



BIPOLAR ANALOG INTEGRATED CIRCUIT

μ PC1391H

SOUND IF PROCESSOR FOR AUDIO MULTIPLEX TV

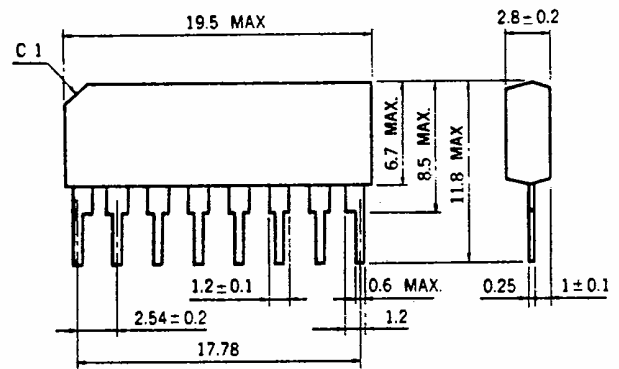
DISCRIPTION

μ PC1391H 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.

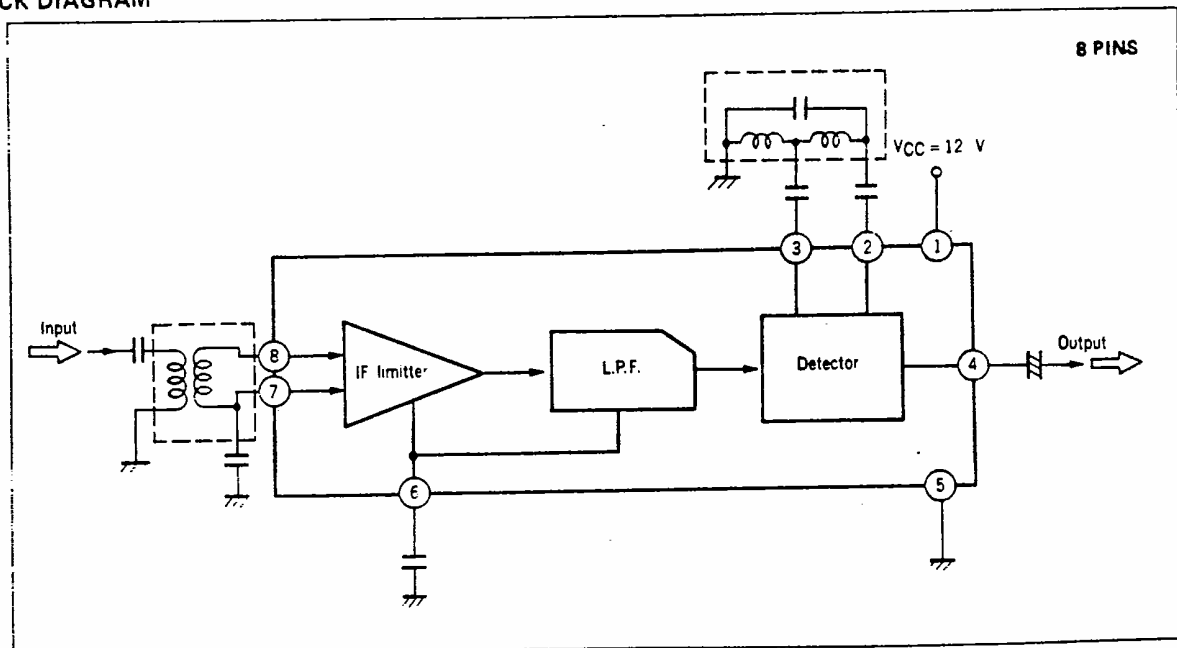
FEATURES

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

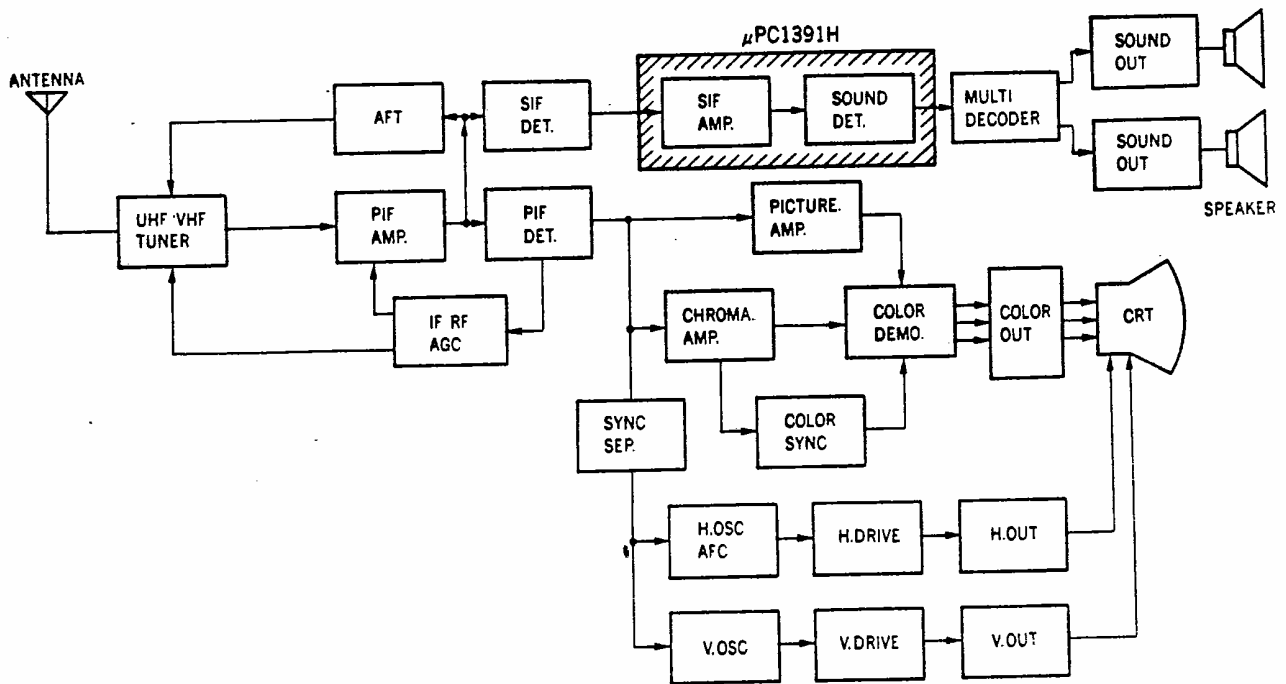
PACKAGE DIMENSIONS (Unit : mm)



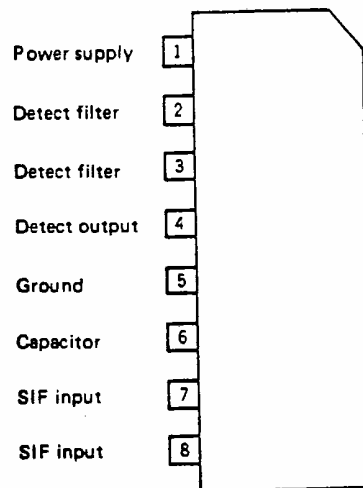
BLOCK DIAGRAM



TV BLOCK DIAGRAM



CONNECTION DIAGRAM (Top View)



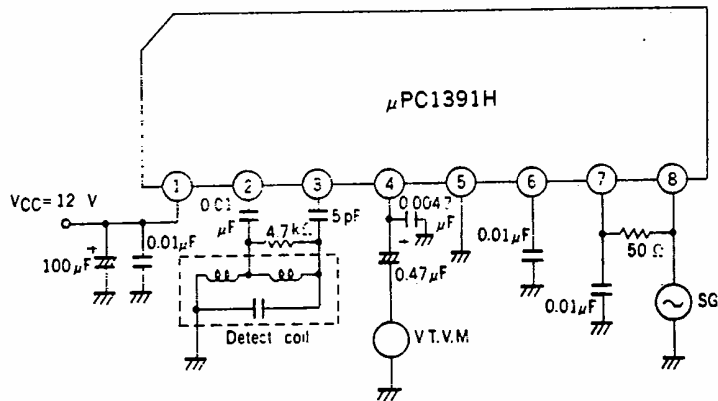
ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

Power Supply Voltage	V_{CC}	15	V
Pin 7, 8 Input Voltage	V_7, V_8	3	V_{P-P}
Power Dissipation	P_d	270 ($T_a=75^\circ\text{C}$)	mW
Operating Temperature	T_{opt}	-20 to +75	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to +125	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($V_{CC}=12\text{ V}$, $T_a=25\pm 3^\circ\text{C}$, $f=4.5\text{ MHz}$, $f_M=400\text{ Hz}$, AM MOD=30 %)

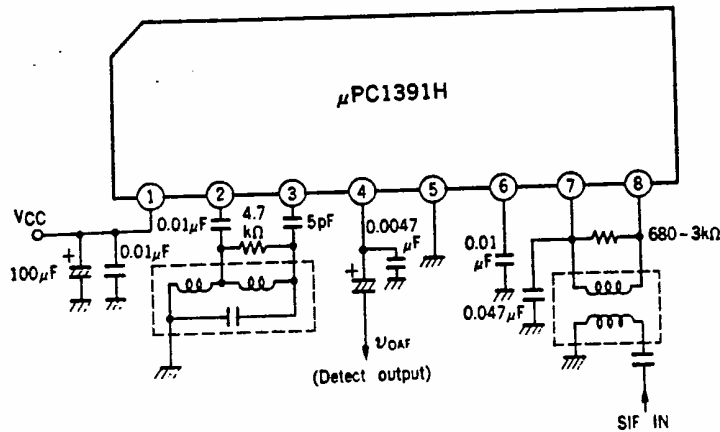
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Total Supply Current	I_{CC}	8.0	16.0	24.0	mA	Zero carrier
IF Limiting Voltage	$V_{i(lim)}$	—	180	360	$\mu\text{Vr.m.s.}$	V_{OAF} ($V_i=3\text{ mVr.m.s.}$), -3 dB point
Detector Output Voltage — 1	V_{OAF1}	150	200	—	mVr.m.s.	$V_i=3\text{ mVr.m.s.}$, $\Delta f=\pm 25\text{ kHz}$
Detector Output Voltage — 2	V_{OAF2}	320	410	—	mVr.m.s.	$V_i=3\text{ mVr.m.s.}$, $\Delta f=\pm 50\text{ kHz}$
Detector Output Distortion — 1	T.H.D.1	—	0.2	0.5	%	$V_i=3\text{ mVr.m.s.}$, $\Delta f=\pm 25\text{ kHz}$
Detector Output Distortion — 2	T.H.D.2	—	0.6	1.5	%	$V_i=3\text{ mVr.m.s.}$, $\Delta f=\pm 50\text{ kHz}$
AM Rejection	AMR	-45	-55	—	dB	$V_i=3\text{ mVr.m.s.}$, $\Delta f=\pm 25\text{ kHz}$

TEST CIRCUIT

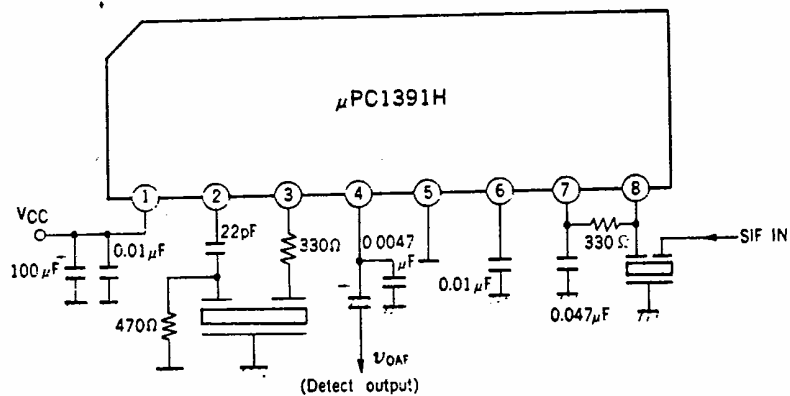


APPLICATION CIRCUIT

Using IFT

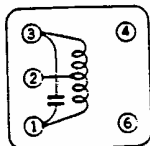


Using ceramic filter (MURATA CDA4.5MC19)



DETECTION COIL SPECIFICATION

TOKO 10KN TYPE TKAC-27071BY



Frequency	: 4.5 MHz
No loading Q	: 68 ± 20 %
Turn	: 1 - 3 31 1/2 T
	: 1 - 2 15 1/2 T
	: 2 - 3 16 T
Internal C	: 82 pF
Wire	: 0.12 φ OUEW

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