

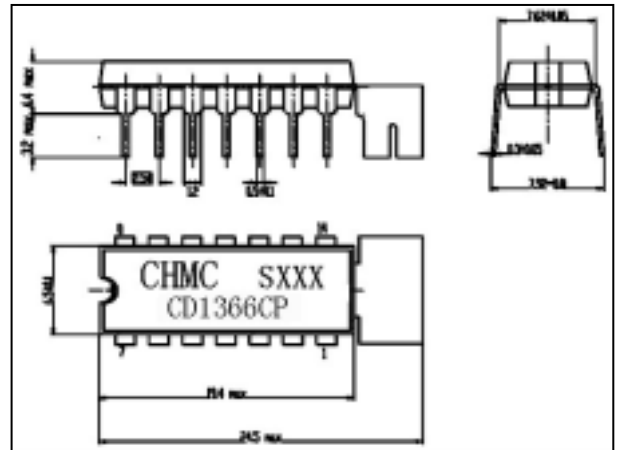


VIDEO IF PROCESSOR FOR B/W TV CD1366CP

GENERAL DESCRIPTION

The CD1366CP is a silicon monolithic integrated circuit designed for VIF section in B/W television receivers. This IC has functions including video IF amplifier, video low-level detector, RF AGC, IF AGC and noise cancellor.

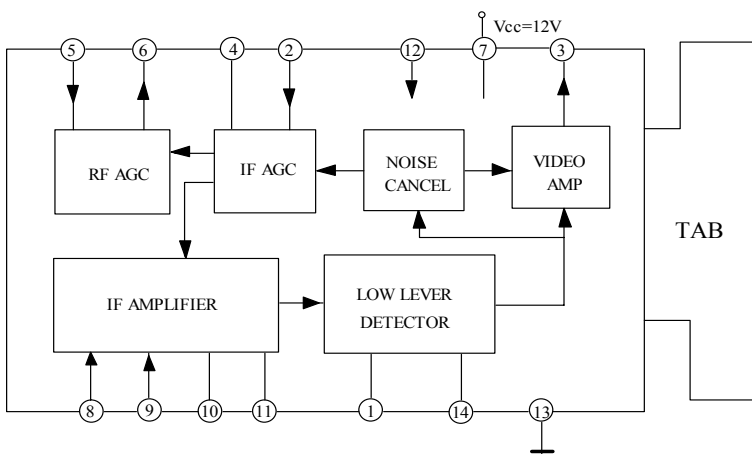
This IC is encapsulated in 14 pin dual in-line package with heat tab.



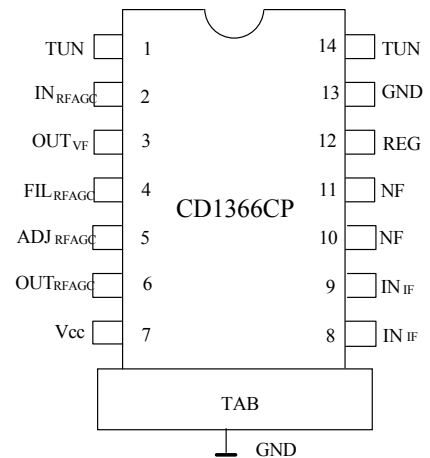
FEATURES

- High input sensitivity; TYP. 30dB μ .
- It can be used both of keyed type AGC and peak type AGC.
- It can be operated with the power supply voltage above 7V.
- Since the video detector has wide bandwidth, it's suitable for the sound carrier frequency of 4.5, 5.5, 6.0, 6.5 MHz.
- As input is differential mode, it can be used with SAW filter.
- All functions for VIF stage are provided by this single chip IC and this IC will realize reduction of assembly cost as well as reduction of number of external components.

BLOCK DIGRAM



PIN CONNECTION



PIN DESCRIPTION

| Pin | Description | Symbol | Pin | Description | Symbol |
|-----|--------------------|----------------------|-----|--------------------|------------------|
| 1 | Detector Coil | TUN | 8 | VIF Input | IN _{IF} |
| 2 | Keying Pulse Input | IN _{IFAGC} | 9 | VIF Input | IN _{IF} |
| 3 | Video Output | OUT _{VF} | 10 | Capacitor | NF |
| 4 | AGC Time Const. | FIL _{IFAGC} | 11 | Capacitor | NF |
| 5 | RF AGC ADJ. VR. | ADJ _{RFAGC} | 12 | Supply Voltage (2) | REG |
| 6 | Tuner AGC Output | OUT _{RFAGC} | 13 | Ground | GND |
| 7 | Supply Voltage (1) | V _{CC} | 14 | Detector Coil | TUN |

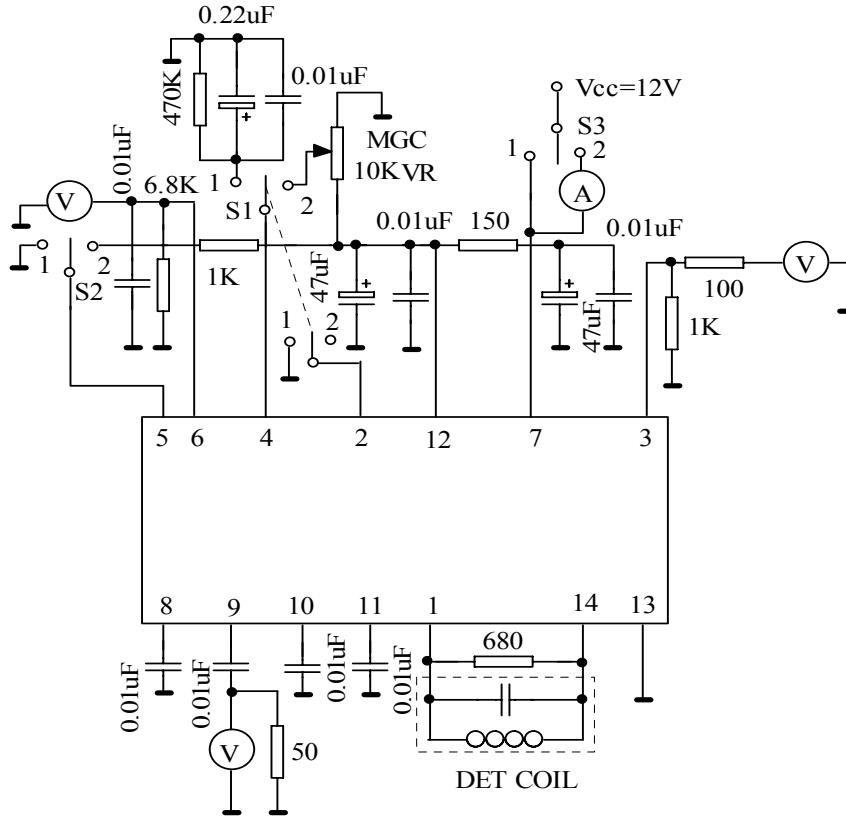
ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

| Characteristics | Symbol | Value | Unit |
|-----------------------|--------|-----------------------|-----------------|
| Supply Voltage Pin 7 | V7 | 15 | V |
| Input Signal Voltage | V8 V9 | 3 | V _{pp} |
| Power Dissipation | Pd | 875(Ta=75°C) Free Air | mW |
| Operating Temperature | Topt | -20~75 | °C |
| Storage Temperature | Tstg | -40~125 | °C |

ELECTRICAL CHARACTERISTICS(V_{CC}=12V, Ta=25 ± 3°C, f=58.75MHz, f_M=15.75kHz)

| Characteristic | Symbol | Test Condition | Min. | Typ. | Max. | Unit |
|---------------------------|-----------------------|--|------|------|------|-----------------|
| Total Supply Current | I _{CC} | I ₇ +I ₁₂ , R _A =150Ω | 40 | 50 | 60 | mA |
| Input Sensitivity | V _i (sens) | Mod=80%, V _o =1.4V _{pp} | | 30 | 35 | dBμ |
| Maximum Input Voltage | V _i (max.) | MOD=80%, -1dB Point | 100 | | | dBμ |
| Video Output Voltage | V _o | Mod=80%, V _i =3mV _{rms} | 1.0 | 1.4 | 1.7 | V _{pp} |
| Video Output DC Voltage | V _o | No Signal | 3.3 | 3.8 | 4.3 | V |
| Signal To Noise Ratio | S/N | MOD=80%~0% V _i =3mV _{rms} | 40 | 50 | | dB |
| RF AGC Voltage (High) | V _{6H} | V ₅ =0V | 8 | 9 | 11 | V |
| RF AGC Voltage (Low) | V _{6L} | V ₅ =7V | | 0 | 0.5 | V |
| Differential Gain | D.G. | Stair Step f _M =3.58MHz | | | 10 | % |
| Differential Phase | D.P. | Stair Step f _M =3.58MHz | | | 10 | deg |
| Video Detector Band Width | BW | -3dB Point | 5.5 | | | MHz |
| Input Resistance | R _{in} | | | 1.5 | | kΩ |
| Input Capacitance | C _{in} | | | 3.3 | | pF |

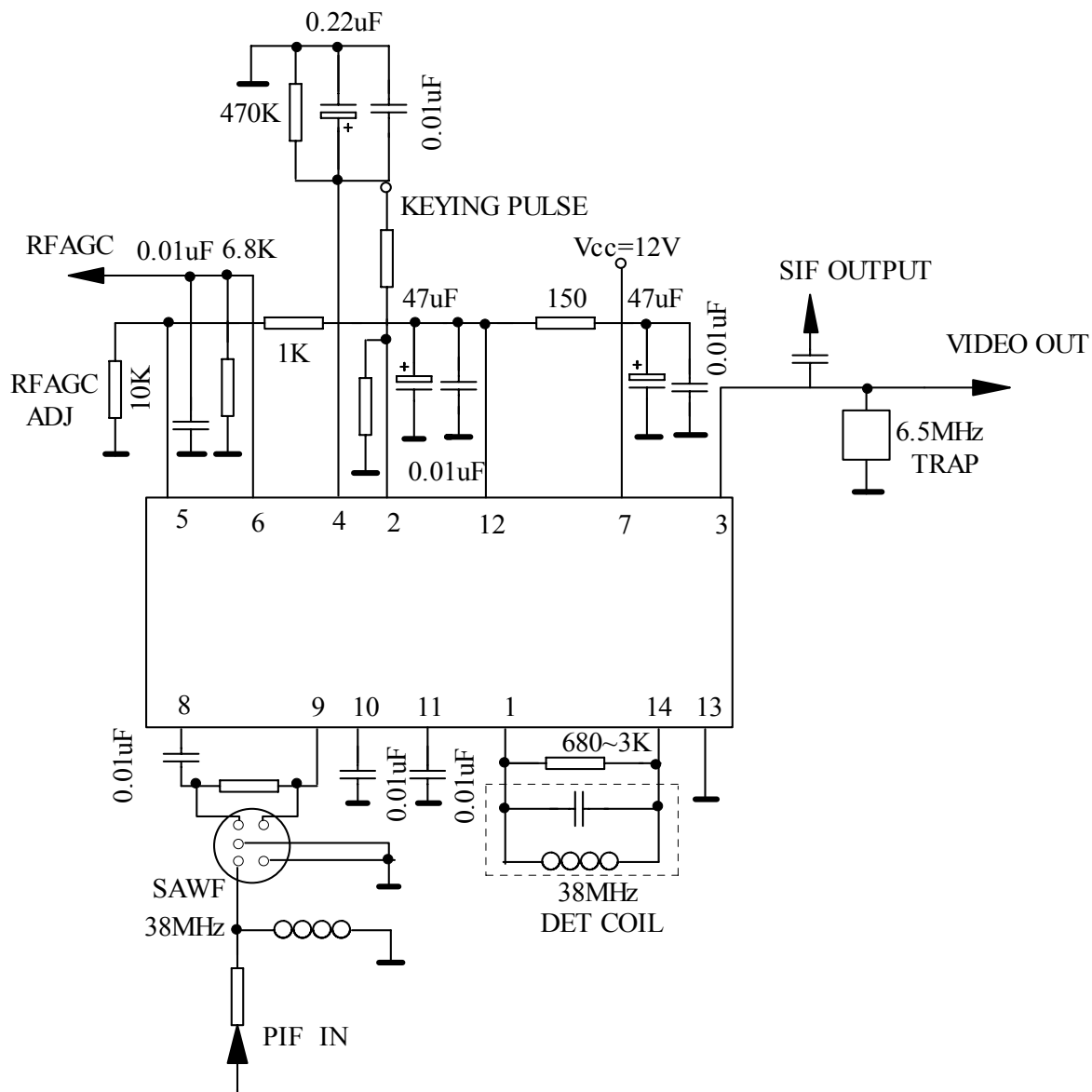
TEST CIRCUIT



TEST CIRCUIT SWITCH SITUATION TABLE

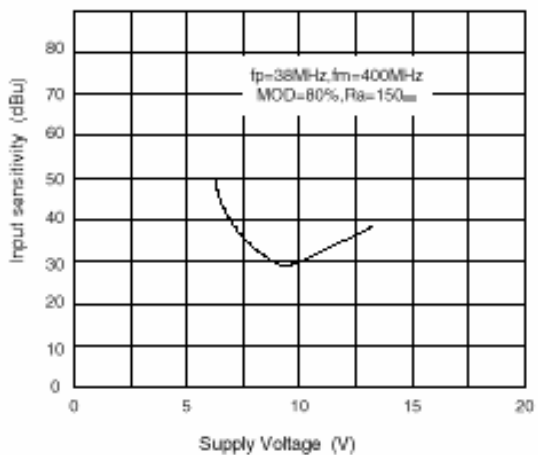
| CHARACTERISTICS | S1 | S2 | S3 | CHARACTERISTICS | S1 | S2 | S3 |
|----------------------|----|----|----|-----------------|----|----|----|
| I _{cc} | 1 | 2 | 2 | V _{6L} | 1 | 2 | 1 |
| V _{IS} | 1 | 2 | 1 | DG | 1 | 2 | 1 |
| V _{IM} | 1 | 2 | 1 | DP | 1 | 2 | 1 |
| V _{OVF(pp)} | 1 | 2 | 1 | BW _v | 1 | 2 | 1 |
| V _o | 1 | 2 | 1 | R _I | 1 | 2 | 1 |
| S/N | 2 | 2 | 1 | C _I | 1 | 2 | 1 |
| V _{6H} | 1 | 1 | 1 | | | | |

APPLICATION CIRCUIT

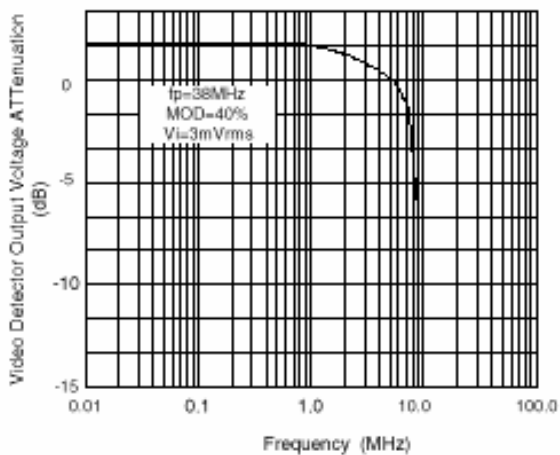


CHARACTERISTICS CURVES

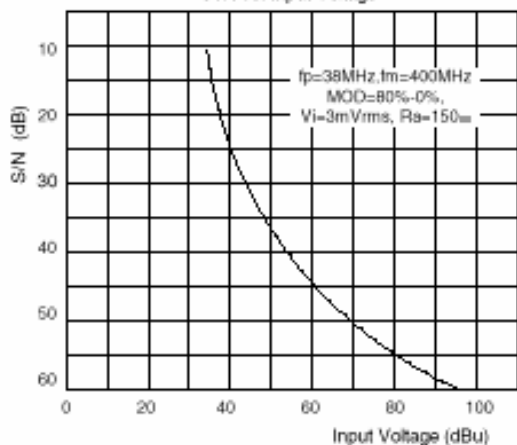
INPUT SENSITIVITY



Video Detector Output Voltage vs, Frequency



S/N vs. Input Voltage



Video Detector Output Voltage vs, Supply Voltage

