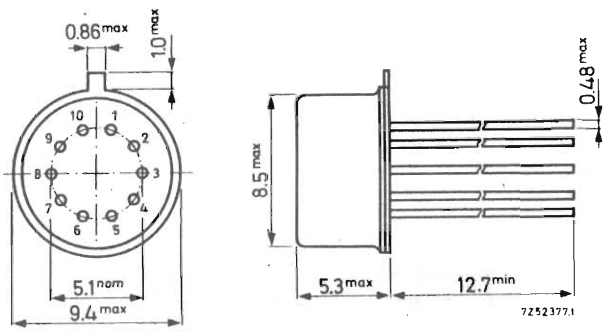
# R.F. AMPLIFIER-DISCRIMINATOR-A.F. AMPLIFIER

The TAA380 is a monolithic integrated circuit to be used as i.f. amplifier, discriminator and a.f. amplifier. The frequency response is such that it can be used in the intercarrier-sound circuit of television receivers and in f.m. broadcast receivers.

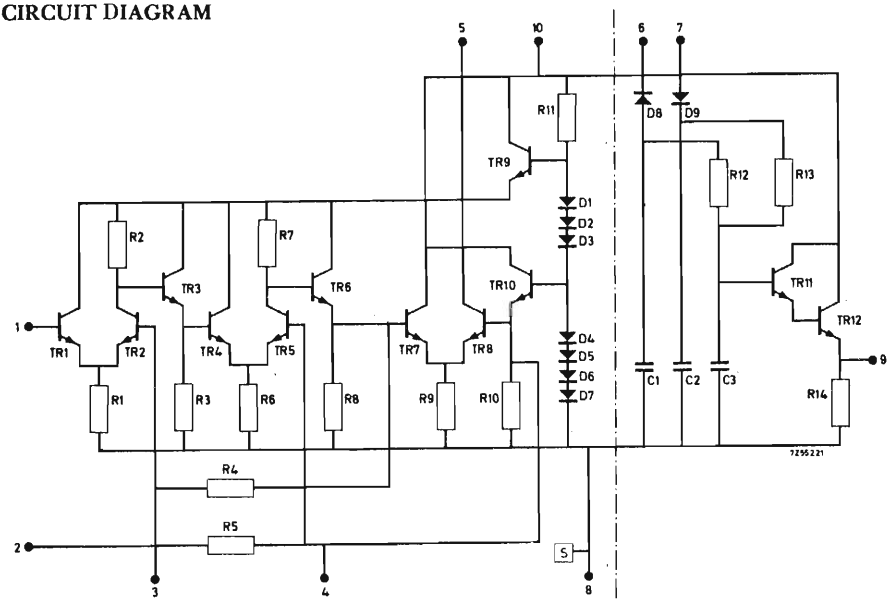
| QUICK REFERENCE DATA | | | | |
|---|---|---|---|---|
| Supply voltage | $V_B$ | = | 7.5 | V |
| Ambient temperature | $T_{amb}$ | = | 25 | °C |
| Voltage gain at f = 5.5 MHz | $G_v$ | typ. | 67 | dB |
| Start of limiting at f = 5.5 MHz | $V_i$ | typ. | 400 | μV |

**PACKAGE OUTLINE**

XA10 (TO-74; reduced height)



CIRCUIT DIAGRAM




Can also be delivered without ratio-detector and a.f. preamplifier under type number TAA380A. Pinning of r.f. amplifier remains the same.

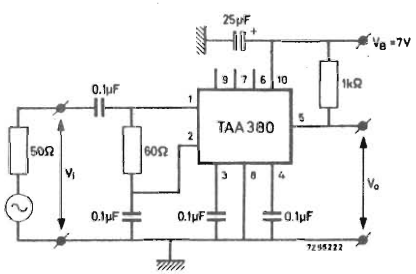
**RATINGS** Limiting values in accordance with the Absolute Maximum System (IEC 134)

| | | | | |
|---|---|---|---|---|
| Supply voltage | $V_{10-8}$ | max. | 10 | V |
| Output terminal voltage | $V_{5-8}$ | max. | 13 | V |
| Total power dissipation | $P_{tot}$ | max. | 200 | mW |
| Storage temperature | $T_{stg}$ | | −20 to +80 | °C |
| Operating ambient temperature | $T_{amb}$ | | −20 to +60 | °C |

**CHARACTERISTICS** at $V_B$ = 7.5 V; $T_{amb}$ = 25 °C

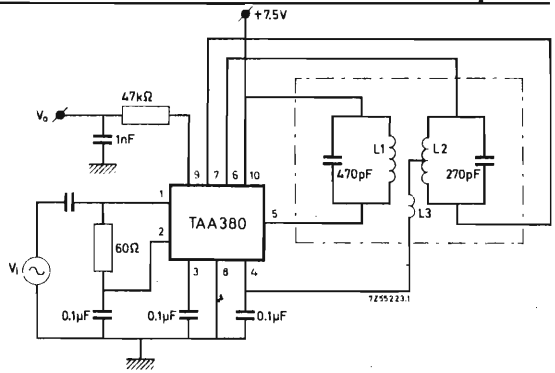
| | | | |
|---|---|---|---|
| Voltage gain | | | |
| $V_i$ = 100 μV; f = 1 MHz | $G_v$ | typ. 71 | dB |
| $V_i$ = 100 μV; f = 4.5 MHz | $G_v$ | typ. 68 | dB |
| $V_i$ = 100 μV; f = 5.5 MHz | $G_v$ | > 60<br>typ. 67 | dB<br>dB |
| Start of limiting at f = 5.5 MHz | $V_i$ | typ. 400 | μV |
| I.F. output current at $V_i$ = 5 mV | $I_{o(p-p)}$ | typ. 2.8 | mA |
| A.F. output voltage at $V_i$ = 5 mV; $f_{mod}$ = 1 kHz; Δf = ± 25 kHz | $V_{o(rms)}$ | typ. 200 | mV |
| Input resistance | $R_i$ | typ. 3 | kΩ |
| Input capacitance | $C_i$ | typ. 7 | pF |
| Output resistance | $R_o$ | typ. 30 | kΩ |
| Output capacitance | $C_o$ | typ. 4 | pF |
| Total current at $V_{10-8}$ = 7.5 V | $I_B$ | typ. 16 | mA |
| $V_{10-8}$ = 10 V | $I_B$ | 16 to 25 | mA |
| Total distortion of a.f. output signal | | | |
| $V_i$ = 5 mV | $d_{tot}$ | typ. 1.8 | % |

I.F. test circuit



## APPLICATION INFORMATION

Circuit with the TAA380 in a television intercarrier-sound amplifier.




Primary: frame core AP3014/03
Secondary: frame core AP3014/03
L1 = 13 turns 0.15 mm stranded Cu wire
L2 = 2 x 9 turns 0.15 mm stranded Cu wire; bifilarly wounded
L3 = 6 turns 0.15 mm stranded Cu wire; bifilarly wounded with L1
Top-top distance of frequency response curve: 120 kHz

| | | |
|---|---|---|
| Intermediate frequency | $f_0$ | = 5.5 MHz |
| Frequency deviation | $\Delta f$ | ± 25 kHz |
| Modulation frequency | $f_m$ | = 1 kHz |
| Ambient temperature | $T_{amb}$ | = 25 °C |

| | | | | |
|---|---|---|---|---|
| Start of limiting | $V_i$ | typ. | 400 | μV |
| L.F. output voltage at $V_i \geq 300$ μV | $V_{o(rms)}$ | typ. | 200 | mV |
| A.M. suppression | | | | |
| $f_m$ = 1 kHz; m = 0.3; $V_i \geq$ 10 mV | | ≥ | 40 | dB |