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FEATURES

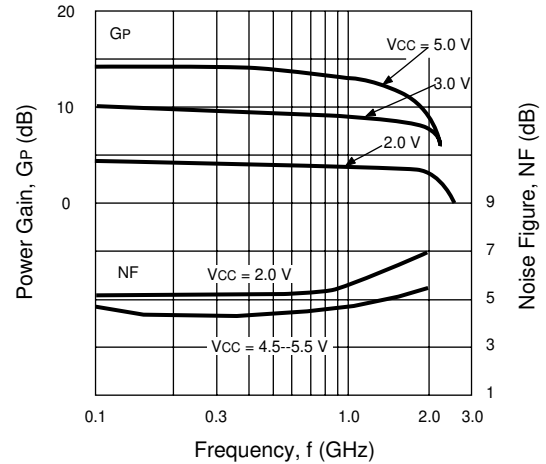
- **HIGH GAIN:** 15 dB Typical at 400 MHz
- **WIDEBAND FREQUENCY RESPONSE:** 1.6 GHz TYP
- **SINGLE POSITIVE DC SUPPLY**
- **SUPER SMALL PACKAGE**
- **TAPE AND REEL PACKAGING OPTION AVAILABLE**

DESCRIPTION

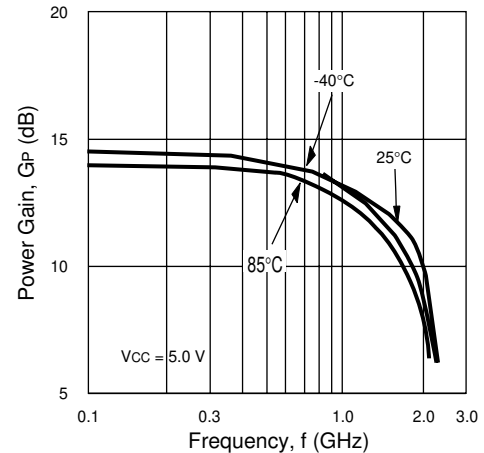
The UPC2726T is a Silicon RF Integrated Circuit which is manufactured using the NESAT III process. The NESAT III process produces transistors with f_T approaching 20 GHz. This amplifier was designed as a buffer amplifier for circuits requiring differential inputs and outputs for increased common-mode 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 (TA = 25°C, ZL = ZS = 50 Ω, f = 400 MHz)

PART NUMBER PACKAGE OUTLINE			UPC2726T					
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	VCC = 5 V			VCC = 2 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. f₁ = 400 MHz, f₂ = 402 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:

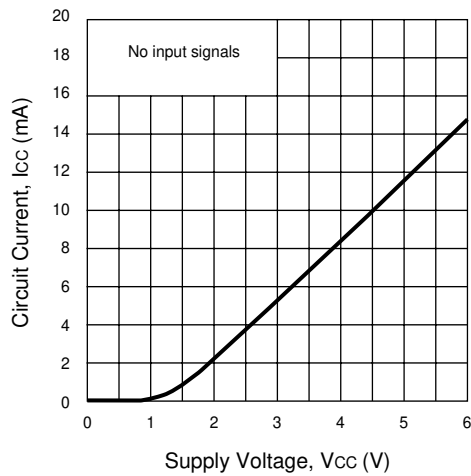
1. Operation in excess of any one of these parameters may result in permanent damage.
2. Mounted on a 50 x 50 x 1.6 mm epoxy glass PWB (T_A = +85°C).

RECOMMENDED OPERATING CONDITIONS

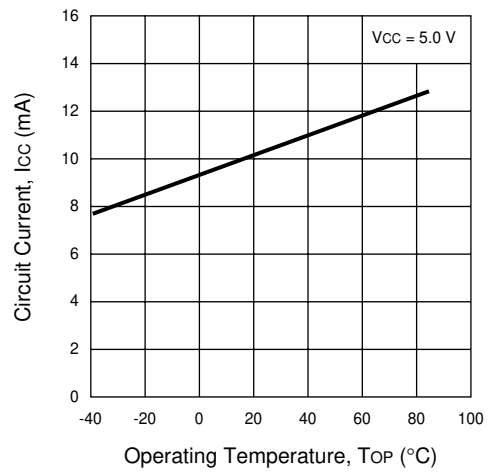
SYMBOLS	PARAMETERS	UNITS	MIN	TYP	MAX
V _{CC}	Supply Voltage	V	4.5	5.0	5.5
T _{OP}	Operating Temperature	°C	-40	25	85

TYPICAL PERFORMANCE CURVES (T_A = 25°C)

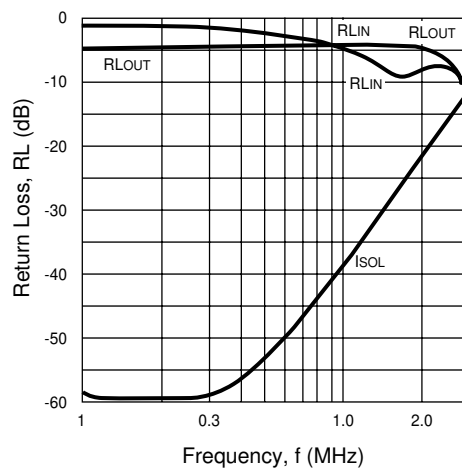
CIRCUIT CURRENT vs. VOLTAGE



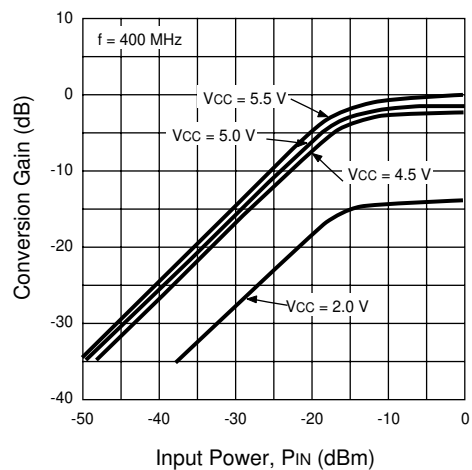
CIRCUIT CURRENT vs. OPERATING TEMPERATURE



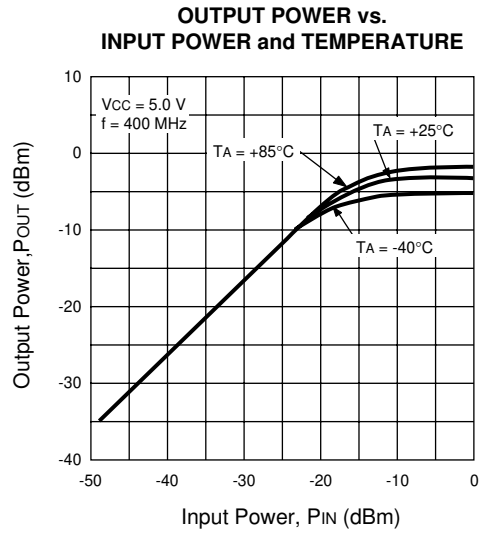
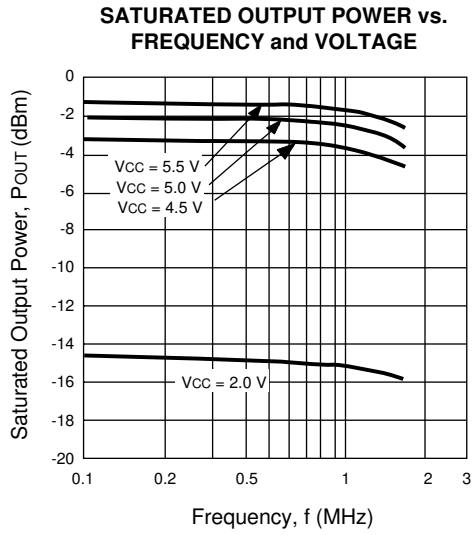
RETURN LOSS vs. FREQUENCY



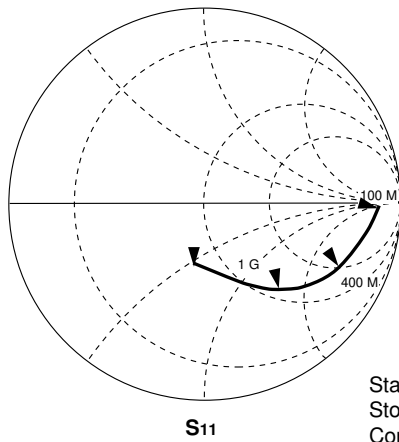
OUTPUT POWER vs. INPUT POWER and VOLTAGE



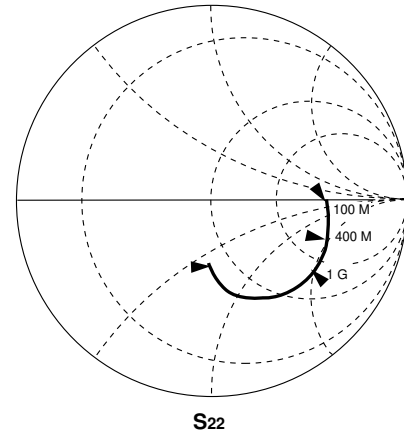
TYPICAL PERFORMANCE CURVES (TA = 25°C)



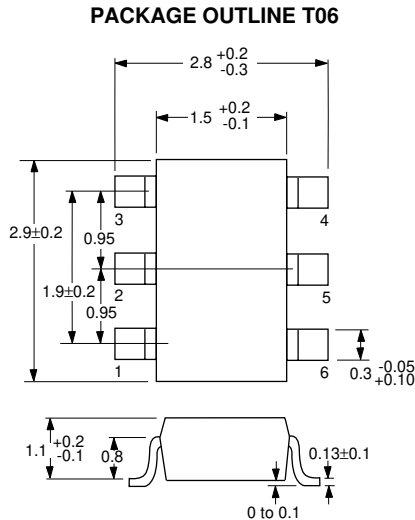
S PARAMETERS



Start: 100 MHz
 Stop: 2 GHz
 Conditions: TA = 25°C, VCC = 5 V

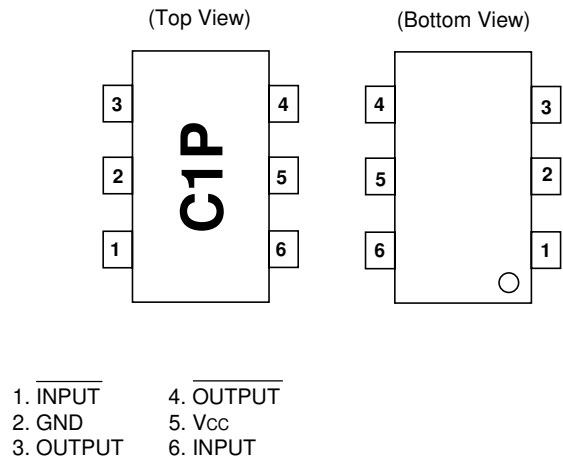


OUTLINE DIMENSIONS (Units in mm)

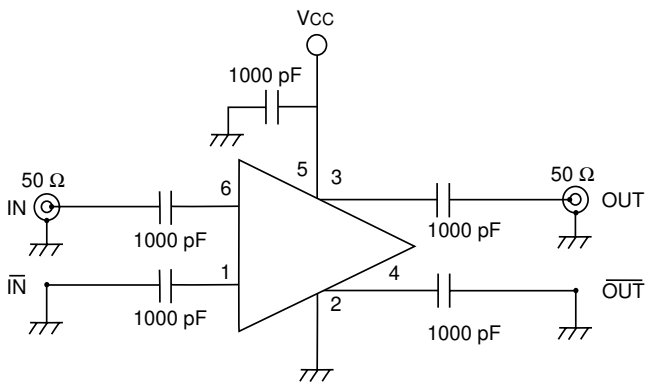


Note:
 All dimensions are typical unless otherwise specified.

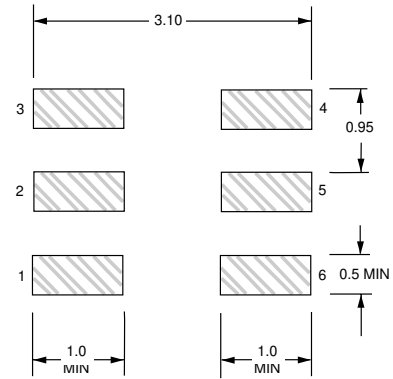
LEAD CONNECTIONS



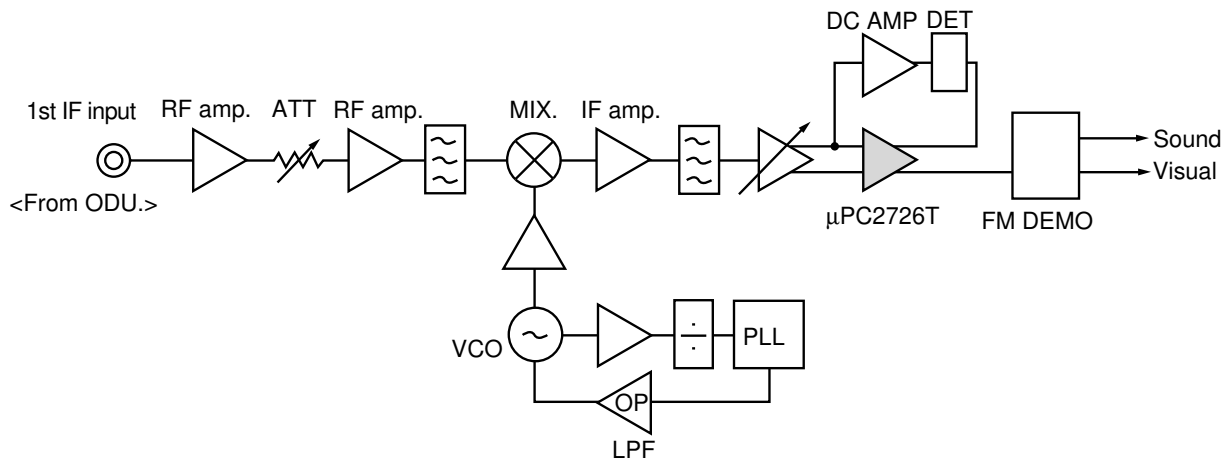
TEST CIRCUIT



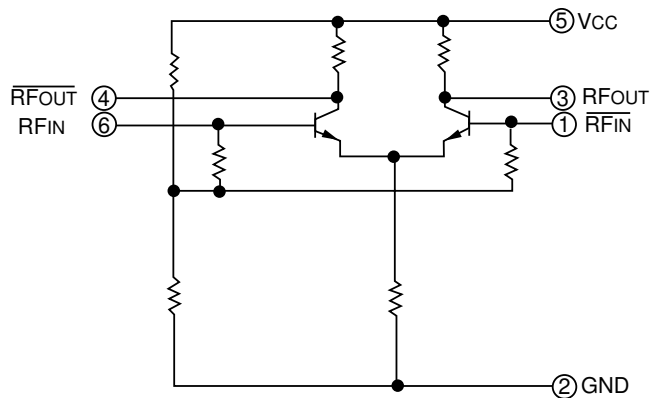
RECOMMENDED P.C.B. LAYOUT (Units in mm)



EXAMPLE OF SYSTEM APPLICATION



EQUIVALENT CIRCUIT



ORDERING INFORMATION

PART NUMBER	QTY
UPC2726T-E3	3K/Reel

Note:
Embossed Tape, 8 mm wide,

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