

05E 22845 D

μ PC1276G

T-77-05-05

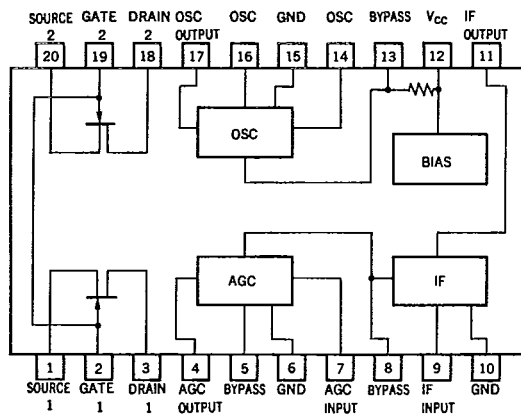
DESCRIPTION

The μ PC1276G is a monolithic integrated circuit designed for FM front end of an electric tuner used in a car stereo receiver. The μ PC1276G consists of a double balanced mixer using J-FET, an oscillator, an AGC amplifier, and a IF amplifier.

FEATURES

- Excellent cross modulation characteristic.
- Excellent IF rejection.
- Built-in IF amplifier.
- Double balanced mixer using J-FET.

BLOCK DIAGRAM (Top View)



PC1276G
6427525 N E C ELECTRONICS INC

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

DC Supply Voltage	V_{CC}	10	V
Package Dissipation	P_D	600 ($T_a = +75^\circ\text{C}$)	mW
Operating Temperature	T_{opt}	-30 to +75	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to +125	$^\circ\text{C}$

RECOMMENDED OPERATING CONDITION ($T_a = 25^\circ\text{C}$)

DC Supply Voltage Range	V_{CC}	7.5 to 9.0 V
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ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$, $V_{CC} = 8.5\text{ V}$)

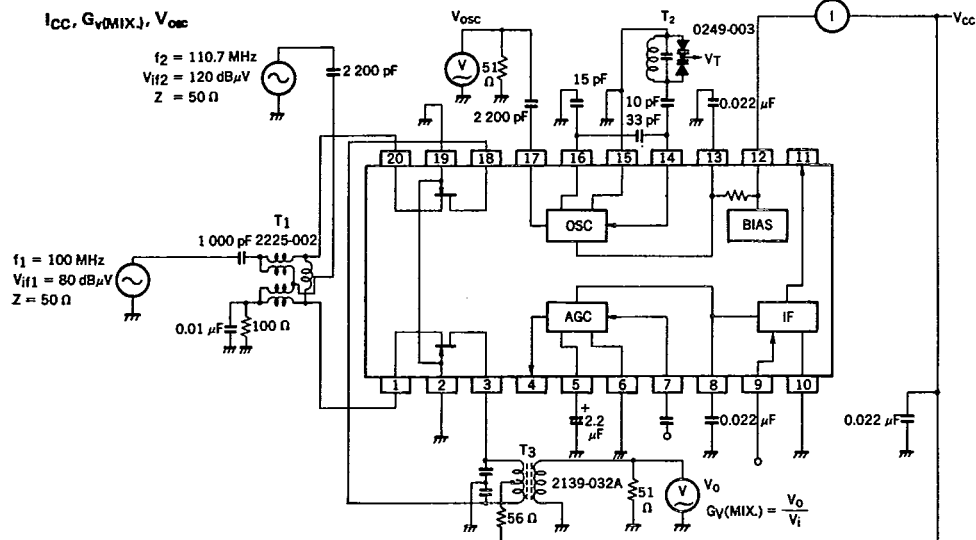
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Circuit Current 1	I_{CC1}	10	15	20	mA	quiescent
IF Amp. Gain	$G_V(\text{IF})$	18	21	24	dB	$f = 10.7\text{ MHz}$, $V_i = 80\text{ dB}\mu\text{V}$
AGC Output Voltage 1	V_{AGC1}		0		mV	quiescent
AGC Output Voltage 2	V_{AGC2}	6.0	6.4	6.8	V	$V_i = 90\text{ dB}\mu\text{V}$, $R_L = 620\ \Omega$
AGC Operate Voltage	$V_i(\text{AGC})$	75	80	83	dB μV	Point of changing from $V_{AGC} = 0$ to $V_{AGC} = 6\text{ V}$
Local Oscillator Voltage	V_{osc}	36	60	77	mV _{r.m.s.}	$R_L = 50\ \Omega$, $f = 100\text{ MHz}$
Conversion Gain	$G_V(\text{MIX.})$	7	11	13	dB	$f_1 = 100\text{ MHz}$, $V_i = 80\text{ dB}\mu\text{V}$ $f_2 = 110.7\text{ MHz}$, $V_i = 120\text{ dB}\mu\text{V}$
MIX. Noise Figure	$NF(\text{MIX.})$		4		dB	$f = 100\text{ MHz}$

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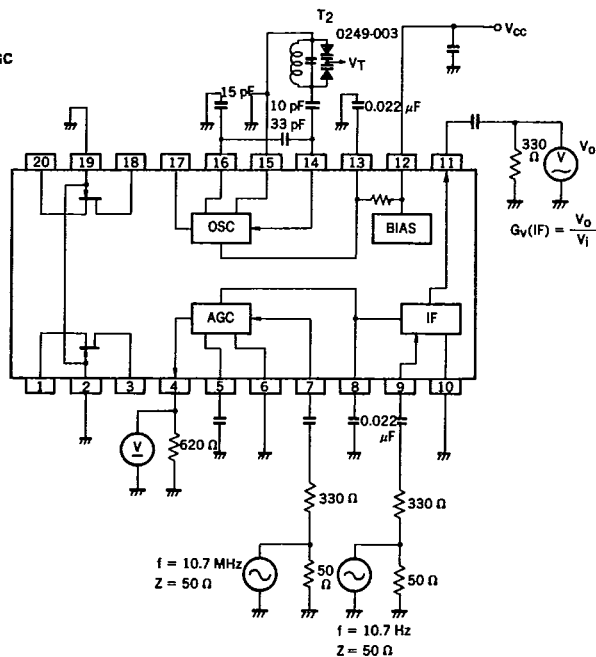
 μ PC1276G
05E 22847 D

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TEST CIRCUIT (1)

 I_{CC} , $G_V(MIX)$, V_{osc} 

TEST CIRCUIT (2)

 $G_V(IF)$, V_{AGC} , V_{AGC} 

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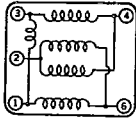
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COIL DATA

 T_1 : MIX. Coil

2225-002 (SUMIDA)

1-6 4 1/2T

2-4 4 1/2T

2-6 4 1/2T

3-4 4 1/2T

1-3 9T

 $L_{13} \approx 0.74 \mu\text{H}$ ($f = 25.2 \text{ MHz}$)

IX385DNS-001 (TOKO)

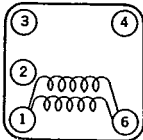
4 1/2T

4 1/2T

4 1/2T

4 1/2T

13T

 $L_{13} \approx 1.05 \text{ nH}$ T_2 : OSC Coil

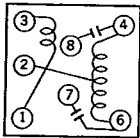
0249-003 (SUMIDA)

6-1 2 1/2 x 2

 $L \approx 105 \text{ nH}$, $Q_u \approx 120$ ($f = 100 \text{ MHz}$)

363SNS-009APZ (TOKO)

6-1 2 1/2 x 2

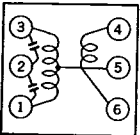
 $L \approx 80 \text{ nH}$, $Q_u > 70$ ($f = 100 \text{ MHz}$) T_3 : IFT Coil

2139-032A (SUMIDA)

3-1 2T

4-2 10 1/2T

2-6 10 1/2T

 $C = 33 \text{ pF}$ $f = 10.7 \text{ MHz}$, $Q_u \approx 40$ 

X388AH-1015FTM (TOKO)

4-6 8 1/2T

3-5 10 1/4T

1-5 10 1/4T

 $C = 33 \text{ pF}$ $f = 10.7 \text{ MHz}$, $Q_u > 60$

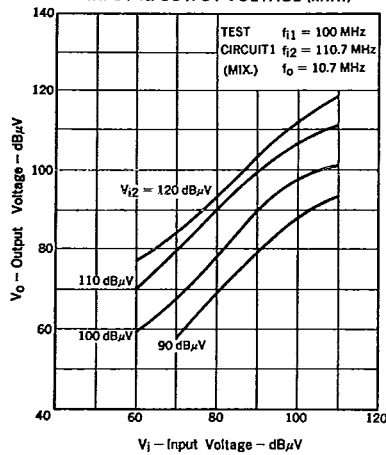
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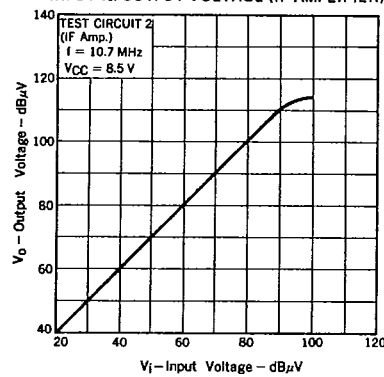
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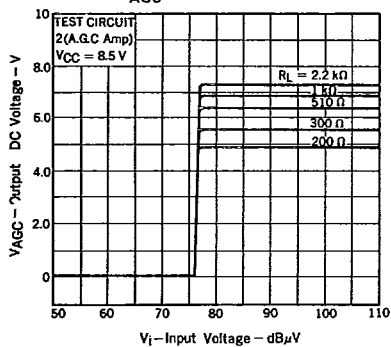
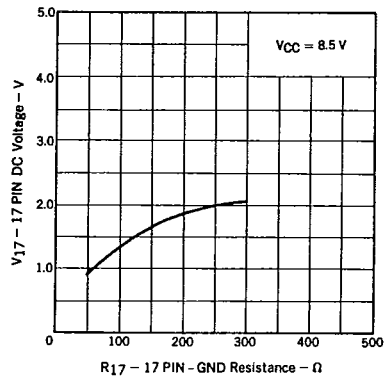
INPUT vs. OUTPUT VOLTAGE (MIX.)



INPUT vs. OUTPUT VOLTAGE (IF AMPLIFIER)



VAGC vs. INPUT VOLTAGE

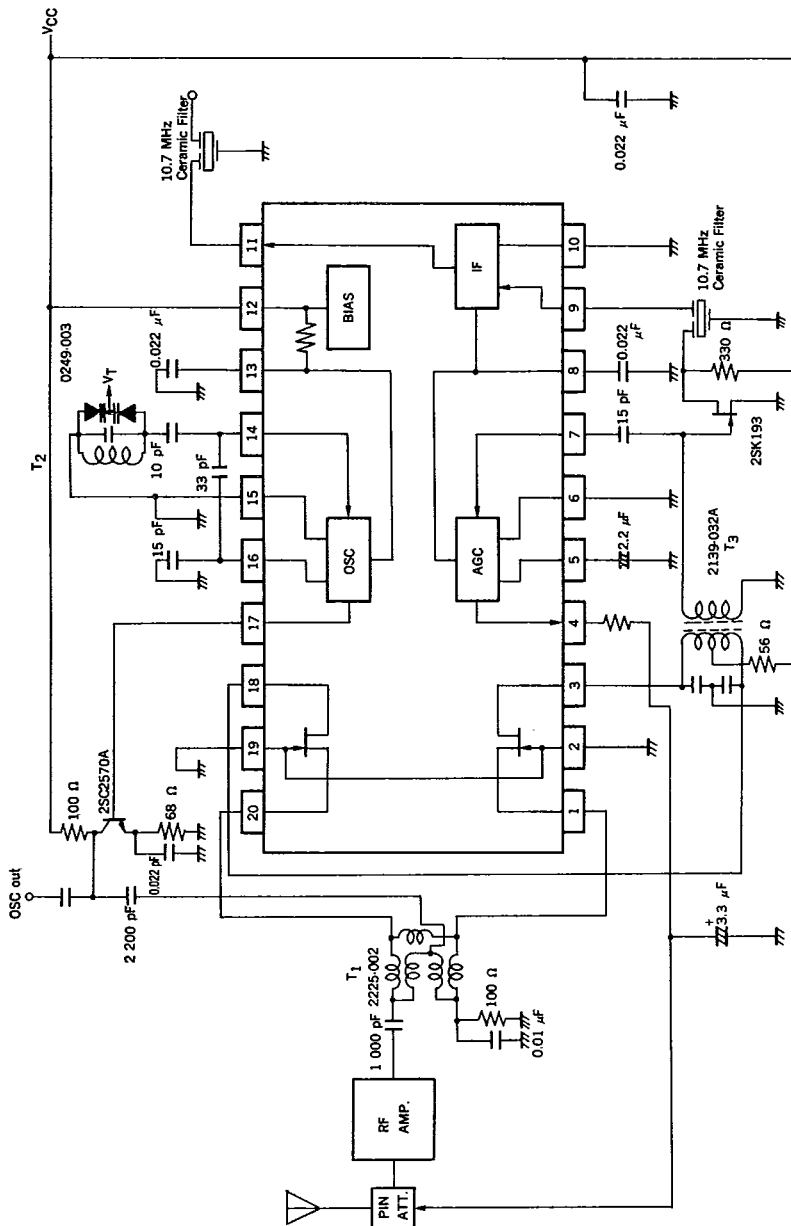
17PIN-GND RESISTANCE vs.
17PIN DC VOLTAGE

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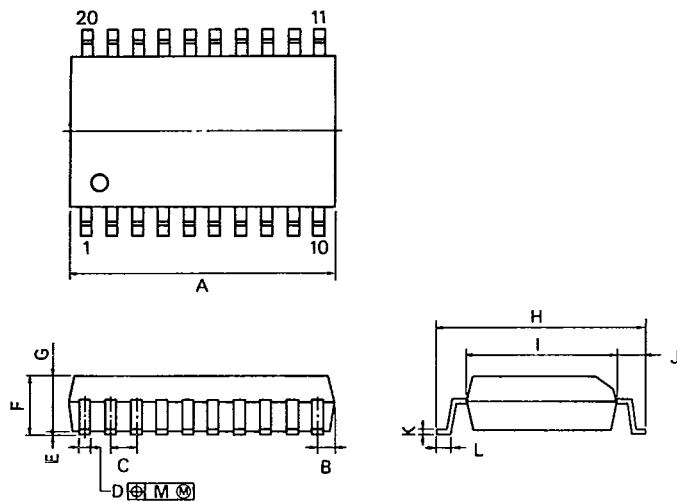


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20PIN PLASTIC MINI FLAT (375 mil)



P20GM-50-375B

NOTE

Each lead centerline is located within 0.12 mm (0.005 inch) of its true position (T.P.) at maximum material condition.

ITEM	MILLIMETERS	INCHES
A	13.00 MAX.	0.512 MAX.
B	0.78 MAX.	0.031 MAX.
C	1.27 (T.P.)	0.050 (T.P.)
D	0.40 ± 0.10	0.016 ± 0.004
E	0.1 ± 0.1	0.004 ± 0.004
F	2.9 MAX.	0.115 MAX.
G	2.50	0.098
H	10.3 ± 0.3	0.406 ± 0.012
I	7.2	0.283
J	1.6	0.063
K	0.15 ± 0.10	0.006 ± 0.004
L	0.8 ± 0.2	0.031 ± 0.008
M	0.12	0.005

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