NTE7067
Integrated Circuit
Audio IF Detector for High Quality Multi–Channel TV & VCR

Description:
The NTE7067 is a 4.5MHz to 6.5MHz intercarrier audio IF detector for high–quality multi–channel TV and VCR sound systems. It is designed for use is quasi–parallel configurations to eliminate audio buzz and minimize other side–effects present in conventional detection circuits.

This device includes a 3–stage IF amplifier, IF AGC circuit, and transistor intercarrier audio detection circuit. The NTE7067 operates from a single 8 to 10V power supply and is available in a 9–Lead SIP type package.

Features:
- Compact Package
- Excellent Audio S/N Characteristics
- Coil–less Circuit

Absolute Maximum Ratings:  (T_A = +25°C unless otherwise specified)
Maximum Supply Voltage
V_{CC}^{max} .............................................................. 12V
V_{3}^{max} (V_{CC} = 12V) ............................................... 12V
Allowable Power Dissipation (T_A ≤ +65°C), P_{d}^{max} .................. 540mW
Maximum Output Current, I_{6}^{max} ................................ 3mA
Operating Temperature Range, T_{opr} .............................. −10°C to +65°C
Storage Temperature Range, T_{stg} ................................. −55°C to +125°C

Recommended Operating Characteristics:  (T_A = +25°C unless otherwise specified)
Recommended Supply Voltage, V_{7} .................................. 9V
Operating Voltage Range, V_{7}^{op} ................................. 8 to 10V
## Electrical Characteristics:  \( T_A = +25^\circ C, \ V_{CC} = 9V \) unless otherwise specified

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Test Conditions</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Current</td>
<td>( I_7 )</td>
<td>( V_3 ) (IF AGC) = 4V</td>
<td>17</td>
<td>22</td>
<td>32</td>
<td>mA</td>
</tr>
<tr>
<td>Input Sensitivity</td>
<td>( VI )</td>
<td>IF input level for 0.35( V_{P-P} ) detector output with 40% modulation</td>
<td>34</td>
<td>42</td>
<td>50</td>
<td>dBµ</td>
</tr>
<tr>
<td>AGC Range</td>
<td>( GR )</td>
<td>(Maximum input for ( V_O = 0.35V_{P-P} )) – ( V_i )</td>
<td>60</td>
<td>70</td>
<td>–</td>
<td>dB</td>
</tr>
<tr>
<td>Maximum Input Level</td>
<td>( V_{i,max} )</td>
<td>IF input level for detector output increase of 1dB</td>
<td>100</td>
<td>200</td>
<td>–</td>
<td>dBµ</td>
</tr>
<tr>
<td>Detector Output Amplitude</td>
<td>( V_{06} )</td>
<td>4.5MHz output level, P/S = 13dB</td>
<td>90</td>
<td>130</td>
<td>180</td>
<td>mVrms</td>
</tr>
<tr>
<td>Audio S/N</td>
<td>( S/N )</td>
<td>( f_o = 58.75MHz, 87.5% ) staircase modulation, ( f_s = 54.25MHz ), (S: FM ±25kHz, ( f_m = 400Hz ) N: Non-modulation) P/S = 13dB</td>
<td>50</td>
<td>56</td>
<td>–</td>
<td>dB</td>
</tr>
</tbody>
</table>

### Pin Connection Diagram
(Front View)

- 9: Detector Filter
- 8: N.C.
- 7: \( V_{CC} \)
- 6: Detector Output
- 5: GND
- 4: TP (Open)
- 3: IF AGC Filter
- 2: IF Input
- 1: IF Input

![Pin Connection Diagram](image-url)