

SANYO

No.1777C

LA7620, 7621

Monolithic Linear IC

Color TV Video, Chroma, Deflection Circuit

The LA7620/7621 are small-sized multifunctional ICs containing the "video, chroma, deflection" circuit of NTSC color TV in the DIP30S (equivalent to the DIP22 package heretofore in use) of shrink type. Besides being small-sized, they have such features as greatly reduced number of parts and fewer adjustments required. The LA7620/7621 can be used in conjunction with the LA7520/7521 for "VIF.SIF" use and the LA7830/7831 for "vertical output" use to perform all color TV signal processings.

The LA7620 containing a peak clip circuit in the video circuit is well suited for use in small-sized sets. The LA7621 containing no peak clip circuit is well suited for use in large-sized sets.

Features

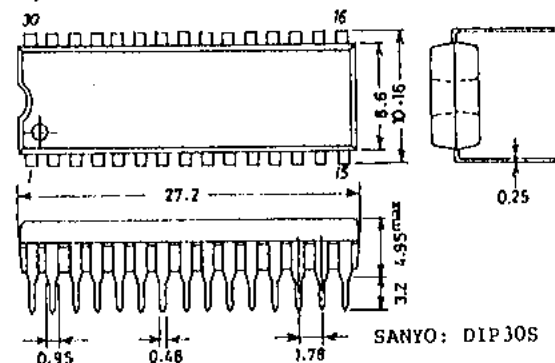
- . Small-sized package.
- . Minimum number of parts required.
- . Fewer adjustments required (Non-adjusting of functions shown below)
 - . Chroma VCO (APC)
 - . Horizontal OSC (H-Hold).
 - . Vertical OSC (V-Hold).
- . Multifunction.

Maximum Ratings at Ta=25°C

| | | | unit |
|-----------------------------|-------------|-------------|------|
| Maximum Supply Voltage | V_{16max} | 14.0 | V |
| Maximum Supply Current | I_{22max} | 15.0 | mA |
| Allowable Power Dissipation | P_{dmax} | 1100 | mW |
| Operating Temperature | T_{ops} | -20 to +85 | °C |
| Storage Temperature | T_{stg} | -55 to +125 | °C |

Operating Conditions at Ta=25°C

| | | | unit |
|----------------------------|----------|-------------|------|
| Recommended Supply Voltage | V_{16} | 12.0 | V |
| Recommended Supply Current | I_{22} | 10.0 | mA |
| Operating Voltage Range | | 9.0 to 14.0 | V |
| Operating Current Range | | 8.5 to 15.0 | mA |

Case Outline 3061-D30SIC
(unit:mm)

Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO makes information herein as accurate and reliable; but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.

Specifications and information herein are subject to change without notice.

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7310TS/N258TA/3265MW, TS No.1777-1/3

LA7620,7621

Operating Characteristics at Ta=25°C, V16=12V, I22=10mA

| | | min | typ | max | unit |
|--|-------------------|------|------|------|------|
| [Chroma] | | | | | |
| ACC Amplitude Characteristic | ACC1 | -3 | 0 | 3 | dB |
| | ACC2 | -7 | 0 | +2 | dB |
| ACC Phase Characteristic | ACCφ1 | | 0 | ±3 | deg |
| | ACCφ2 | | 0 | ±7 | deg |
| Maximum B-Y Demodulation Output | B-Y max | 5.0 | | | Vpp |
| Unicolor Amplitude Characteristic | ΔGU | | 17 | | dB |
| Tint Change Range | ΔT | | 110 | | deg |
| APC Pull-in Range | f _{APC} | ±300 | | | |
| Color Difference Output DC Voltage | E _{RGB} | 6.7 | 7.2 | 7.7 | V |
| Color Difference DC Difference Voltage | E _{ΔRGB} | | | ±300 | mV |
| R-Y Relative Demodulation Angle | ∠R-Y/B-Y | | 104 | | deg |
| G-Y Relative Demodulation Angle | ∠G-Y/B-Y | | -122 | | deg |
| R-Y Demodulation Ratio | R-Y/B-Y | | 0.9 | | |
| G-Y Demodulation Ratio | G-Y/B-Y | | 0.3 | | |

| | | min | typ | max | unit |
|-----------------------------------|------------|-----|-----|-----|------|
| [Video] | | | | | |
| Video Tone Control Characteristic | Gpmin | -5 | -3 | -1 | dB |
| | Gpmax | 12 | 15 | 18 | dB |
| Video Voltage Gain | VG | 12 | 15 | 18 | dB |
| Contrast Variable Range | ΔGC | | 18 | | dB |
| Frequency Response | ΔGV f=5MHz | -5 | | | dB |

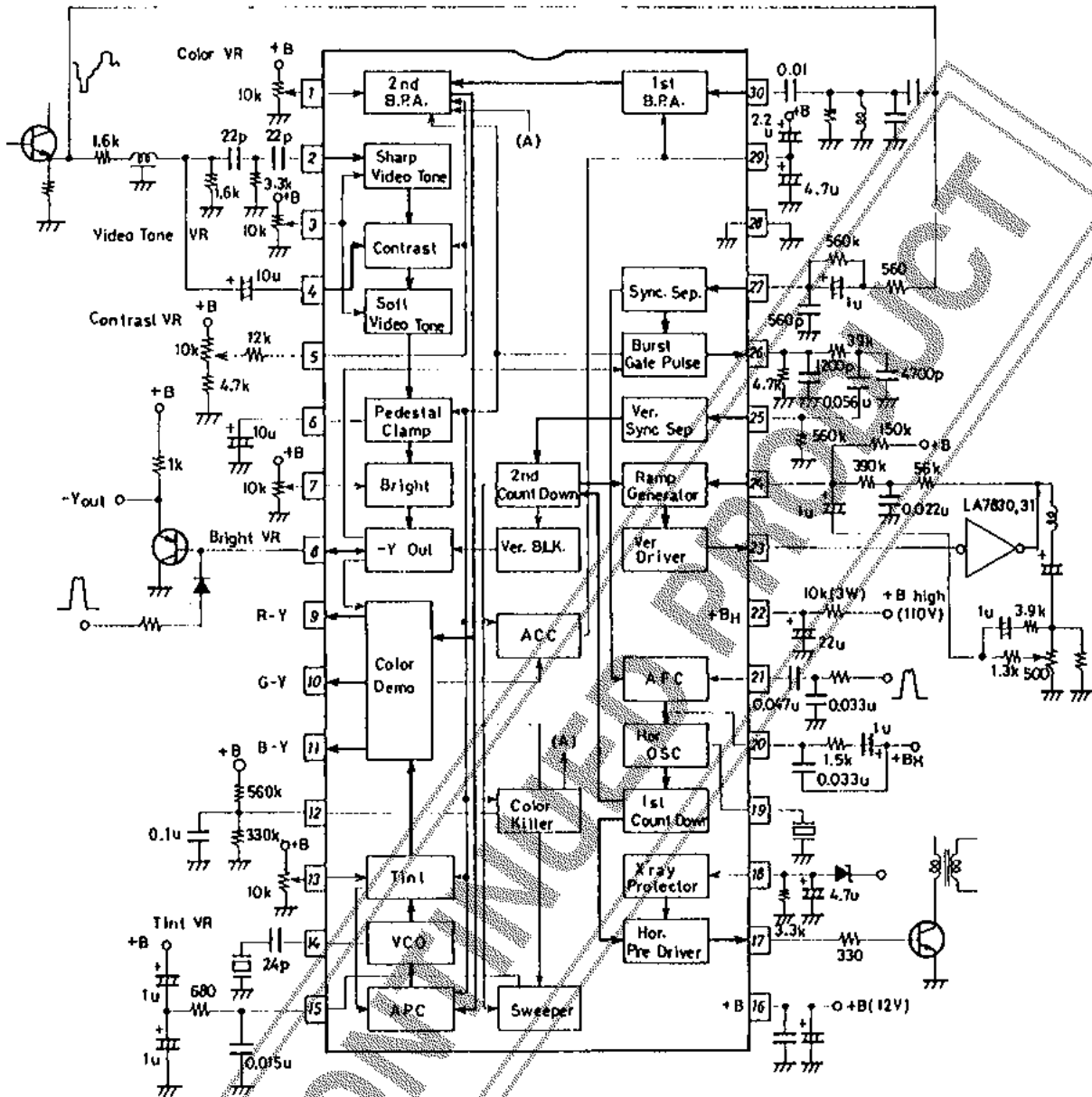
| | | min | typ | max | unit |
|--------------------------------------|-------------------|-----------------------|--------|-----|------|
| [Synchronization, Deflection] | | | | | |
| Sync Separation Input DC Level | V _{s,s} | | 9.3 | | V |
| Vertical Free-Running Frequency | f _V | f _H /296.5 | | | Hz |
| Vertical Blanking Pulse Width | T _{BL} | | 19H | | |
| Vertical Drive Stage Voltage Gain | VG | | 16 | | dB |
| Horizontal Free-Running Frequency | f _H | | 15.734 | | kHz |
| Horizontal Drive Output Pulse Width | T _H | | 24.5 | | us |
| Horizontal Sync Pull-in Range | f _{PULL} | ±400 | | | Hz |

For "Y-Chroma-Deflection" ICs for NTSC CTV use, the following Type Nos. are available. Select the IC most suited for your intended CTV set.

| Type No. | Peak clip | DC Restoration | Quadratic differentiation circuit input polarity | Video tone | | Remarks |
|----------|-----------|----------------|--|------------|-------|------------------|
| | | | | Soft | Sharp | |
| LA7620 | ○ | 70% | Positive | ○ | ○ | |
| LA7621 | × | 70% | Positive | ○ | ○ | |
| LA7625 | ○ | 100% | Positive | ○ | ○ | |
| LA7626 | × | 100% | Positive | ○ | ○ | |
| LA7629 | × | 100% | *Negative | × | ○ | Video band 10MHz |

* : Inverting amp required

Equivalent Circuit Block Diagram and Sample Peripheral Circuit



DISCONTINUED