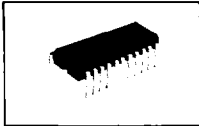


Discontinued



No. C763



LA1357N

Monolithic Linear Integrated Circuit
VIDEO IF AMPLIFIER

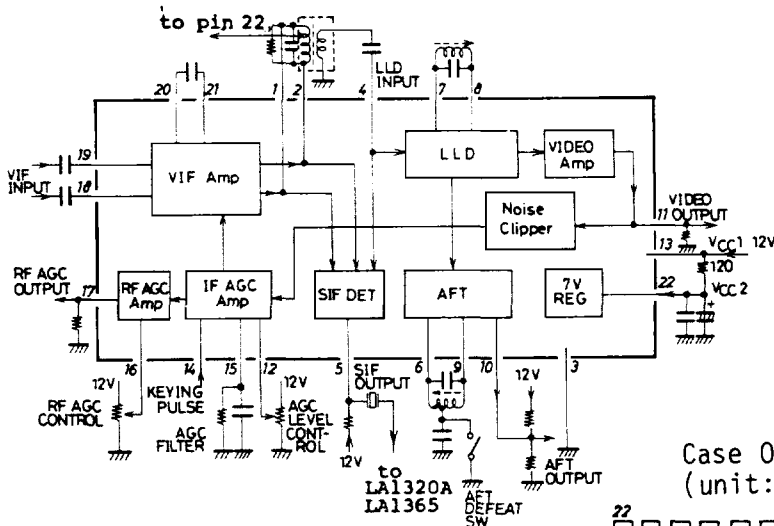
- Function
- . Video IF amplifier
 - . RF AGC
 - . Video detector
 - . AFT
 - . Voltage stabilizer (7V)
 - . IF AGC (Keyed or Peak)
 - . Noise clipper
 - . Video amplifier
 - . Sound detector for SIF

- Features
- . High gain, high S/N.
 - . Capable of peak AGC and keyed AGC.
 - . Usable of surface acoustic wave filter.
 - . Less influence to video detector circuit by use of quadrature AFT circuit.
 - . Less beat interference to detector of sound and video using separate detectors for video and sound.
 - . Good supply voltage characteristics by voltage stabilizer.

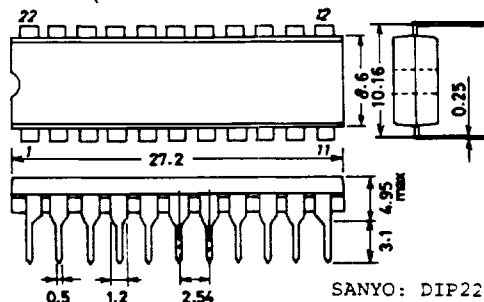
Absolute Maximum Ratings at Ta=25°C

| | | | |
|-----------------------------|---------------------------|-------------|----|
| Maximum Supply Voltage | V _{13max} pin13 | 14 | V |
| Maximum Current | I _{22max} pin22 | 62 | mA |
| Maximum Pin Voltage | V ₁₄ pin14 | 0 to 1.5 | V |
| Allowable Power Dissipation | P _{dmax} Ta≤65°C | 1 | W |
| Operating Temperature | Topg | -15 to +65 | °C |
| Storage Temperature | Tstg | -55 to +125 | °C |

Equivalent Circuit Block Diagram



Case Outline 3010A-D22IC (unit:mm)



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TOKYO SANYO ELECTRIC CO. LTD SEMICONDUCTOR DIVISION
15-13-6 CHOME SOTOKANDA CHIYODA KU TOKYO 101 JAPAN

SNTYOS027

LA1357N

Operating Characteristics at Ta=25°C

| | | | min | typ | max | unit |
|-----------------------------------------|----------------------|------------------------------------------------------------------------------------|------|-----|-----|--------|
| Total Current | I _{CC} | Current limiting resistor between pin 13 and 22 is 120ohm. | 60 | 76 | 95 | mA |
| Current at 12V line | I ₁₃ | " | 25 | 35 | 45 | mA |
| Current at 7V line | I ₂₂ | " | 35 | 41 | 50 | mA |
| Voltage at 7V line | V ₂₂ | " | 6.6 | 7.1 | 7.6 | V |
| Maximum RF AGC Voltage | V _{17H} | " | 9.0 | | | V |
| minimum RF AGC Voltage | V _{17L} | " | | | 0.5 | V |
| Video Output Voltage at no signal | V ₁₁ | " | 3.7 | 4.2 | 4.7 | V |
| AFT Output Voltage at no signal | V ₁₀ | " | 4.5 | 6.5 | 8.5 | V |
| Maximum AFT Voltage | V _{10H} | " | 11.0 | | | V |
| Minimum AFT Voltage | V _{10L} | " | | | 1.0 | V |
| Input Sensitivity | v _i | f=58.75MHz, AM 40% mod, f _m =400Hz, v _o =0.5V _{p-p} | | 35 | | dBu |
| AGC Range | GR | f=58.75MHz, AM 40% mod, Δv _o =±1dB | 60 | | | dB |
| Allowable Input Voltage | v _i max | f=58.75MHz, Δv _o =±1dB | 100 | | | mVrms |
| S/N at Output | S/N | f=58.75MHz, v _i =3mV, v _o =0.714V _{p-p} | | 50 | | dB |
| Output Voltage at SIF | v _o (SIF) | v _o =0.8V _{p-p} , P/S=20dB | | 25 | | mVrms |
| Leak of Carrier and Harmonics to Output | CL(DET) | f=58.75MHz, v _i =20mV | | | 50 | mVrms |
| Frequency Response | f _c | -3dB | | 7 | | MHz |
| Differential Gain | DG | f=58.75MHz, AM 85% mod | | 5 | | % |
| Differential Phase | DP | f=58.75MHz, AM 85% mod | | 5 | | deg |
| Sensitivity of AFT Detection | S _f | f=58.75MHz | 50 | 90 | | mV/kHz |

LA1357N Sample Application Circuit

