



BIPOLAR ANALOG INTEGRATED CIRCUIT

μPC1391H

SOUND IF PROCESSOR FOR AUDIO MULTIPLEX TV

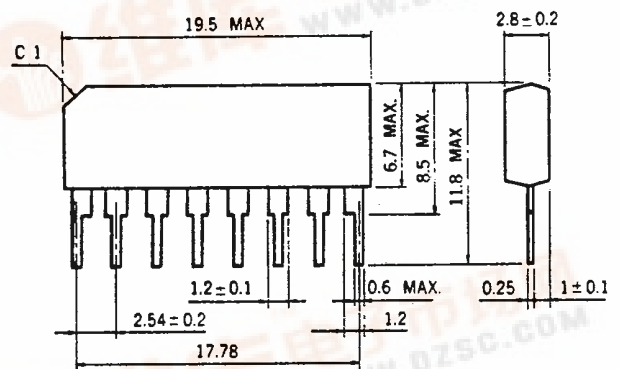
DISCRIPTION

μPC1391H 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.

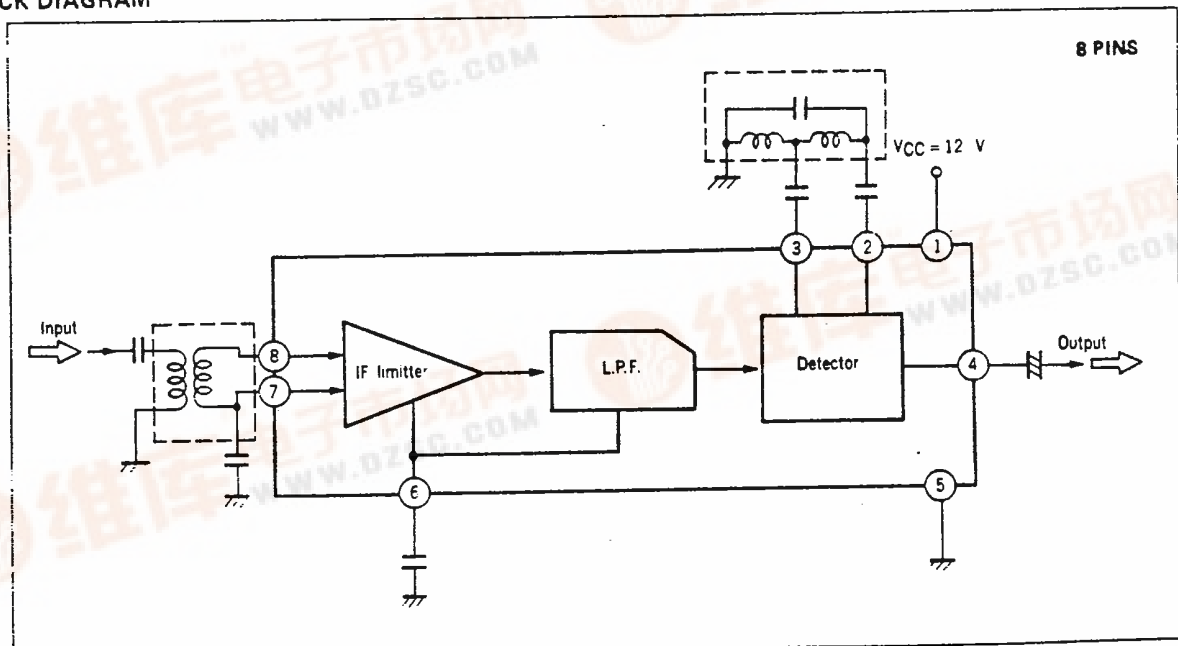
FEATURES

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

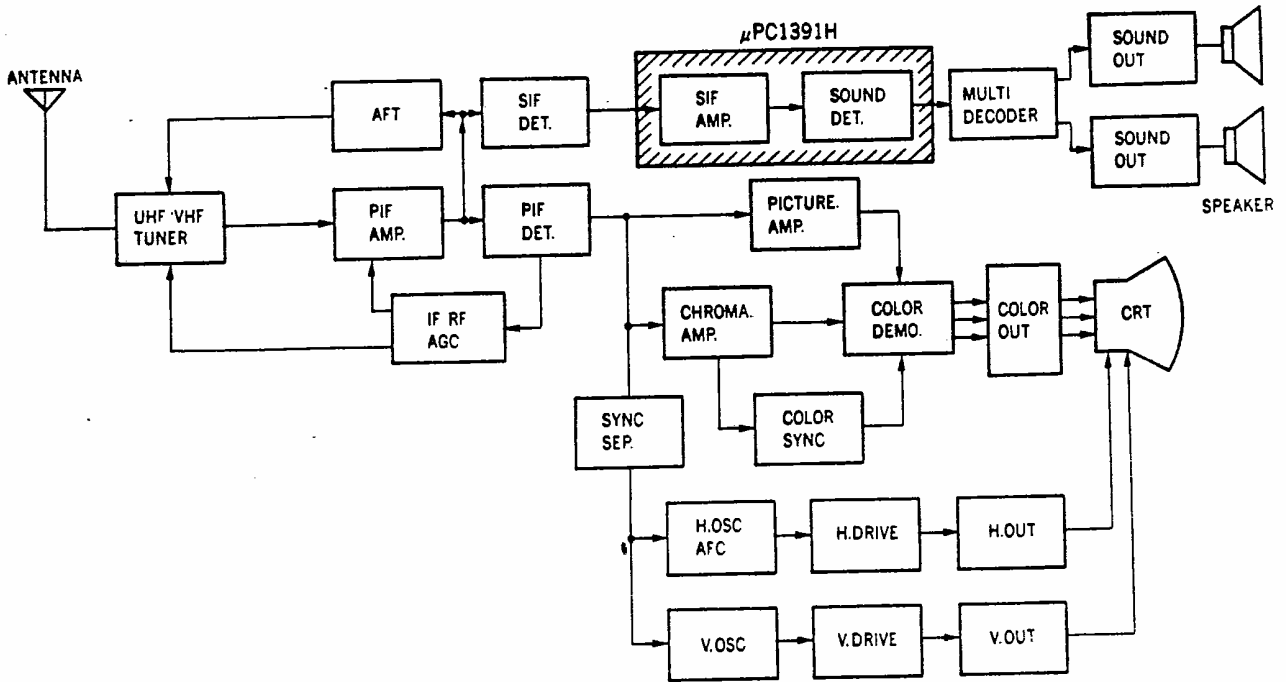
PACKAGE DIMENSIONS (Unit : mm)



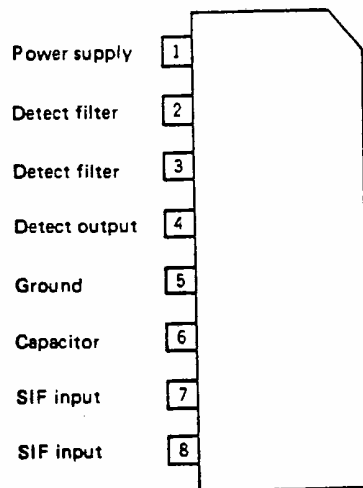
BLOCK DIAGRAM



TV BLOCK DIAGRAM



CONNECTION DIAGRAM (Top View)



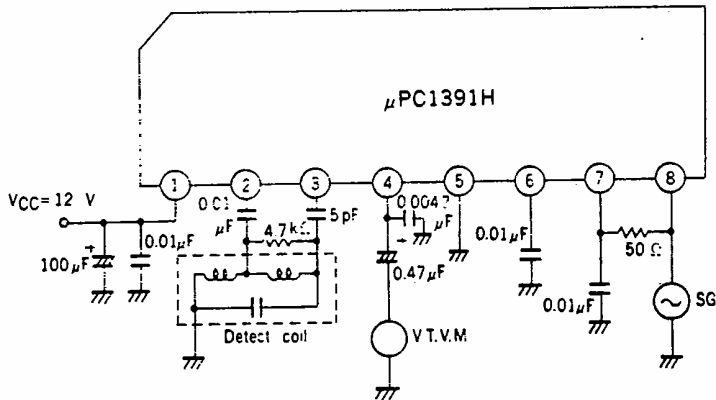
ABSOLUTE MAXIMUM RATINGS (Ta=25 °C)

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 (Ta=75 °C)	mW
Operating Temperature	T _{opt}	-20 to +75	°C
Storage Temperature	T _{stg}	-40 to +125	°C

ELECTRICAL CHARACTERISTICS (V_{CC}=12 V, Ta=25±3 °C, f=4.5 MHz, f_M=400 Hz, AM MOD=30 %)

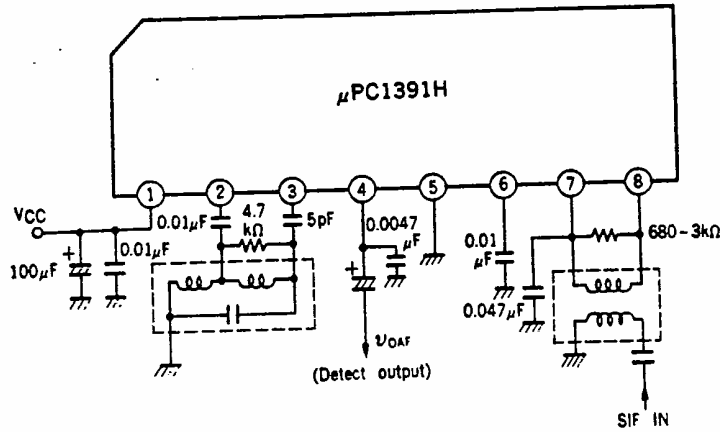
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS
Total Supply Current	I _{CC}	8.0	16.0	24.0	mA	Zero carrier
IF Limiting Voltage	V _{i(lim)}	-	180	360	μVr.m.s.	V _{OAF} (U _i =3 mVr.m.s.), -3 dB point
Detector Output Voltage - 1	V _{OAF1}	150	200	-	mVr.m.s.	U _i =3 mVr.m.s., Δf=±25 kHz
Detector Output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

TEST CIRCUIT

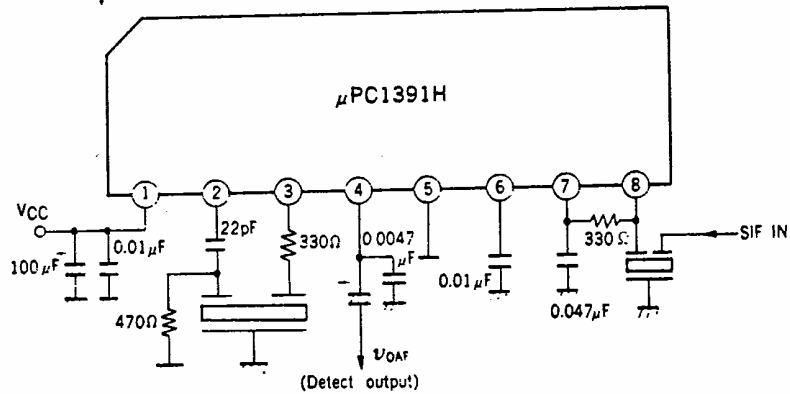


APPLICATION CIRCUIT

Using IFT

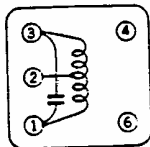


Using ceramic filter (MURATA CDA4.5MC19)



DETECTION COIL SPECIFICATION

TOKO 10KN TYPE TKAC-27071BY



Frequency : 4.5 MHz
 No loading Q : $68 \pm 20\%$
 Turn : 1-3 31½ T
 1-2 15½ T
 2-3 16 T
 Internal C : 82 pF
 Wire : 0.12 φ OUEW

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