

NEC[®]**850 MHz WIDE-BAND
SILICON MMIC AMPLIFIER****UPC1656C**

T-74-13-01

FEATURES

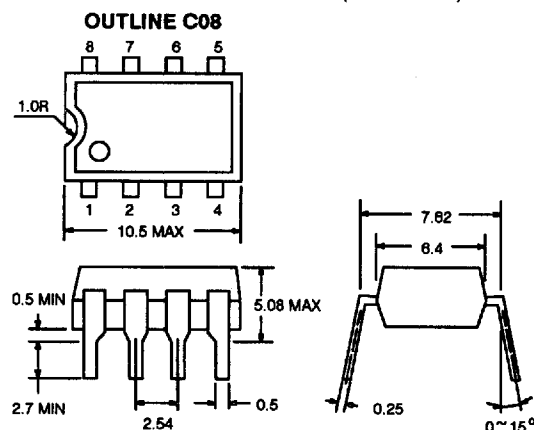
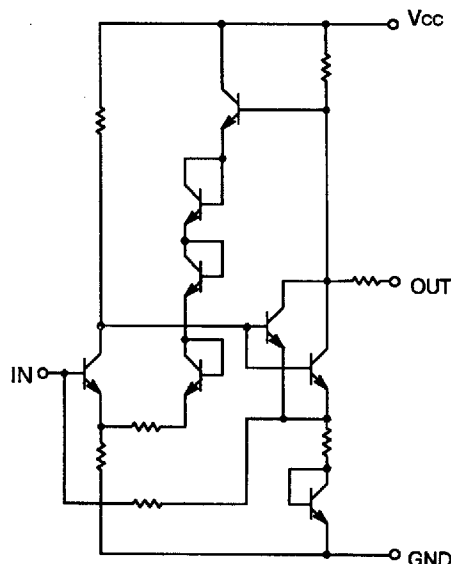
- 850 MHz FREQUENCY RESPONSE @ 3 dB DOWN
- POWER GAIN OF 19 dB @ $f = 500$ MHz
- 10.5 dBm OUTPUT POWER
- LOW COST PACKAGE
- 50 Ω GAIN BLOCK

DESCRIPTION AND APPLICATIONS

The UPC1656C is a silicon monolithic integrated circuit especially designed as a wide-band amplifier covering the HF band through UHF band. Particularly useful when high power is required.

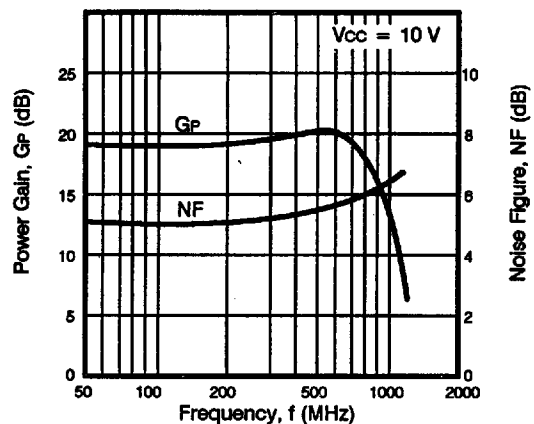
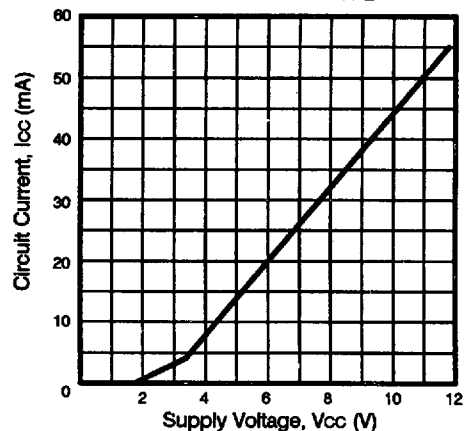
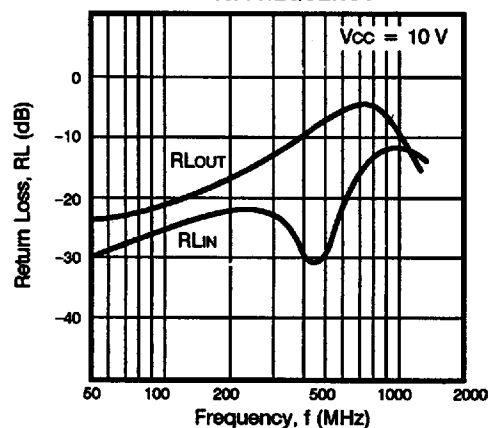
ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

SYMBOLS	PARAMETERS	UNITS	RATINGS
V _{CC}	Supply Voltage	V	11
P _T	Total Power Dissipation	mW	600
T _{OP}	Operating Temperature	°C	-40 to +85
T _{STG}	Storage Temperature	°C	-55 to +150

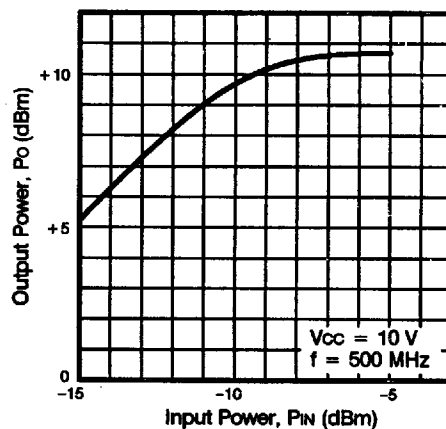
OUTLINE DIMENSIONS (Units in mm)**EQUIVALENT CIRCUIT****ELECTRICAL CHARACTERISTICS** ($T_A = 25^\circ\text{C}$)

PART NUMBER PACKAGE OUTLINE			UPC1656C C08		
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP	MAX
I _{CC}	Circuit Current at V _{CC} = 10 V	mA	38	43	48
GP	Power Gain at V _{CC} = 10 V, $f = 500$ MHz	dB	17	19	21
NF	Noise Figure at V _{CC} = 10 V, $f = 500$ MHz	dB		5.5	6.5
BW	Band-Width at V _{CC} = 10 V, 3 dB down	MHz	750	850	
ISOL	Isolation at V _{CC} = 10 V, $f = 500$ MHz	dB	24	27	
RLIN	Input Return Loss at V _{CC} = 10 V, $f = 500$ MHz	dB	17	20	
RLOUT	Output Return Loss at V _{CC} = 10 V, $f = 500$ MHz	dB	4	7	
PO(SAT)	Saturated Output Power at V _{CC} = 10 V, $f = 500$ MHz	dBm	9	10.5	

UPC1656C

TYPICAL PERFORMANCE CHARACTERISTICS ($T_A = 25^\circ\text{C}$)NOISE FIGURE AND VOLTAGE GAIN
vs. FREQUENCYCIRCUIT CURRENT
vs. SUPPLY VOLTAGEINPUT AND OUTPUT RETURN LOSS
vs. FREQUENCY

OUTPUT POWER vs. INPUT POWER



ISOLATION vs. FREQUENCY

