

UTC KA22427 LINEAR INTEGRATED CIRCUIT

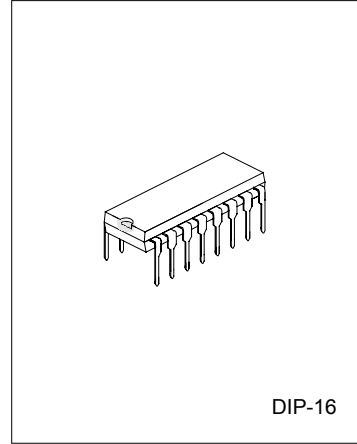
I-CHIP AM/FM RADIO IC

DESCRIPTION

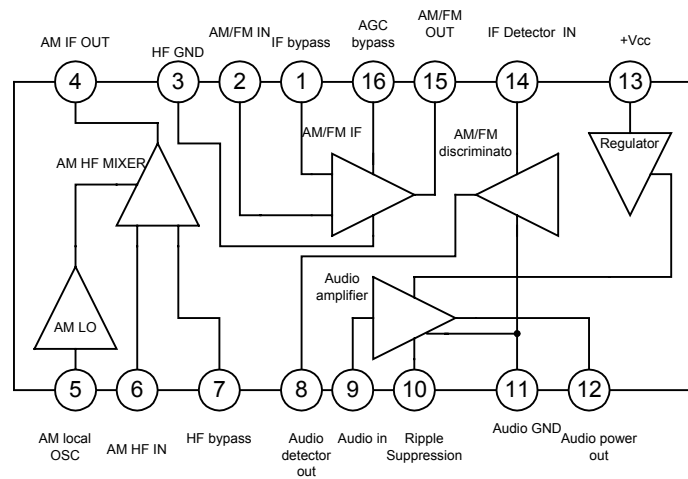
UTC KA22427 is a one-chip AM/FM radio integrated circuit that is suitable for portable radio applications. It includes AM amplifier, local OSC, AM mixer, AM/FM amplifier, AM AGE, FM AGE circuit and also class b Audio Power Amplifier.

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



ABSOLUTE MAXIMUM RATING(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.

UTC UNISONIC TECHNOLOGIES CO., LTD.

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QW-R110-002.A

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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 | |
| Pin 16 Terminal Voltage | 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 | | dBμV |
| Internal Regulated Voltage | VCC | SW1→AM,ICC=42mA | 12.5 | 13.2 | 14.0 | V |
| Pin 16 Voltage | V16(AM) | SW1→AM,VCC=9V | 1.4 | | 1.9 | V |
| Signal to Noise Ratio | VO | SW1→AM,VCC=12V,VIN=37dB SW2→45Ω,V16=1.4V | 1.5 | 3.0 | | V |
| Maximum Sensitivity | S/N | SW1→AM,VCC=5.5V, SW2→8Ω,VIN=37.5dB | 15 | 20 | | dB |
| Power Output | POUT | SW2→8Ω,VCC=5.5V,f=1KHZ VR=Min. THD=10% | 0.28 | | | W |
| Total Harmonic Distortion | THD | SW2→45Ω,ICC=42mA,f=1KHZ VR=Min. VOUT=2V | | 0.5 | 4.0 | % |
| Voltage Gain | GV | SW2→8Ω,VCC=5.5V,f=1KHZ VR=Min. | | 40 | | dB |

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

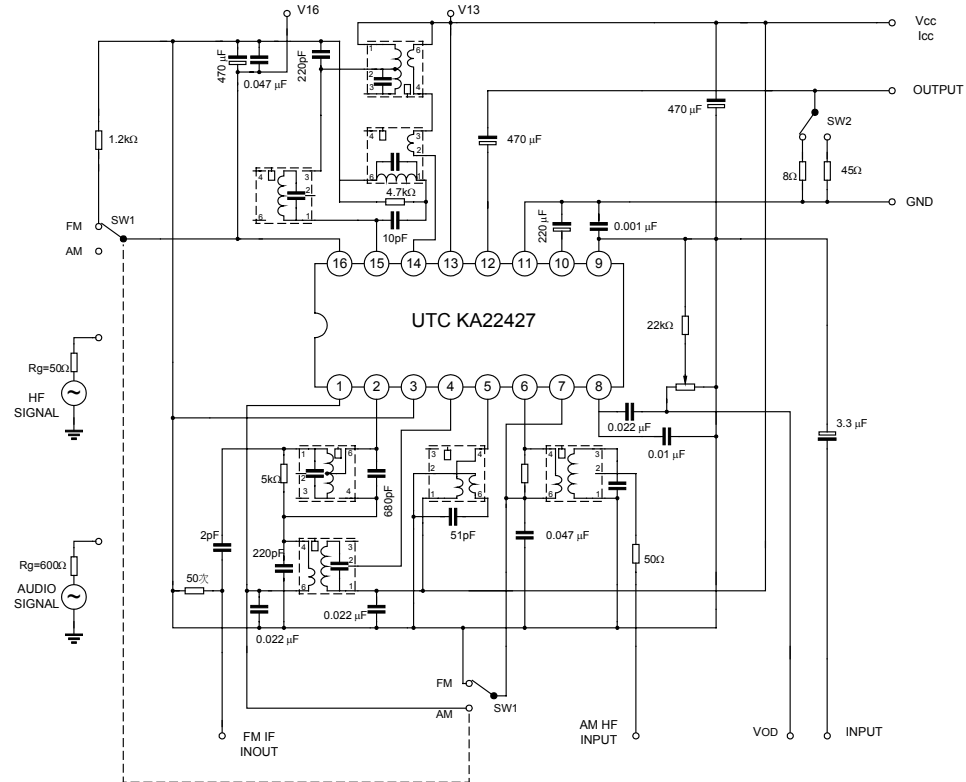
| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|---------------------|-----------|-----------------|-----|-----|-----|------|
| Pin 2 Input (AM) | Rip2(AM) | f=465KHZ | | 200 | | KΩ |
| Impedance (AM) | Cip2(AM) | f=465KHZ | | 3 | | pF |
| Pin 2 Input (FM) | Rip2(FM) | f=10.7MHZ | | 30 | | KΩ |
| Impedance (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 (AM) | Rip14(AM) | f=465KHZ | | 300 | | KΩ |
| Impedance (AM) | Cip14(AM) | f=465KHZ | | 3.5 | | pF |
| Pin14 Input (FM) | Rip14(FM) | f=10.7MHZ | | 300 | | KΩ |
| Impedance (FM) | Cip14(FM) | f=10.7MHZ | | 4 | | pF |
| Pin15 Output (AM) | Rop15(AM) | f=465KHZ | | 300 | | KΩ |
| Impedance (AM) | Cop15(AM) | f=465KHZ | | 5.5 | | pF |
| Pin15 Output (FM) | Rop15(FM) | f=10.7MHZ | | 300 | | KΩ |
| Impedance (FM) | Cop15(FM) | f=10.7MHZ | | 6 | | pF |

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TEST CIRCUIT



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