NTE1688
Integrated Circuit
TV Tuner Bandswitch

Description:
The NTE1688 is an integrated circuit in a 9–Lead SIP type package incorporating TV tuner band-
switch circuits and a 31V power supply circuit.

Features:
- Tuner Bandswitch Circuit with 31V Voltage Regulator

Absolute Maximum Ratings: (T_A = +25°C unless otherwise specified)
Supply Voltage, V_CC ........................................... 18V
Supply Current, I_6 ........................................... 14mA
Power Dissipation, P_D ........................................... 620mW
Operating Ambient Temperature Range, T_{opr} .......................... -20° to +70°C
Storage Temperature Range, T_{stg} .................................. -55° to +150°C

Electrical Characteristics: (T_A = +25°C 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>Input Threshold Voltage</td>
<td>V_t</td>
<td>V_CC = 12V</td>
<td>1.5</td>
<td>-</td>
<td>2.5</td>
<td>V</td>
</tr>
<tr>
<td>Input Threshold Current</td>
<td>I_t</td>
<td>V_CC = 12V</td>
<td>100</td>
<td>-</td>
<td>500</td>
<td>µA</td>
</tr>
<tr>
<td>Output Saturation Voltage</td>
<td>V_{CE(sat)}</td>
<td>V_CC = 12V, I_0 = -60mA</td>
<td>-</td>
<td>0.3</td>
<td>0.8</td>
<td>V</td>
</tr>
<tr>
<td>Pin8 Output Saturation Voltage</td>
<td>V_{CE(sat)}</td>
<td>V_CC = 12V, I_8 = 20mA</td>
<td>-</td>
<td>0.2</td>
<td>0.5</td>
<td>V</td>
</tr>
<tr>
<td>Voltage Regulator</td>
<td>V_{6–5}</td>
<td>V_CC = 12V, I_6 = 10mA</td>
<td>29.5</td>
<td>31.7</td>
<td>33.5</td>
<td>V</td>
</tr>
<tr>
<td>Voltage Regulator with Ambient Temperature</td>
<td>V_{6–5}/T_A</td>
<td>T_A = -20° to +60°C</td>
<td>-1.0</td>
<td>0</td>
<td>+1.0</td>
<td>mV/°C</td>
</tr>
<tr>
<td>Voltage Regulator Voltage for Drift</td>
<td>ΔV_{6–5}</td>
<td>As Per Condition After 5sec Elapsed with SW ON</td>
<td>-</td>
<td>-</td>
<td>±50</td>
<td>mV</td>
</tr>
</tbody>
</table>

Input/Output Related (Logic Table)

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
<th>Remarks (Tuning Status)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin3</td>
<td>Pin4</td>
<td>Pin1</td>
</tr>
<tr>
<td>L</td>
<td>L</td>
<td>V_CC</td>
</tr>
<tr>
<td>H</td>
<td>L</td>
<td>Open</td>
</tr>
<tr>
<td>L</td>
<td>H</td>
<td>Open</td>
</tr>
<tr>
<td>H</td>
<td>H</td>
<td>Open</td>
</tr>
</tbody>
</table>