NTE7120
Integrated Circuit
3 Channel Video Amp for
High Resolution Color TV

Description:
The NTE7120 is a semiconductor integrated circuit in a 30–Lead DIP type package that has a built–in
3–channel amplifier with 50MHz band. Every channel is provided with a broad–band amplifier, main/
sub contrast control, main/sub luminance (brightness) control, peaking, blanking, and peak limiter
functions. Accordingly, this device is designed for use in high–resolution color display monitors.

Features:
- The employment of a new bi–polar wafer process makes it possible to reduce power dissipation,
  and 3 channels can be incorporated in this amplifier ($V_{CC} = 12V$, $I_{CC} = 77mA$)
- Input: $1V_{P–P}$ (Typical)
  Output: $V_{P–P}$ (Maximum)
  Frequency Band: 50MHz
- Main and sub contrast and luminance controls are provided; the main control can change contrast
  and luminance at the same time for 3 channels, and the sub control can change them independently
  for each channel.
- The DC feedback circuit built in the IC can produce a stable DC level at the IC output pins.

Applications:
- CRT Display

Absolute Maximum Ratings:
Supply Voltage, $V_{CC}$ ................................................................. 14V
Power Dissipation, $P_{D}$ ................................................................. 1670mW
Operating Temperature Range, $T_{opr}$ ........................................... $–20^\circ$ to $+65^\circ$C
Storage Temperature Range, $T_{stg}$ ............................................... $–40^\circ$ to $+125^\circ$C

Recommended Operating Conditions:

<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 Voltage Range</td>
<td>$V_{CC}$</td>
<td></td>
<td>11.0</td>
<td>–</td>
<td>12.5</td>
<td>V</td>
</tr>
<tr>
<td>Rated Supply Voltage</td>
<td>$V_{CC}$</td>
<td></td>
<td>12</td>
<td>0</td>
<td>–</td>
<td>V</td>
</tr>
</tbody>
</table>
Pin Connection Diagram

N.C.  1  30  White Peak
V_{CC} (R)  2  29  R Out
R In  3  28  R Hold
R Sub Contrast  4  27  R Sub BRT
R Peaking  5  26  GND (R)
V_{CC}  6  25  G Out
G In  7  24  G Hold
G Sub Contrast  8  23  G Sub BRT
G Peaking  9  22  GND (G)
V_{CC} (B)  10  21  B Out
B In  11  20  B Hold
B Sub Contrast  12  19  B Sub Bright
B Peaking  13  18  GND (B)
Contrast  14  17  Blanking Pulse
Clamp Pulse  15  16  Brightness

Dimensions:
- 1.444 (36.7)
- .100 (2.54)
- 1.400 (35.5)
- .150 (3.8)
- .118 (3.0) Min
- .512 (13.0)
- .600 (15.24)