

# BIPOLAR ANALOG INTEGRATED CIRCUIT

# $\mu$ PC1391HA

## SOUND IF PROCESSOR FOR AUDIO MULTIPLEX TV

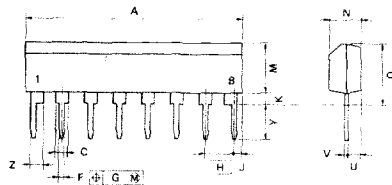
### DISCRIPTION

$\mu$ PC1391HA is sound IF processor for audio multiplex TV. It can be operated with no adjustment, using ceramic filters externally. The quadrature detector realizes excellent low distortion. It is included in a 8 pins SIL package.

### FEATURES

- Operation with ceramic filters makes TV sound circuit no adjustment completely.
- Low distortion ..... 0.2 %
- High sensitivity ..... 200  $\mu$ Vr.m.s.
- Excellent AMR ..... -55 dB (TYP.)

### 8 PIN PLASTIC SLIM SIP

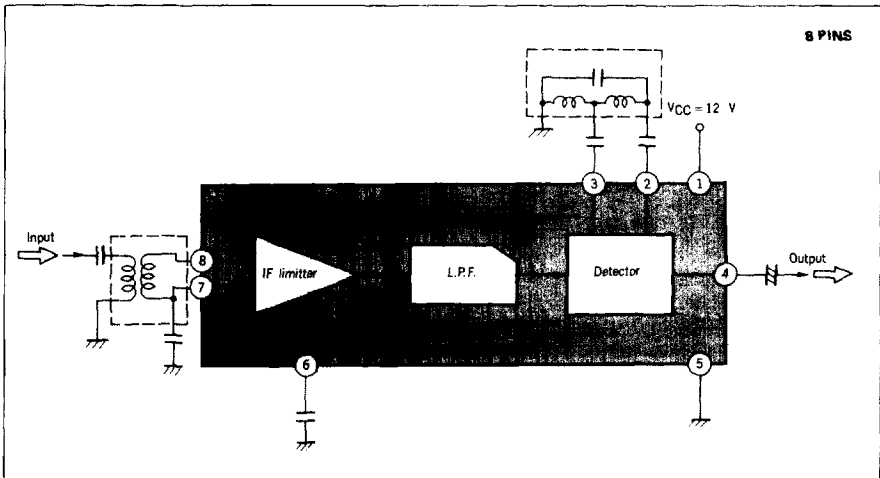


**NOTE**  
Each lead centerline is located within 0.25 mm (0.01 inch) of its true position (T.P.) at maximum material condition

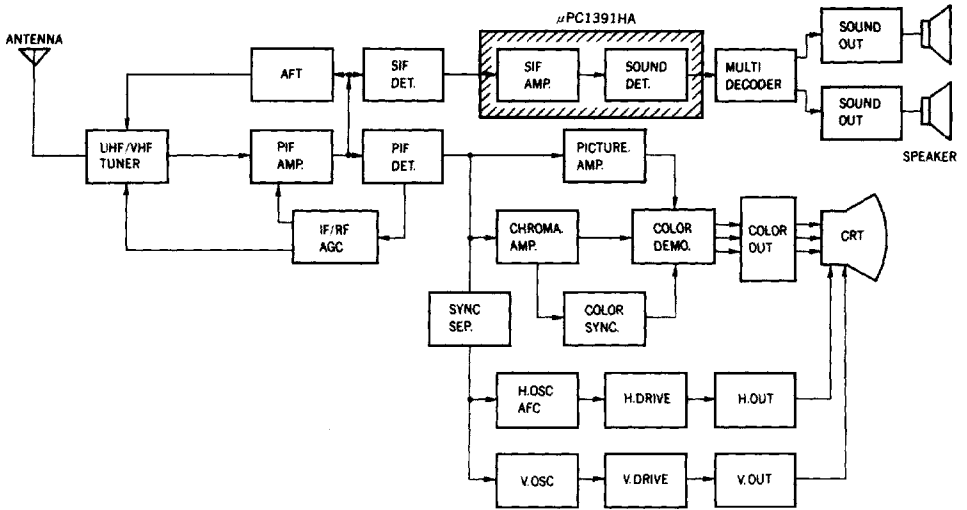
PINA 754g

ITEM	MILLIMETERS	INCHES
A	20.32 MAX	0.8 MAX
C	1.1 MIN	0.043 MIN
F	0.5 °	0.02 388
G	0.25	0.01
H	2.54	0.1
J	1.27 MAX	0.05 MAX
K	0.51 MIN	0.02 MIN
M	5.08 MAX	0.2 MAX
N	2.6 °	0.11 388
Q	5.75 MAX	0.227 MAX
U	1.5 MAX	0.069 MAX
V	0.25 388	0.01 388
Y	3.2 °	0.126 388
Z	1.1 MIN	0.043 MIN

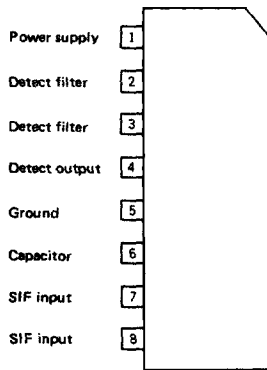
### BLOCK DIAGRAM



TV BLOCK DIAGRAM



CONNECTION DIAGRAM (Top View)



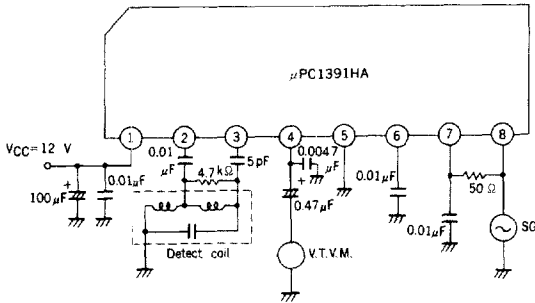
**ABSOLUTE MAXIMUM RATINGS (Ta=25 °C)**

Power Supply Voltage	V <sub>CC</sub>	15	V
Pin 7, 8 Input Voltage	V <sub>7, 8</sub>	3	V <sub>p-p</sub>
Power Dissipation	P <sub>d</sub>	270 (Ta=75 °C)	mW
Operating Temperature	T <sub>opt</sub>	-20 to +75	°C
Storage Temperature	T <sub>stg</sub>	-40 to +125	°C

**ELECTRICAL CHARACTERISTICS (V<sub>CC</sub>=12 V, Ta=25 ±3 °C, f=4.5 MHz, f<sub>M</sub>=400 Hz, AM MOD=30 %)**

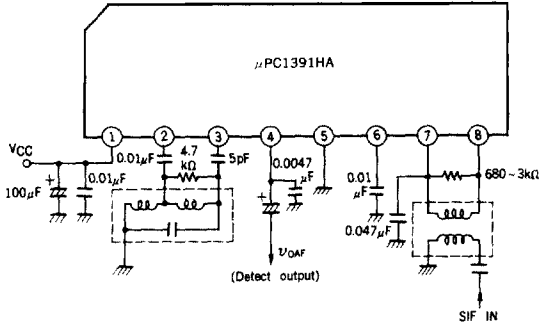
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Total Supply Current	I <sub>CC</sub>	8.0	16.0	24.0	mA	Zero carrier
IF Limiting Voltage	V <sub>i(lim)</sub>	-	180	360	μVr.m.s.	V <sub>OAF</sub> (U <sub>i</sub> =3 mVr.m.s.), -3 dB point
Detector Output Voltage - 1	V <sub>OAF1</sub>	150	200	-	mVr.m.s.	U <sub>i</sub> =3 mVr.m.s., Δf=±25 kHz
Detector Output Voltage - 2	V <sub>OAF2</sub>	320	410	-	mVr.m.s.	U <sub>i</sub> =3 mVr.m.s., Δf=±50 kHz
Detector Output Distortion - 1	T.H.D.1	-	0.2	0.5	%	U <sub>i</sub> =3 mVr.m.s., Δf=±25 kHz
Detector Output Distortion - 2	T.H.D.2	-	0.6	1.5	%	U <sub>i</sub> =3 mVr.m.s., Δf=±50 kHz
AM Rejection	AMR	-45	-55	-	dB	U <sub>i</sub> =3 mVr.m.s., Δf=±25 kHz

**TEST CIRCUIT**

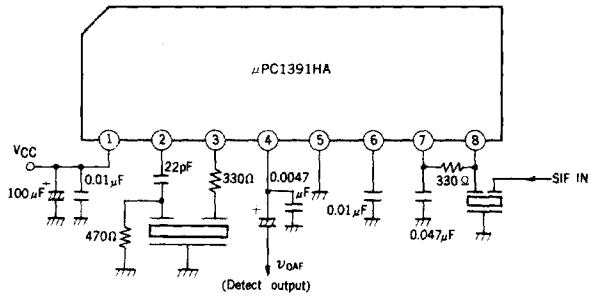


**APPLICATION CIRCUIT**

Using IFT

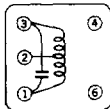


Using ceramic filter (MURATA CDA4.5MC19)



**DETECTION COIL SPECIFICATION**

TOKO 10KN TYPE TKAC-27071BY



- Frequency : 4.5 MHz
- No loading Q : 88 ± 20 %
- Turn : 1 - 3 31½ T
- 1 - 2 15½ T
- 2 - 3 16 T
- Internal C : 82 pF
- Wire : 0.12 φ OUEW