

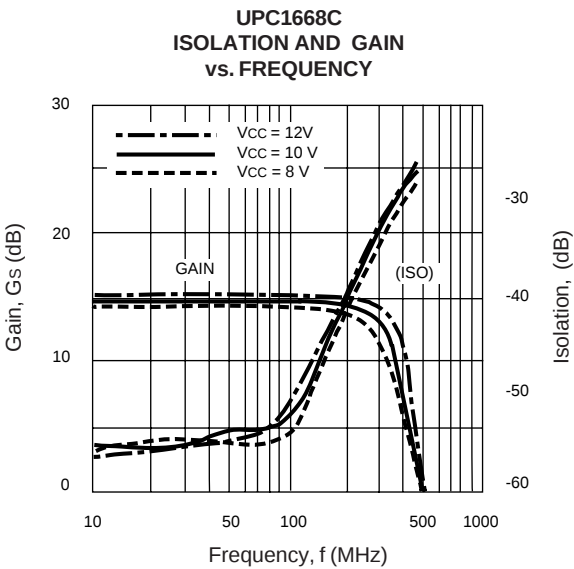
FEATURES

- 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 (T_A = 25°C, Z₀ = 75 Ω, V_{CC} = 10 V, f = 70 MHz)

PART NUMBER PACKAGE OUTLINE			UPC1668C C08		
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP	MAX
I _{CC}	Circuit Current	mA	35	48	60
G _S	Small Signal Gain	dB	12.5	14.5	16.0
P _{1dB}	Output Power at 1 dB Gain Compression	dBm		13	
NF	Noise Figure	dB		6.5	
RL _{IN}	Input Return Loss	dB	16	26	
RL _{OUT}	Output Return Loss	dB	20	30	
ISOL	Isolation	dB	45	55	
IM ₃	3rd Order Intermodulation, P _{O1} = P _{O2} = 0 dBm	dBc		50	
f _{OP}	Operating Frequency	MHz	10		150

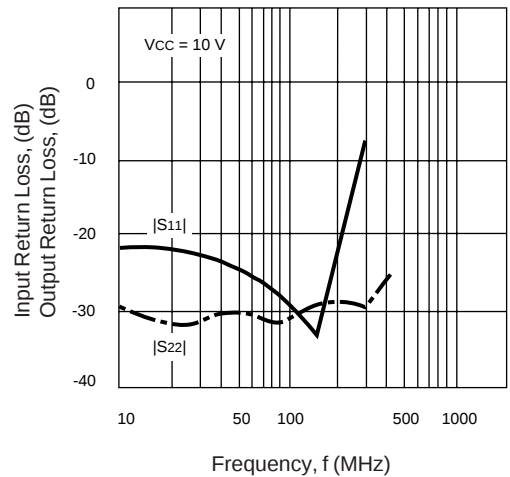
ABSOLUTE MAXIMUM RATINGS¹ (T_A = 25°C)

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:

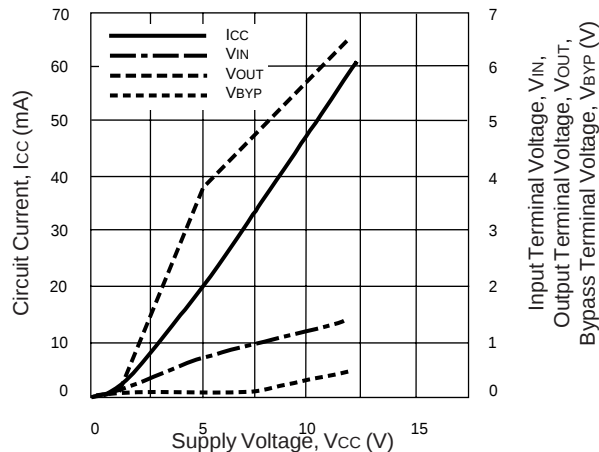
1. Operation in excess of any one of these parameters may result in permanent damage.
2. At T_A = +85°C.

UPC1668C
INPUT RETURN LOSS, OUTPUT
RETURN LOSS vs. FREQUENCY

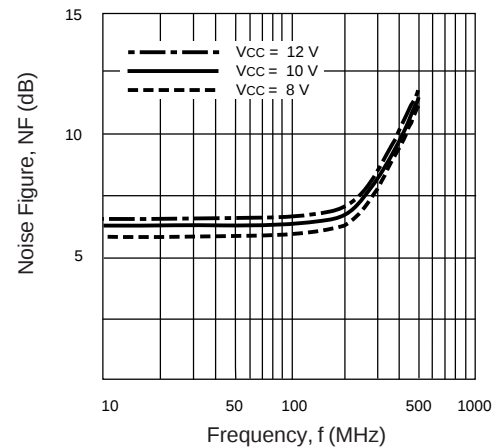


TYPICAL PERFORMANCE CURVES T_A = 25°C)

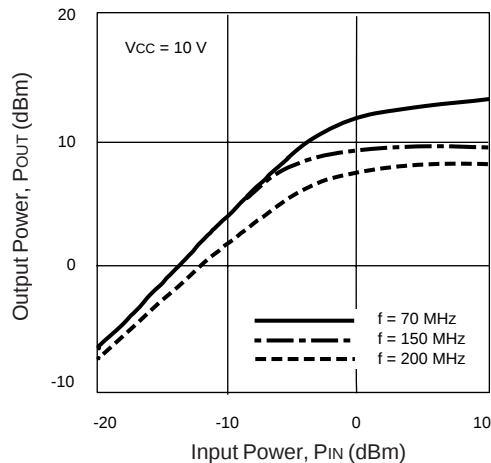
CIRCUIT CURRENT, INPUT
TERMINAL VOLTAGE, OUTPUT
TERMINAL VOLTAGE, BYPASS TERMINAL
VOLTAGE vs. SUPPLY VOLTAGE



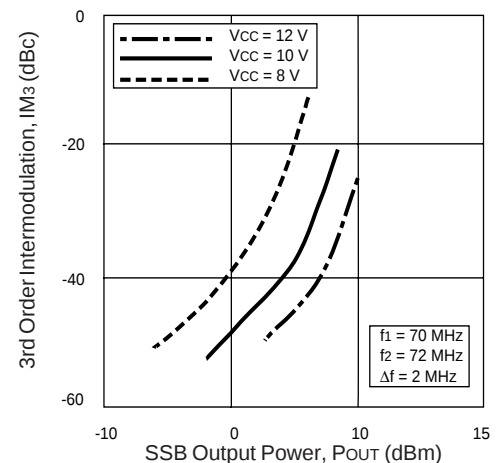
NOISE FIGURE vs. FREQUENCY



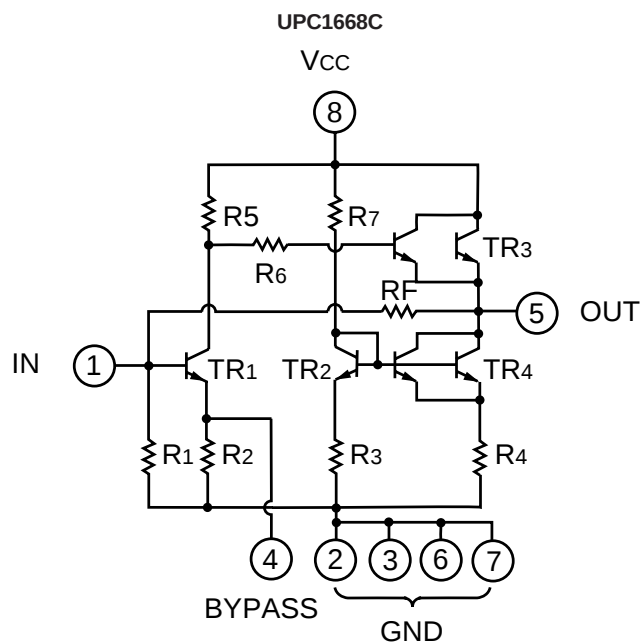
OUTPUT POWER vs. INPUT POWER



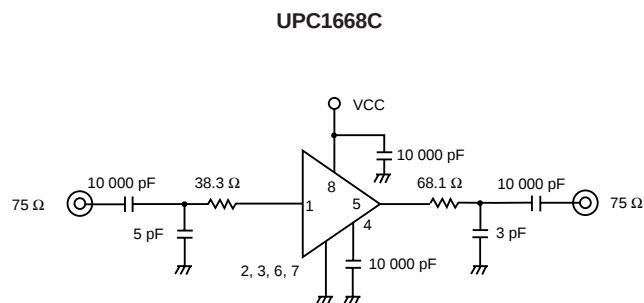
THIRD ORDER INTERMODULATION
vs. OUTPUT POWER



SCHEMATIC DIAGRAM

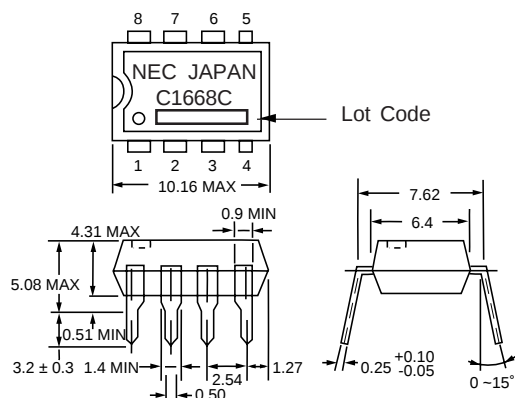


TEST CIRCUIT DIAGRAM (70 MHz Recommended Circuit)



OUTLINE DIMENSIONS (Units in mm)

UPC1668C
PACKAGE OUTLINE C08



LEAD CONNECTIONS

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

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