

# TA7060AP

T-74-09-01

FOR FM IF AMPLIFIER

FOR TV SIF AMPLIFIER

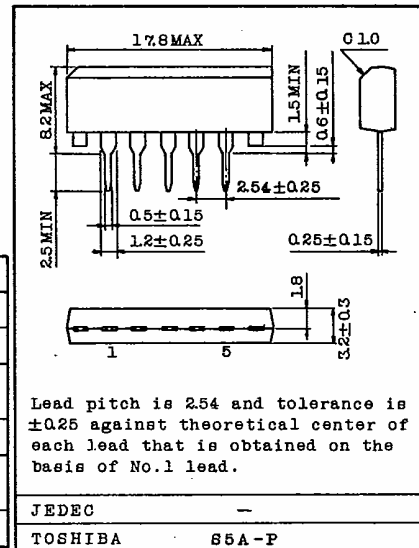
- . Recommended for Wide and Narrow Bands Amplifier.
- . Excellent FM/IF Limiter Circuit.

## MAXIMUM RATINGS (Ta=25°C)

| CHARACTERISTIC                               | SYMBOL           | RATING    | UNIT |
|----------------------------------------------|------------------|-----------|------|
| Supply Voltage                               | V <sub>CC</sub>  | 15        | V    |
| Output Voltage                               | V <sub>OUT</sub> | 24        | V    |
| Input Voltage (Between 1 pin and 2 pin)      | V <sub>IN</sub>  | ±15       | V    |
| Power Dissipation (Note)                     | P <sub>D</sub>   | 400       | mW   |
| Operating Temperature (V <sub>CC</sub> =12V) | T <sub>opr</sub> | -30 ~ 75  | °C   |
| Storage Temperature                          | T <sub>stg</sub> | -55 ~ 125 | °C   |

Note: Derated above Ta=25°C in the proportion of 4 mW/°C.

Unit in mm



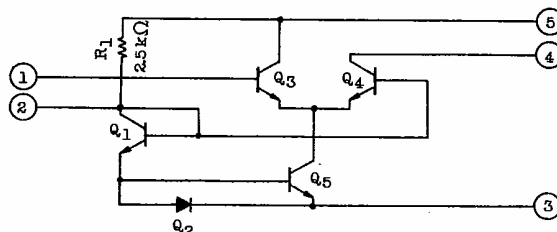
## ELECTRICAL CHARACTERISTICS (Ta=25°C)

| CHARACTERISTIC              | SYMBOL                      | TEST CIR-CUIT   | TEST CONDITION                                                 | MIN. | TYP. | MAX. | UNIT |
|-----------------------------|-----------------------------|-----------------|----------------------------------------------------------------|------|------|------|------|
| Supply Current              | I <sub>CC</sub>             | 1               | V <sub>CC</sub> =12V                                           | 5.3  | 9.5  | 14   | mA   |
|                             |                             |                 | V <sub>CC</sub> =9V                                            | -    | 6.5  | -    |      |
| Power Dissipation           | P <sub>D</sub>              | 1               | V <sub>CC</sub> =12V                                           | -    | 114  | -    | mW   |
|                             |                             |                 | V <sub>CC</sub> =9V                                            | -    | 59   | -    |      |
| Power Gain                  | G <sub>p</sub>              | 2               | V <sub>CC</sub> =12V, f=10.7MHz                                | 27   | 30   | 33   | dB   |
|                             |                             |                 | V <sub>CC</sub> =9V, f=10.7MHz                                 | -    | 27   | -    |      |
| Voltage Gain                | G <sub>v</sub>              | 3               | V <sub>CC</sub> =12V, R <sub>g</sub> =50Ω, R <sub>L</sub> =1kΩ | -    | 26.5 | -    | dB   |
| Input Impedance             | Parallel Input Resistance   | r <sub>ip</sub> | V <sub>CC</sub> =12V<br>f=10.7MHz                              | -    | 3.5  | -    | kΩ   |
|                             | Parallel Input Capacitance  | c <sub>ip</sub> |                                                                | -    | 8.0  | -    | pF   |
| Output Impedance            | Parallel Output Resistance  | r <sub>op</sub> |                                                                | -    | 80   | -    | kΩ   |
|                             | Parallel Output Capacitance | c <sub>op</sub> |                                                                | -    | 3.0  | -    | pF   |
| Forward Transfer Admittance | y <sub>f</sub>              | -               | -                                                              | -    | 30   | -    | mΩ   |
| Reverse Transfer Admittance | y <sub>r</sub>              | -               | -                                                              | -    | 2.0  | -    | μΩ   |

AUDIO LINEAR IC

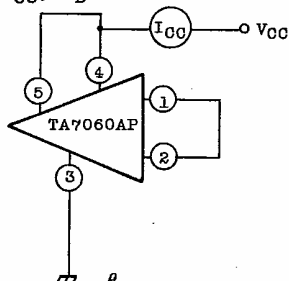
# TA7060AP

## EQUIVALENT CIRCUIT

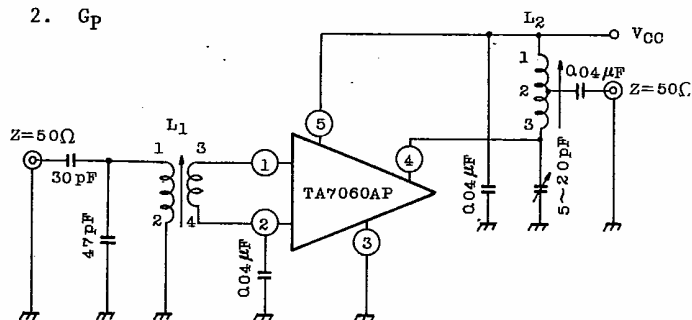


## TEST CIRCUIT

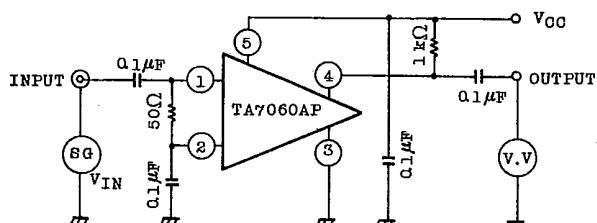
### 1. $I_{CC}$ , $P_D$



### 2. $G_p$



### 3. $G_v$



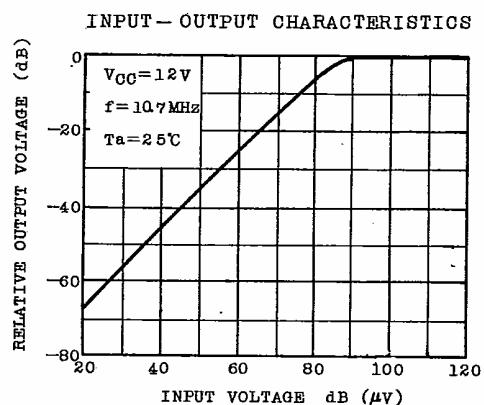
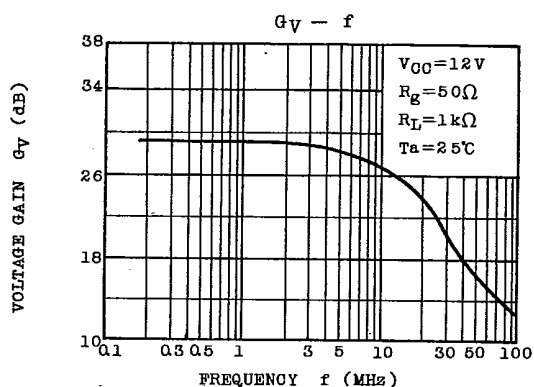
$L_1$  : Between terminals 1 and 2  
16 Turns.

Between terminals 3 and 4  
2 Turns.

$L_2$  : Between terminals 1 and 2  
15 Turns.

Between terminals 1 and 3  
25 Turns.

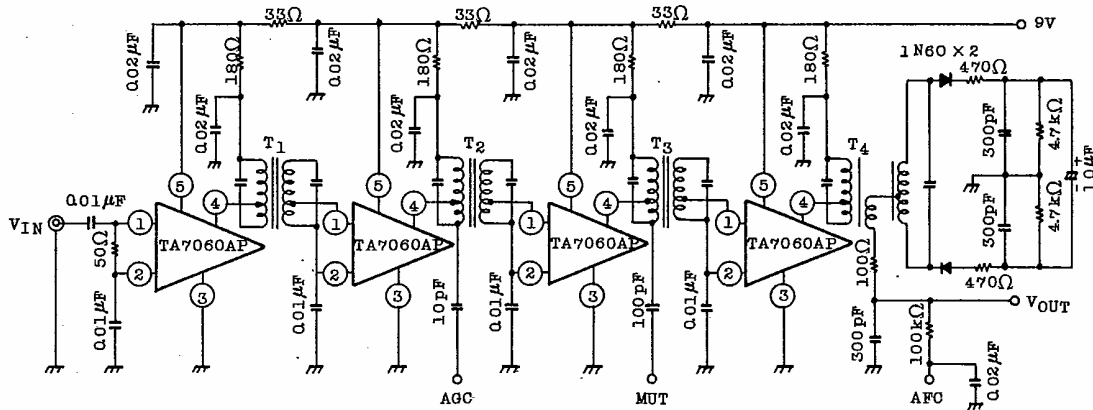
0.10mm  $\varnothing$  UEW



**TOSHIBA**

# TA7060AP

## APPLICATION CIRCUIT

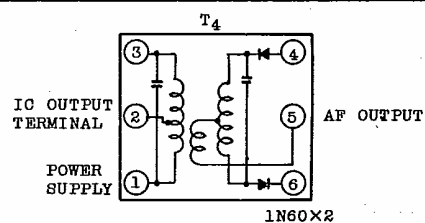
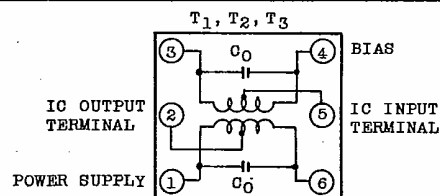


| CHARACTERISTIC            | SYMBOL   | TEST CONDITION                      | UNIT      |
|---------------------------|----------|-------------------------------------|-----------|
| Supply Voltage            | VCC      | -                                   | 9 V       |
| Supply Current            | ICC      | VCC=9V                              | 24 mA     |
| Detected Output Voltage   | VOD      | VIN=60dB(μV), f=400Hz, ΔF=22.5kHz   | 70 mV     |
| Input Limiting Voltage    | VIN(1im) | -3dB Output                         | 21 dB(μV) |
| Band Width                | BW       | 6dB Band Width                      | ±110 kHz  |
| Total Harmonic Distortion | THD      | VIN=60dB(μV), f=400Hz, ΔF=75kHz     | 0.5 %     |
| AM Rejection              | AMR      | FM f=400Hz, ΔF=75kHz, AM f=1kHz 30% | 45 dB     |
| Capture Ratio             | -        | f=400Hz, ΔF=75kHz                   | 3 dB      |

## COIL DATA

|    | C0<br>(pF) | f<br>(MHz) | TURNS |    |     |     |     |     |
|----|------------|------------|-------|----|-----|-----|-----|-----|
|    |            |            | Q0    | Q0 | 1-6 | 1-2 | 3-4 | 4-5 |
| T1 | 120        | 10.7       | 65    | 65 | 13  | 6   | 13  | 6   |
| T2 | 120        | 10.7       | 65    | 65 | 13  | 6   | 13  | 6   |
| T3 | 120        | 10.7       | 65    | 65 | 13  | 9   | 13  | 6   |

|    | C (pF) |     | f<br>(MHz) | Q0 | TURNS  |     |       |      |      |
|----|--------|-----|------------|----|--------|-----|-------|------|------|
|    | 1-3    | 4-6 |            |    | 1-3    | 1-2 | 5-CT  | 4-CT | 6-CT |
| T4 | 22     | 47  | 10.7       | 65 | 31 1/2 | 11  | 9 1/2 | 11   | 11   |



AUDIO LINEAR IC