

FEATURES

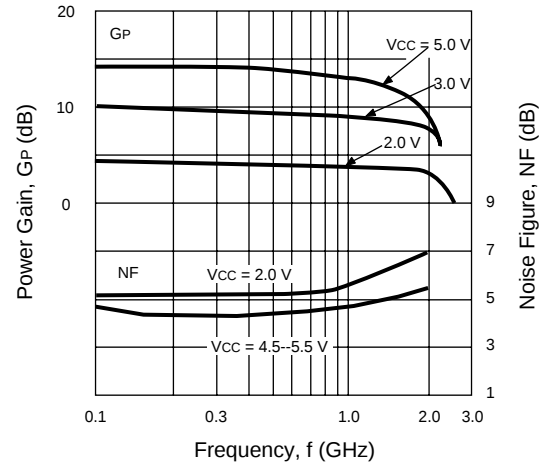
- **HIGH GAIN:** 15 dB Typical at 400 MHz
- **WIDEBAND FREQUENCY RESPONSE:** 1.6 GHz TYP
- **SINGLE POSITIVE DC SUPPLY**
- **SUPER SMALL PACKAGE**
- **TAPE AND REEL PACKAGING OPTION AVAILABLE**

DESCRIPTION

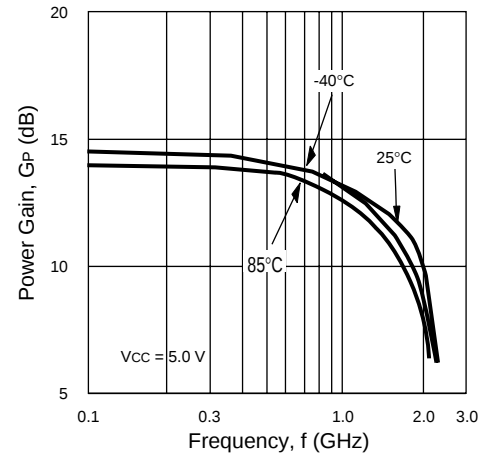
The UPC2726T is a Silicon RF Integrated Circuit which is manufactured using the NESAT III process. The NESAT III process produces transistors with f_T approaching 20 GHz. This amplifier was designed as a buffer amplifier for circuits requiring differential inputs and outputs for increased common-mode rejection.

NEC's stringent quality assurance and test procedures ensure the highest reliability and performance.

**NOISE FIGURE AND GAIN
vs. FREQUENCY AND VOLTAGE**



**GAIN vs. FREQUENCY
AND TEMPERATURE**



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$, $Z_L = Z_S = 50 \Omega$, $f = 400 \text{ MHz}$)

PART NUMBER PACKAGE OUTLINE			UPC2726T					
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	$V_{CC} = 5 \text{ V}$			$V_{CC} = 2 \text{ V}$		
			MIN	TYP	MAX	MIN	TYP	MAX
I_{CC}	Circuit Current, (No Signal)	mA	8	11.5	15		2.5	
G_S	Small Signal Gain	dB	11	15	17		4.5	
NF	Noise Figure	dB		4.5	6		5.1	
f_u	Upper limit Operating Frequency ¹	GHz	1.0	1.6			2.4	
P_{SAT}	Saturated Output Power	dBm	-5	-2			-14	
RL_{IN}	Input Return Loss	dB		2			1	
RL_{OUT}	Output Return Loss	dB		4			4	
ISOL	Isolation	dB		60			58	
OIP ₃	Output 3rd Order Intercept Point ²	dBm		-2.5			-10	

Notes:

1. The Gain at f_u is 3 dB down from the gain at 400 MHz.
2. $f_1 = 400 \text{ MHz}$, $f_2 = 402 \text{ MHz}$, single side band.

ABSOLUTE MAXIMUM RATINGS¹ (T_A = 25°C)

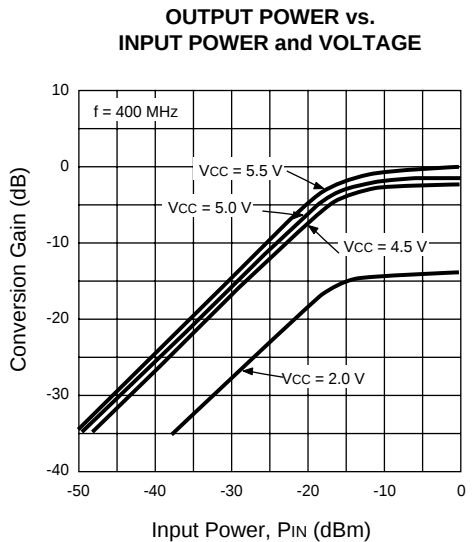
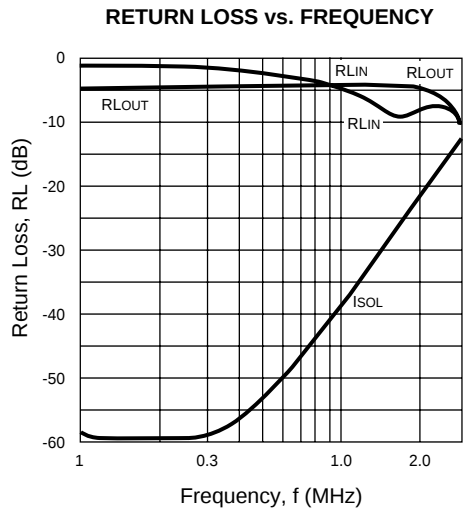
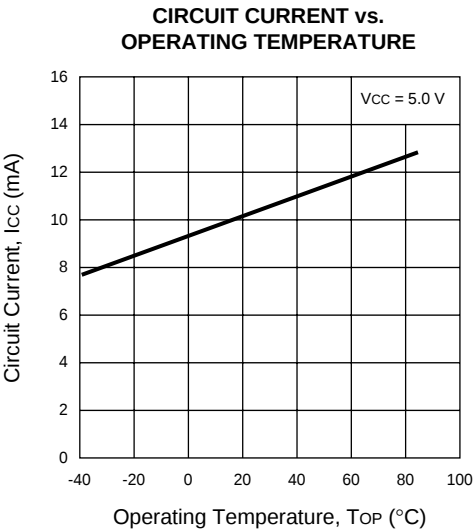
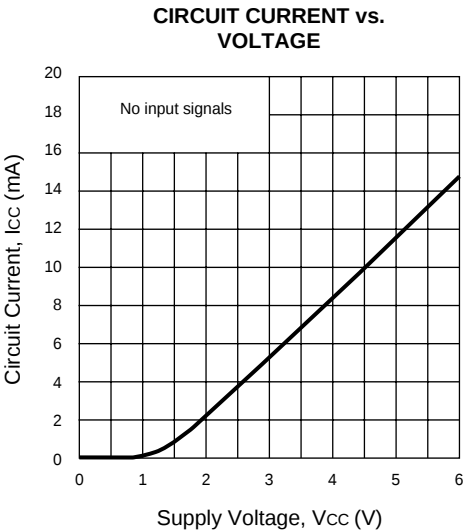
SYMBOLS	PARAMETERS	UNITS	RATINGS
V _{CC}	Supply Voltage	V	6.0
P _{IN}	Input Power	dBm	0
P _T	Total Power Dissipation ²	mW	280
T _{OP}	Operating Temperature	°C	-40 to +85
T _{STG}	Storage Temperature	°C	-55 to +150

- Notes:
1. Operation in excess of any one of these parameters may result in permanent damage.
 2. Mounted on a 50 x 50 x 1.6 mm epoxy glass PWB (T_A = +85°C).

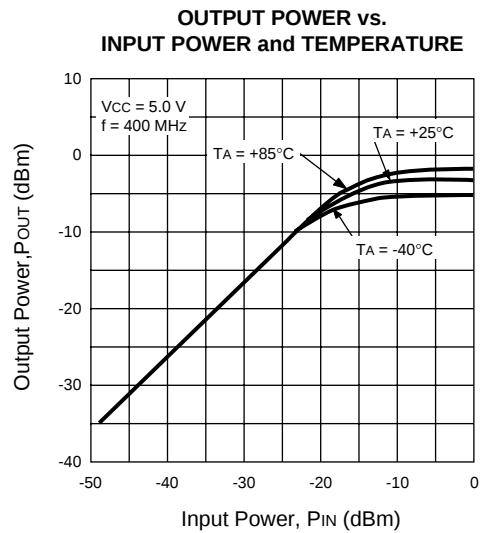
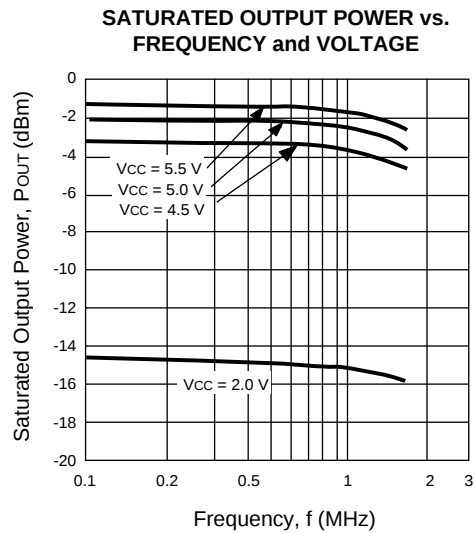
RECOMMENDED
OPERATING CONDITIONS

SYMBOLS	PARAMETERS	UNITS	MIN	TYP	MAX
V _{CC}	Supply Voltage	V	4.5	5.0	5.5
T _{OP}	Operating Temperature	°C	-40	25	85

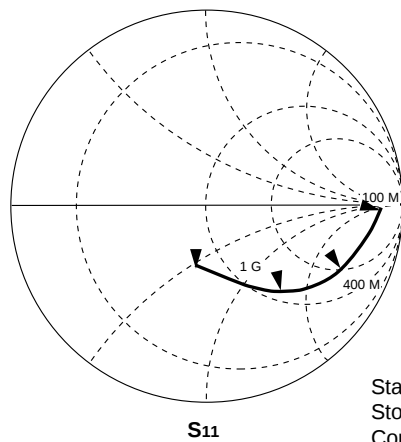
TYPICAL PERFORMANCE CURVES (T_A = 25°C)



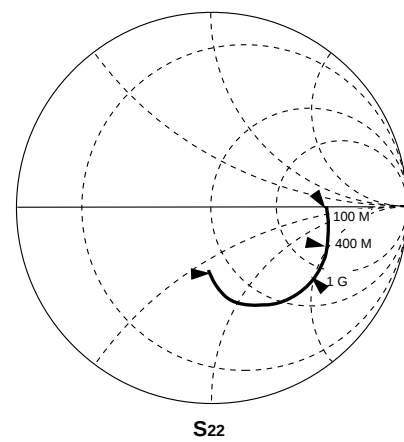
TYPICAL PERFORMANCE CURVES (TA = 25°C)



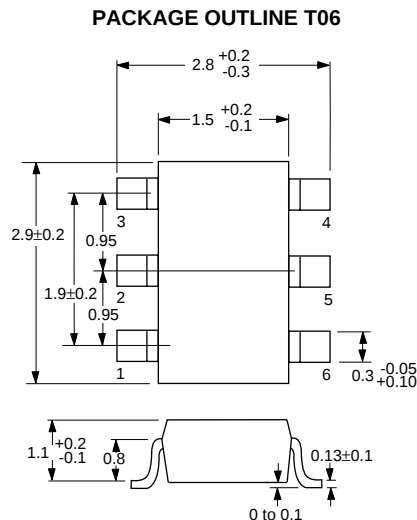
S PARAMETERS



Start: 100 MHz
Stop: 2 GHz
Conditions: T_A = 25°C, V_{CC} = 5 V

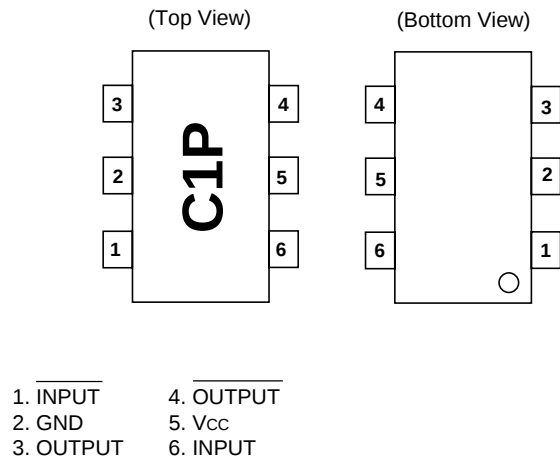


OUTLINE DIMENSIONS (Units in mm)

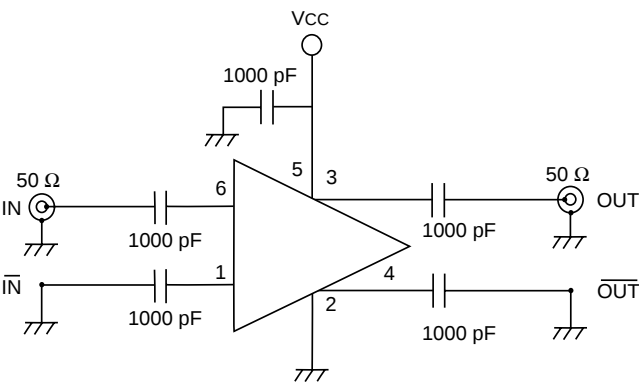


Note:
All dimensions are typical unless otherwise specified.

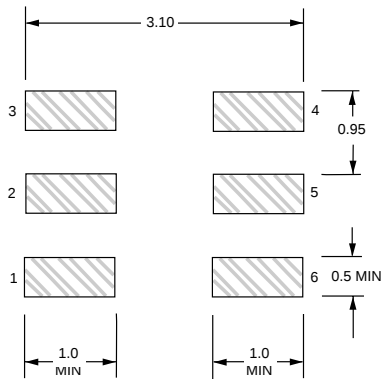
LEAD CONNECTIONS



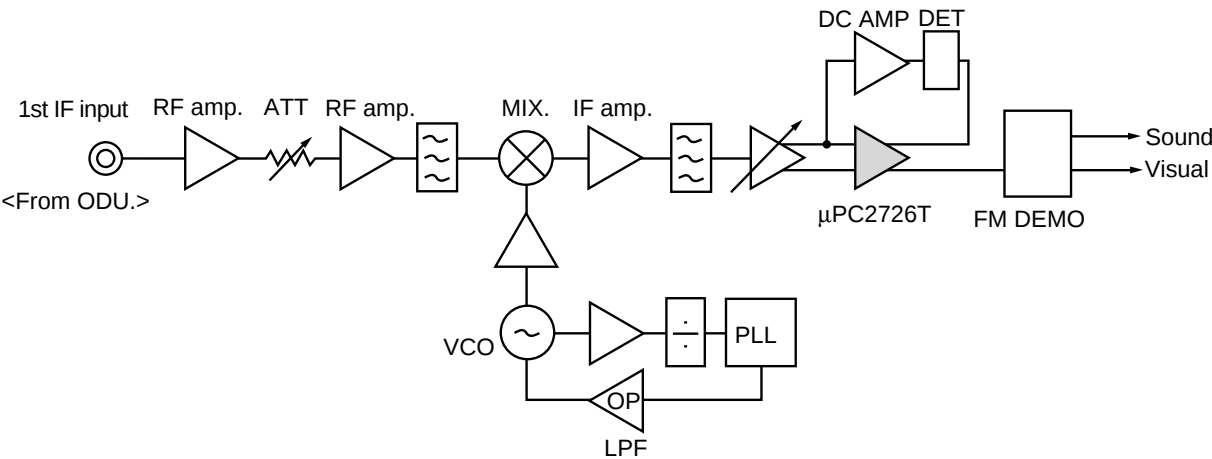
TEST CIRCUIT



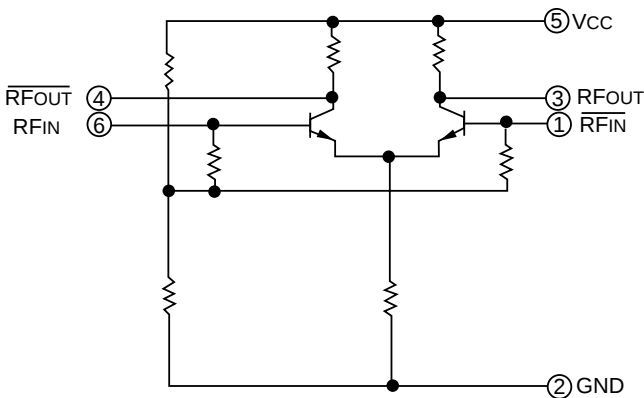
RECOMMENDED P.C.B. LAYOUT (Units in mm)



EXAMPLE OF SYSTEM APPLICATION



EQUIVALENT CIRCUIT



ORDERING INFORMATION

PART NUMBER	QTY
UPC2726T-E3	3K/Reel

Note:
Embossed Tape, 8 mm wide,