

TA7613AP LINEAR INTEGRATED CIRCUIT

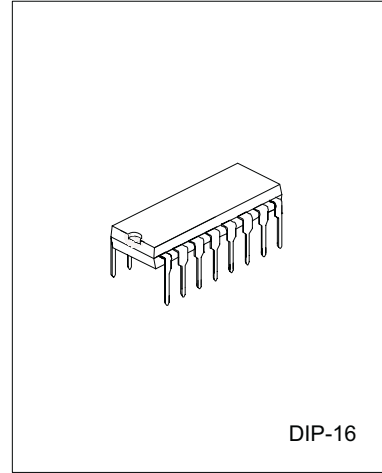
I-CHIP AM/FM RADIO IC

DESCRIPTION

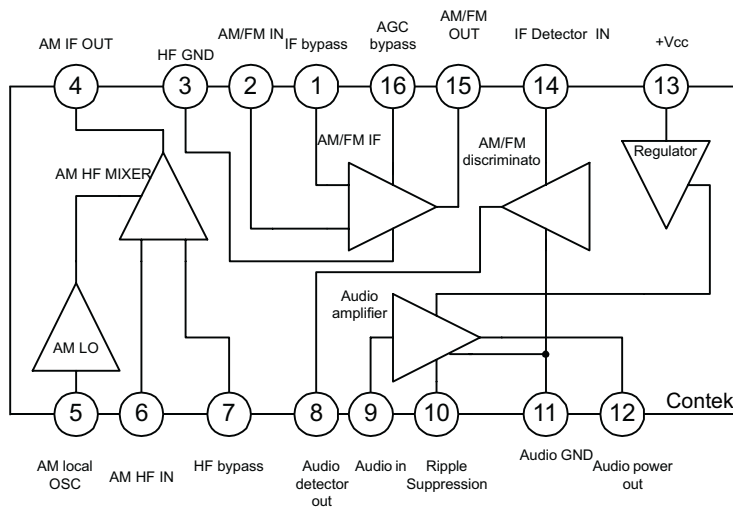
Contek TA7613AP Is A One-Chip AM/FM Radio Integrated Circuit That Is Suitable For Portable Radio Applications. It Includes AM Amplifier, Local OSC, AM Mixer, AM/FM Amplifier, AM AGE, FM AGE Circuit And Also Class B Audio Power Amplifier.

FEATURES

- *Low External Components Count.
- *Wide Operating Voltage : 3 - 13 V.
- *Internal Regulated Supply For Constant Current Operation.
- *DC Selection Of AM/FM Mode.



BLOCK DIAGRAM



Contek Microelectronics Co.,Ltd.

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ABSOLUTE MAXIMUM RATINGS_(Ta=25 C)

| PARAMETER | SYMBOL | VALUE | UNIT |
|-----------------------|--------|------------|------|
| Supply Voltage | VCC | 11 | V |
| Supply Current | ICC | 44 | mA |
| Power Dissipation | PD | 600 | mW |
| Thermal Resistance | RJ-A | 100 | C /W |
| Operating Temperature | TOPX | -18 ~ +65 | C |
| Storage Temperature | TSTG | -40 ~ +125 | C |

NOTE: Ta>25 C, DERATE WITH 10mW/ C UNLESS SPECIFIED.

ELECTRICAL CHARACTERISTICS

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|----------------------------|----------|---|------|------|------|------------|
| Quiescent Circuit Current | ICCQ | SW1 FM, VCC=3V | 7 | 12 | 17 | mA |
| | | SW1 FM, VCC=9V | 10 | 17 | 23 | |
| V Pin 16 (FM) | V16(FM) | SW1 FM, ICC=42mA | 2.0 | 2.4 | 3.1 | V |
| Limiting Voltage | VIN(Lim) | SW1 FM, VCC=5.5V, -3db V16=2.4V, VR=Min. | | 57 | | dB μ V |
| Internal Regulated Voltage | VCC | SW1 AM, ICC=42mA | 12.5 | 13.2 | 14.0 | V |
| V Pin 16 (AM) | V16(AM) | SW1 AM, VCC=9V | 1.4 | | 1.9 | V |
| Signal to Noise Ratio | VO | SW1 AM, VCC=12V, VIN=37dB SW2 45 Ω , V16=1.4V | 1.5 | 3.0 | | V |
| Maximum Sensitivity | S/N | SW1 AM, VCC=5.5V, SW2 8 Ω , VIN=37.5dB | 15 | 20 | | dB |
| Power Output | POUT | SW2 8 Ω , VCC=5.5V, F=1KHZ VR=Min. THD=10% | 0.28 | | | W |
| Total Harmonic Distortion | THD | SW2 45 Ω , ICC=42mA, F=1KHZ VR=Min. VOUT=2V | | 0.5 | 4.0 | % |
| Voltage Gain | GV | SW2 8 Ω , VCC=5.5V, f=1KHZ VR=Min. | | 40 | | dB |



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INPUT - OUTPUT IMPEDANCE_(Ta=25 °C, VCC=6V)

| PARAMETER | SYMBOL | TEST CONDITIONS | VALUE | UNIT |
|-----------------|-----------|-----------------|-------|------|
| Pin 2 Input | Rip2(AM) | f=465KHZ | 200 | kΩ |
| Impedance (AM) | Cip2(AM) | f=465KHZ | 3 | pF |
| Pin 2 Input | Rip2(FM) | f=10.7MHZ | 30 | kΩ |
| Impedanc(FM) | Cip2(FM) | f=10.7MHZ | 3.5 | pF |
| Pin 4 Output | Rop4 | f=465KHZ | 300 | kΩ |
| Impedance | Cop4 | f=465KHZ | 6 | pF |
| Pin 6 Input | Rip6 | f=1MHZ | 50 | kΩ |
| Impedance | Cip6 | f=1MHZ | 5 | pF |
| Pin 14 Input | Rip14(AM) | f=465KHZ | 300 | kΩ |
| Impedance(AM) | Cip14(AM) | f=465KHZ | 3.5 | pF |
| Pin 14 Input | Rip14(FM) | f=10.7MHZ | 300 | kΩ |
| Impedance(FM) | Cip14(FM) | f=10.7MHZ | 4 | pF |
| Pin 15 Output | Rop15(AM) | f=465KHZ | 300 | kΩ |
| Impedance(AM) | Cop15(AM) | f=465KHZ | 5.5 | pF |
| Pin 15 Output | Rop15(FM) | f=10.7MHZ | 300 | kΩ |
| Impedanc(FM) | Cop15(FM) | f=10.7MHZ | 6 | pF |

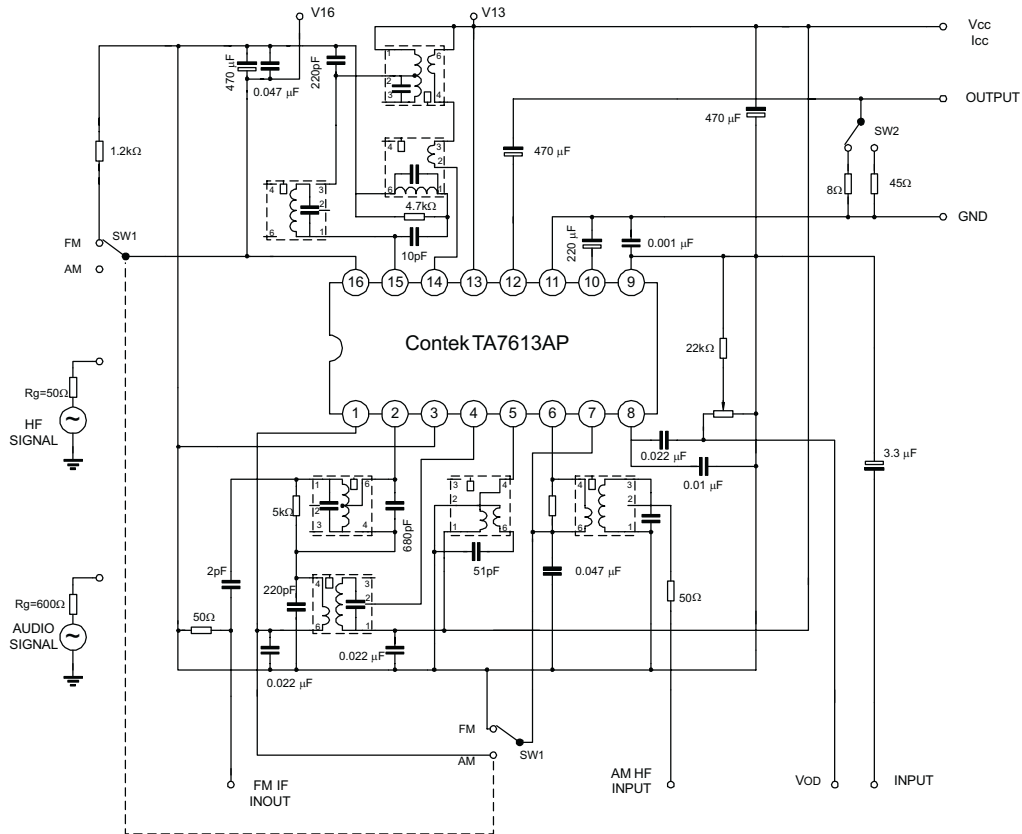


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TEST CIRCUIT



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