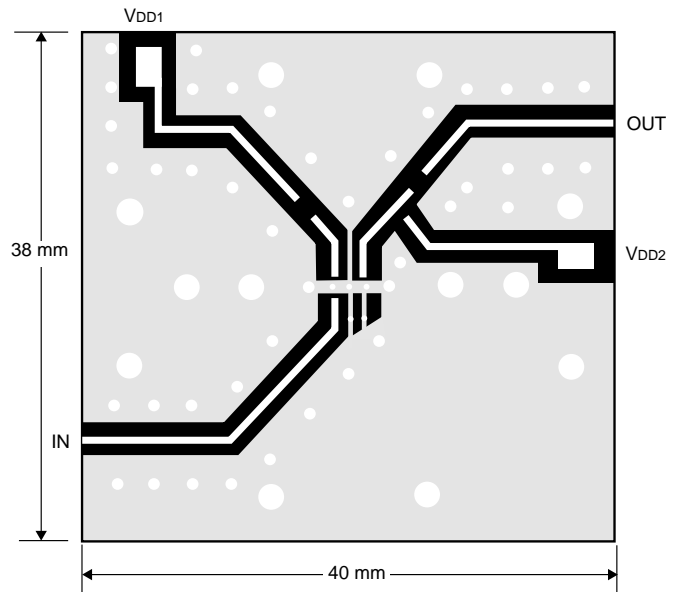
SYMBOLS	PARAMETERS	UNITS	MIN	TYP	MAX
V _{DD1,2}	Supply Voltage 1,2	V	+3.0	+3.3	+3.6
P _{IN}	Input Power	dBm		-22	

PIN CONNECTIONS AND INTERNAL BLOCK DIAGRAM



1. GND
2. GND
3. IN
4. V_{DD1}
5. GND
6. V_{DD2} & Output

EVALUATION BOARD



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