

BIPOLAR ANALOG INTEGRATED CIRCUIT

μ PC1675G

GENERAL PURPOSE WIDE BAND AMPLIFIER

DESCRIPTION

The μ PC1675G is a silicon monolithic integrated circuit employing small package (4pins mini mold) and designed for use as a wide band amplifier covers from HF band to UHF band.

FEATURES

- Excellent frequency response : 1.9 GHz TYP.
@ 3 dB down below flat gain.
- High isolation.
- Super small package.
- Uni- and low voltage operation : $V_{CC} = 5$ V
- Input and output matching 50 Ω .

ABSOLUTE MAXIMUM RATINGS ($T_A = 25$ °C)

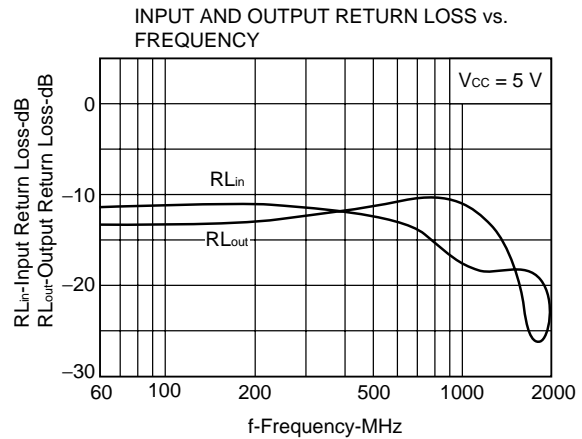
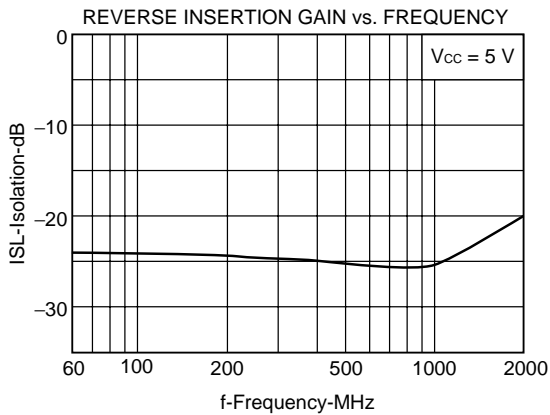
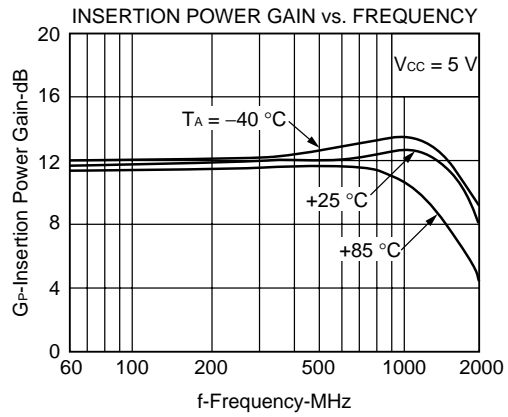
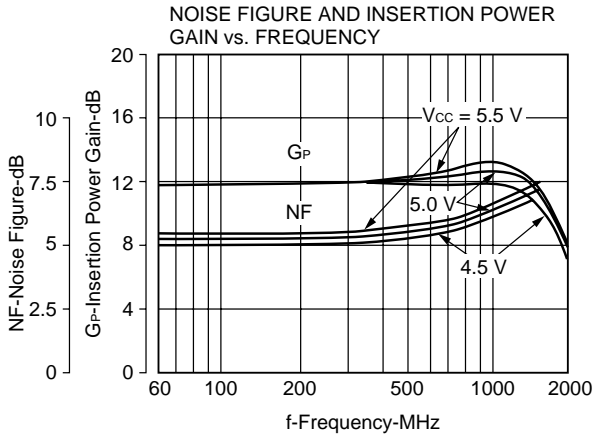
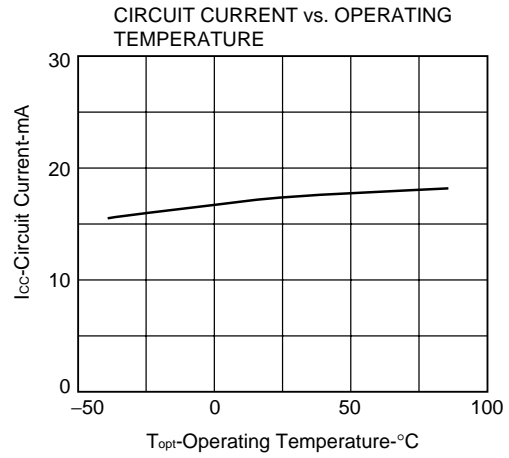
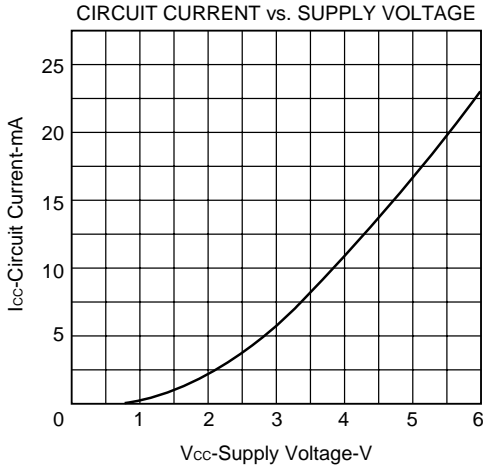
Supply Voltage	V_{CC}	6	V
Total Power Dissipation	P_T	200	mW
Operating Temperature	T_{opt}	-40 to +85	°C
Storage Temperature	T_{stg}	-55 to +150	°C

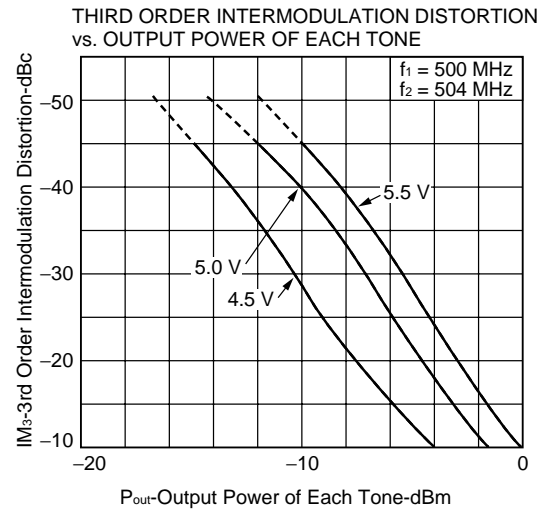
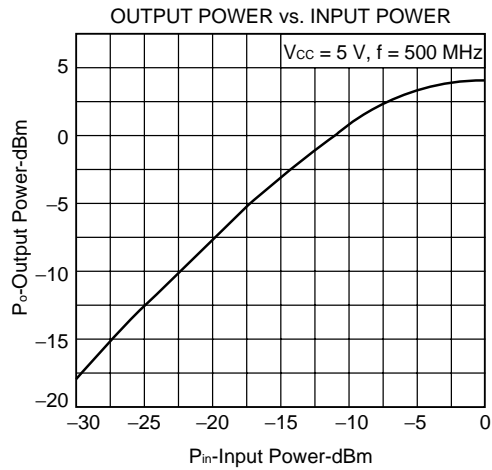
ELECTRICAL CHARACTERISTICS ($T_A = 25$ °C, $V_{CC} = 5$ V)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Circuit Current	I_{CC}	12	17	22	mA	No Signal
Power Gain	G_P	10	12	14	dB	$f = 0.5$ GHz
Noise Figure	NF		5.5	7.0	dB	$f = 0.5$ GHz
Upper Limit Operating Frequency	f_u	1.6	1.9		GHz	3 dB down below flat gain
Isolation	ISL	21	25		dB	$f = 0.5$ GHz
Input Return Loss	RL_{in}	9	12		dB	$f = 0.5$ GHz
Output Return Loss	RL_{out}	8	11		dB	$f = 0.5$ GHz
Maximum Output Level	P_o	2	4		dBm	$f = 0.5$ GHz, $P_{in} = 0$ dBm

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TYPICAL CHARACTERISTICS (T_A = 25 °C)



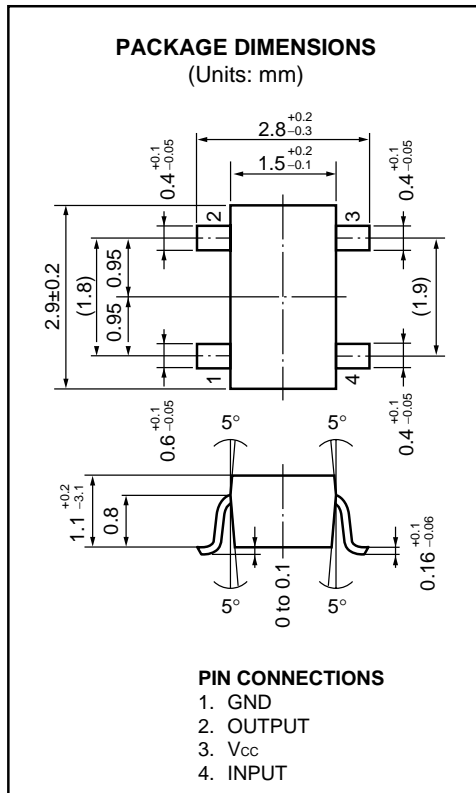


S-PARAMETER

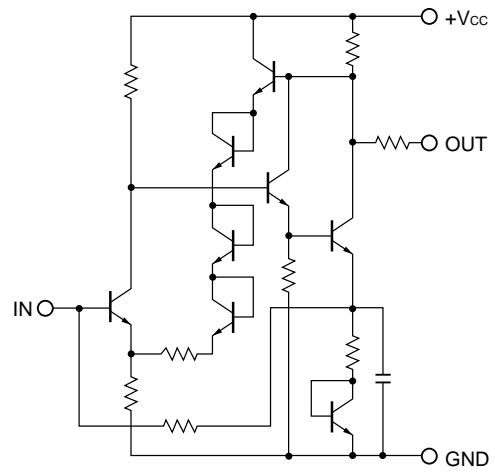
$V_{CC} = 5\text{ V}, Z_0 = 50$

f (MHz)	$ S_{11} $	$\angle S_{11}$	$ S_{21} $	$\angle S_{21}$	$ S_{12} $	$\angle S_{12}$	$ S_{22} $	$\angle S_{22}$
100	0.284	-27.1	3.853	-33.8	0.065	-27.0	0.225	159.1
200	0.287	-55.4	3.877	-67.6	0.064	-51.4	0.235	95.7
400	0.270	-114.3	3.933	-135.5	0.059	-98.3	0.266	15.6
600	0.228	-173.0	4.039	155.7	0.054	-142.3	0.294	-60.1
800	0.178	132.5	4.167	85.3	0.052	177.3	0.305	-134.3
1000	0.136	85.8	4.239	12.8	0.053	138.4	0.283	151.9
1200	0.120	46.0	4.160	-61.0	0.060	97.5	0.229	80.2
1400	0.122	3.6	3.894	-135.0	0.068	53.3	0.156	13.3
1600	0.124	-45.4	3.512	152.1	0.078	6.4	0.084	-40.9
1800	0.114	-98.5	3.083	81.2	0.088	-42.4	0.048	-56.1
2000	0.085	-55.6	2.661	12.1	0.098	-92.6	0.067	-75.0

PACKAGE DIMENSIONS



EQUIVALENT CIRCUIT



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Anti-radioactive design is not implemented in this product.