

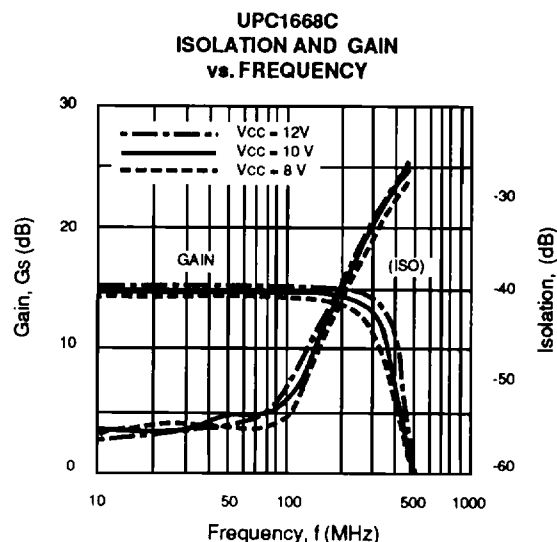
FEATURES

- HIGH ISOLATION
- LOW INPUT/OUTPUT RETURN LOSS
- LOW INTERMODULATION DISTORTION

DESCRIPTION

The UPC1668C is a bipolar analog integrated circuit which functions as a high isolation IF amplifier. The device has been specifically designed as an IF amplifier for video communications. The device is available in a plastic DIP package.

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



ELECTRICAL CHARACTERISTICS (TA = 25°C, Zo = 75 Ω, Vcc = 10 V, f = 70 MHz)

PART NUMBER PACKAGE OUTLINE			UPC1668C C08		
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP	MAX
Icc	Circuit Current	mA	35	48	60
Gs	Small Signal Gain	dB	12.5	14.5	16.0
P1dB	Output Power at 1 dB Gain Compression	dBm		13	
NF	Noise Figure	dB		6.5	
RLIN	Input Return Loss	dB	16	26	
RLOUT	Output Return Loss	dB	20	30	
ISOL	Isolation	dB	45	55	
IM3	3rd Order Intermodulation, PO1 = PO2 = 0 dBm	dBc		50	
fOP	Operating Frequency	MHz	10		150

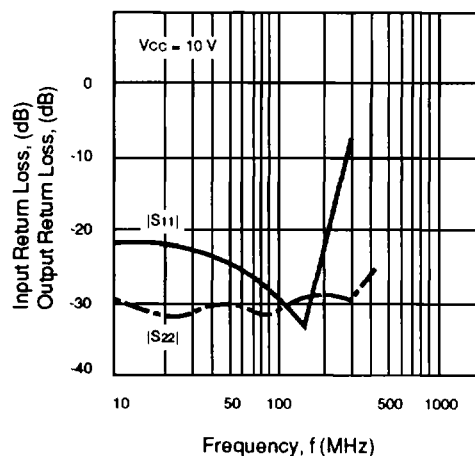
ABSOLUTE MAXIMUM RATINGS¹ ($T_A = 25^\circ\text{C}$)

SYMBOLS	PARAMETERS	UNITS	RATINGS
V _{CC}	Power Supply Voltage	V	12
P _T	Total Power Dissipation ²	mW	750
P _{IN}	Input Power	dBm	+15
T _{OP}	Operating Temperature	°C	-45 to +85
T _{STG}	Storage Temperature	°C	-55 to +150

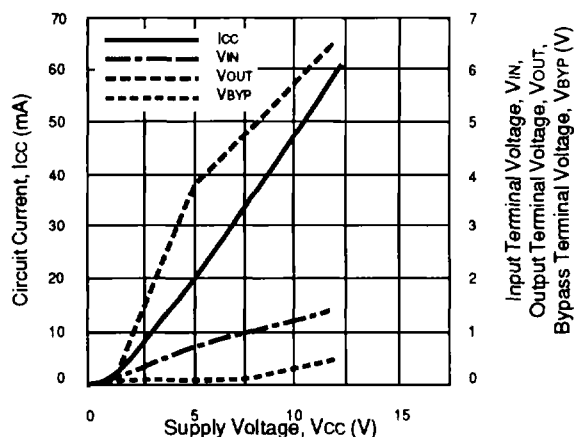
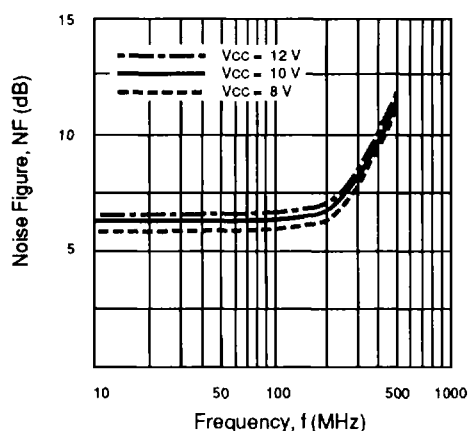
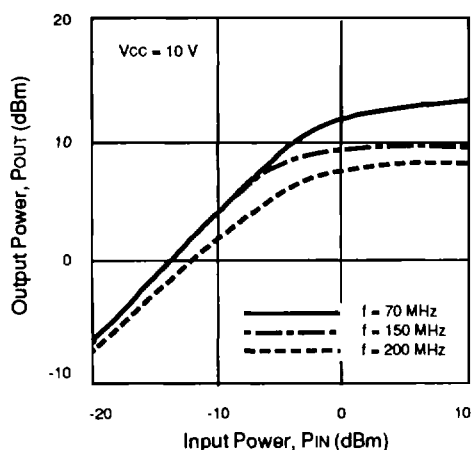
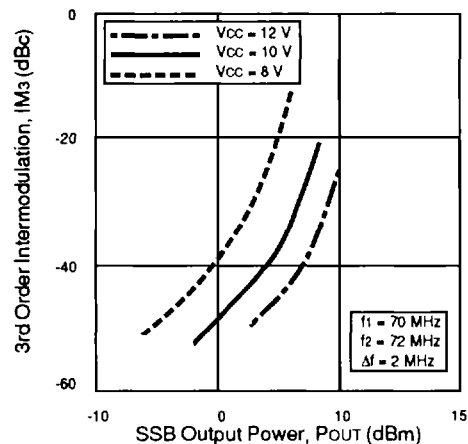
Notes:

- Operation in excess of any one of these parameters may result in permanent damage.
- At $T_A = +85^\circ\text{C}$.

UPC1668C
INPUT RETURN LOSS, OUTPUT
RETURN LOSS vs. FREQUENCY

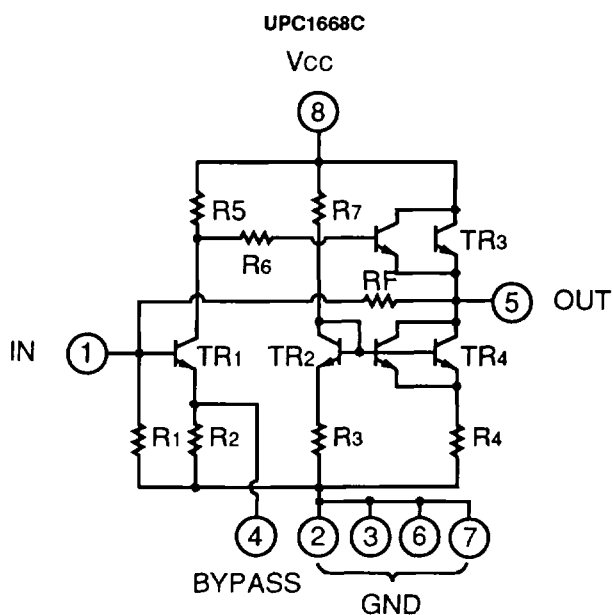
**TYPICAL PERFORMANCE CURVES** ($T_A = 25^\circ\text{C}$)

CIRCUIT CURRENT, INPUT
TERMINAL VOLTAGE, OUTPUT
TERMINAL VOLTAGE, BYPASS TERMINAL
VOLTAGE vs. SUPPLY VOLTAGE

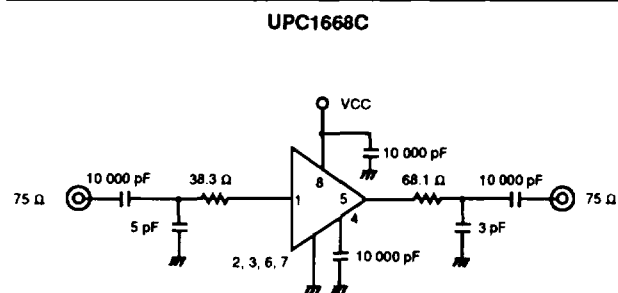
**NOISE FIGURE vs. FREQUENCY****OUTPUT POWER vs. INPUT POWER****THIRD ORDER INTERMODULATION**
vs. OUTPUT POWER

UPC1668C

SCHEMATIC DIAGRAM

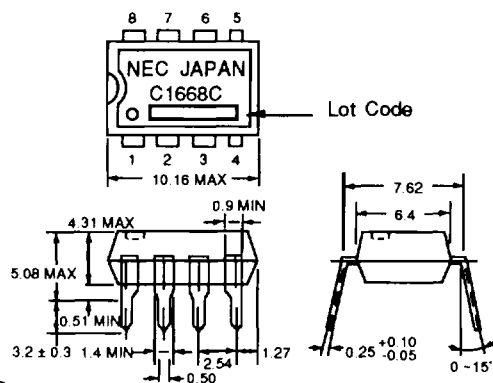


TEST CIRCUIT DIAGRAM (70 MHz Recommended Circuit)



OUTLINE DIMENSIONS (Units in mm)

UPC1668C PACKAGE OUTLINE C08



LEAD CONNECTIONS

1. Input
- 2, 3, 6, 7. GND
4. Bypass
5. Output
8. Vcc