

# AN5625N

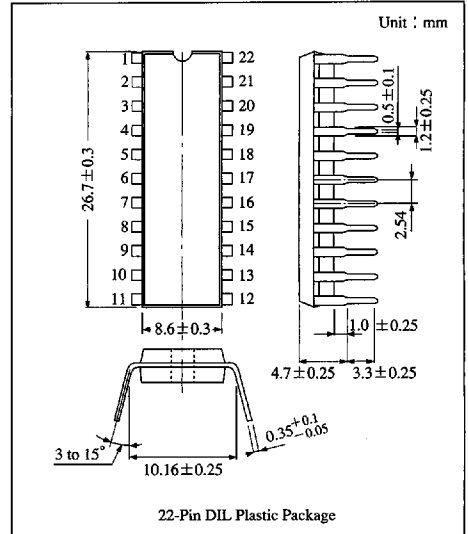
## TV PAL/NTSC/M-NTSC Chrominance-Signal Processing IC

### Overview

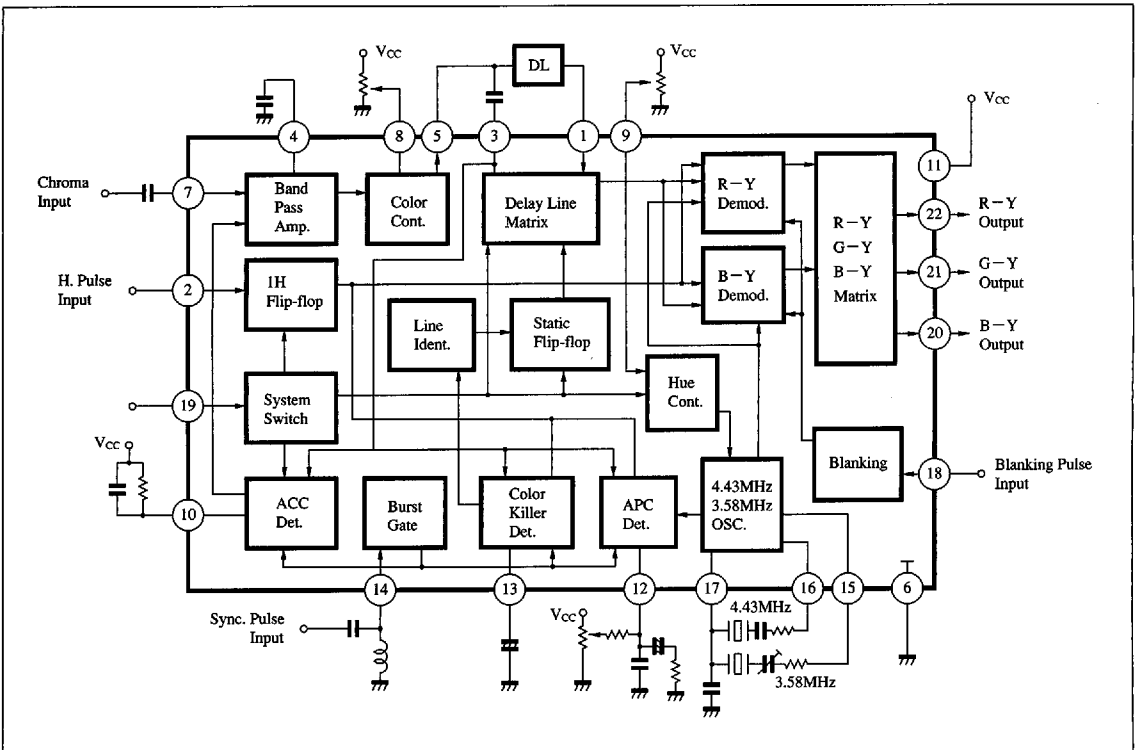
The AN5625N is an integrated circuit designed for color TV chrominance-signal processing circuit.

### Features

- A PAL/NTSC/M-NTSC system demodulator is possible in combination with the AN5615
- 4-system demodulator is possible in combination with the AN5615 and the AN5635N



### Block Diagram



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## Pin Descriptions

| Pin No. | Pin name                 | Pin No. | Pin name               |
|---------|--------------------------|---------|------------------------|
| 1       | Chroma sig. input (DLIH) | 12      | APC filter             |
| 2       | H. pulse input           | 13      | Color killer filter    |
| 3       | Chroma sig. input        | 14      | Burst gate pulse input |
| 4       | Chroma by-pass           | 15      | 3.58MHz OSC            |
| 5       | Chroma sig. output       | 16      | 4.43MHz OSC            |
| 6       | GND                      | 17      | OSC input              |
| 7       | Chroma sig. input        | 18      | BLK pulse input        |
| 8       | Color control            | 19      | System SW.             |
| 9       | Tint control             | 20      | B-Y output             |
| 10      | ACC filter               | 21      | G-Y output             |
| 11      | V <sub>CC</sub>          | 22      | R-Y output             |

## Absolute Maximum Ratings (T<sub>a</sub> = 25°C)

| Parameter         | Symbol                        | Rating           | Unit        |
|-------------------|-------------------------------|------------------|-------------|
| Supply voltage    | V <sub>CC</sub>               | 14.4             | V           |
| Circuit current   | I <sub>CC</sub>               | 83               | mA          |
| Power dissipation | P <sub>D</sub>                | 1200             | mW          |
| Temperature       | Operating ambient temperature | T <sub>opr</sub> | -20 to +70  |
|                   | Storage Temperature           | T <sub>stg</sub> | -55 to +150 |

ICs for TV

## Electrical Characteristics (T<sub>a</sub> = 25°C)

| Parameter  | Symbol               | Condition   | min  | typ  | max  | Unit             |
|--|----------------------|---|------|------|------|------------------|
| Total circuit current                            | I <sub>tot</sub>     | V <sub>CC</sub> = 12V   | 40   | 54   | 69   | mA               |
| Pin① voltage                                     | V <sub>1-6</sub>     | V <sub>CC</sub> = 12V   | 2.3  | 2.8  | 3.3  | V                |
| Pin③ voltage                                     | V <sub>3-6</sub>     | V <sub>CC</sub> = 12V   | 2.3  | 2.8  | 3.3  | V                |
| Pin⑤ voltage                                     | V <sub>5-6</sub>     | V <sub>CC</sub> = 12V   | 8.0  | 8.5  | 9.0  | V                |
| Pin⑦ voltage                                     | V <sub>7-6</sub>     | V <sub>CC</sub> = 12V   | 0.8  | 1.3  | 1.8  | V                |
| Max. output voltage (R-Y)                        | e <sub>o</sub>       | Color bar input 150mV <sub>P-P</sub> ,<br>Color max. Pin⑩ = V <sub>CC</sub> | 7.5  | 8.0  | —    | V <sub>P-P</sub> |
| Output voltage (R-Y)                             | e <sub>o2</sub>      | Color bar input 150mV <sub>P-P</sub> ,<br>Color typ                         | 2.25 | 3.0  | 3.75 | V <sub>P-P</sub> |
| Ratio of demodulated signals (R-Y)/(B-Y)         | R/B                  | ⑦ = 4.43MHz 100mV <sub>P-P</sub><br>⑰ = 4.44MHz 500mV <sub>P-P</sub>        | 0.72 | 0.83 | 0.9  | times            |
| Ratio of demodulated signals (G-Y)/(B-Y)         | G/B                  | ⑦ = 4.43MHz 100mV <sub>P-P</sub><br>⑰ = 4.44MHz 500mV <sub>P-P</sub>        | 0.31 | 0.37 | 0.42 | times            |
| Phase difference between (R-Y) and (B-Y) signals | ∠R                   | ⑦ = 4.43MHz 100mV <sub>P-P</sub><br>⑰ = 4.44MHz 500mV <sub>P-P</sub> ∠B = 0 | 86.5 | 90.0 | 93.5 | deg.             |
| Phase difference between (G-Y) and (B-Y) signals | ∠G                   | ⑦ = 4.43MHz 100mV <sub>P-P</sub><br>⑰ = 4.44MHz 500mV <sub>P-P</sub> ∠B = 0 | 229  | 236  | 244  | deg.             |
| PAL color killer level                           | e <sub>K(PAL)</sub>  | Color bar 150mV <sub>P-P</sub> , (=0dB)<br>Color center                     | 38   | 43   | 48   | dB               |
| NTSC color killer level                          | e <sub>K(NTSC)</sub> | Color bar 150mV <sub>P-P</sub> , (=0dB)<br>Color center, Tint center        | 39   | 44   | 49   | dB               |
| DC output voltage                                | E <sub>C-Y</sub>     | No signal input   | 6.9  | 7.35 | 7.8  | V                |
| Tint center                                      | θ                    | Color bar 150mV <sub>P-P</sub> , Color typ, Tint typ                        | —    | 0    | ±7   | deg.             |
| Tint variable range                              | Δθ                   | Color typ, Tint max. to min.  | ±35  | ±45  | ±55  | deg.             |

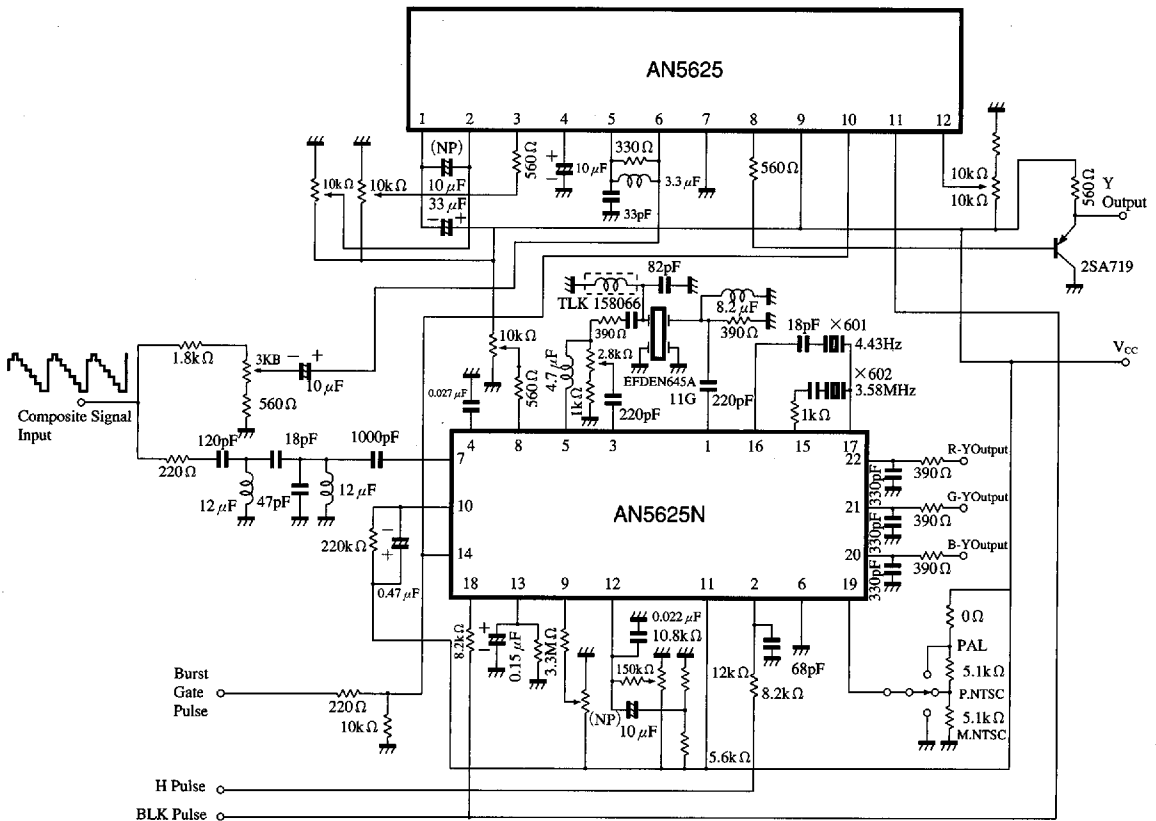
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Panasonic

■ Electrical Characteristics (cont.) (Ta=25°C)

| Parameter   | Symbol               | Condition   | min  | typ  | max | Unit    |
|---|----------------------|---|------|------|-----|---------|
| APC pull-in range                                 | $f_{APC}$            | Color bar 150mV <sub>P-P</sub> , burst frequency variable         | ±500 | ±800 | —   | Hz      |
| Free-run frequency supply voltage dependency      | $\Delta f_o/V_{CC}$  | No input, Pin ⑫ for non connection, V <sub>CC</sub> = 12V ± 20%   | —    | —    | 120 | Hz      |
| Free-run frequency ambient temperature dependency | $\Delta f_o/T_a$     | No input, Pin ⑫ for non connection, T <sub>a</sub> = -20 to +70°C | —    | 1.5  | 2.5 | Hz/deg. |
| PAL/NTSC system changeover level                  | V <sub>19 PAL</sub>  | Pin ⑨ control voltage   | 5.6  | 6.1  | 6.6 | V       |
| NTSC/M-NTSC system changeover level               | V <sub>19 NTSC</sub> | Pin ⑨ control voltage   | 1.9  | 2.2  | 2.5 | V       |

■ Application Circuit



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