

AN5625N

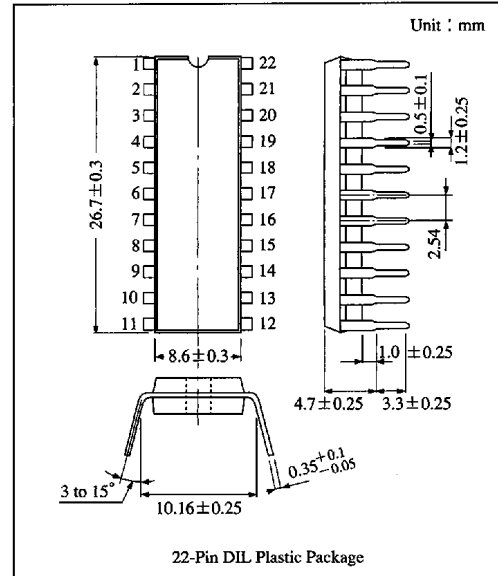
TV PAL/NTSC/M-NTSC Chrominance-Signal Processing IC

Overview

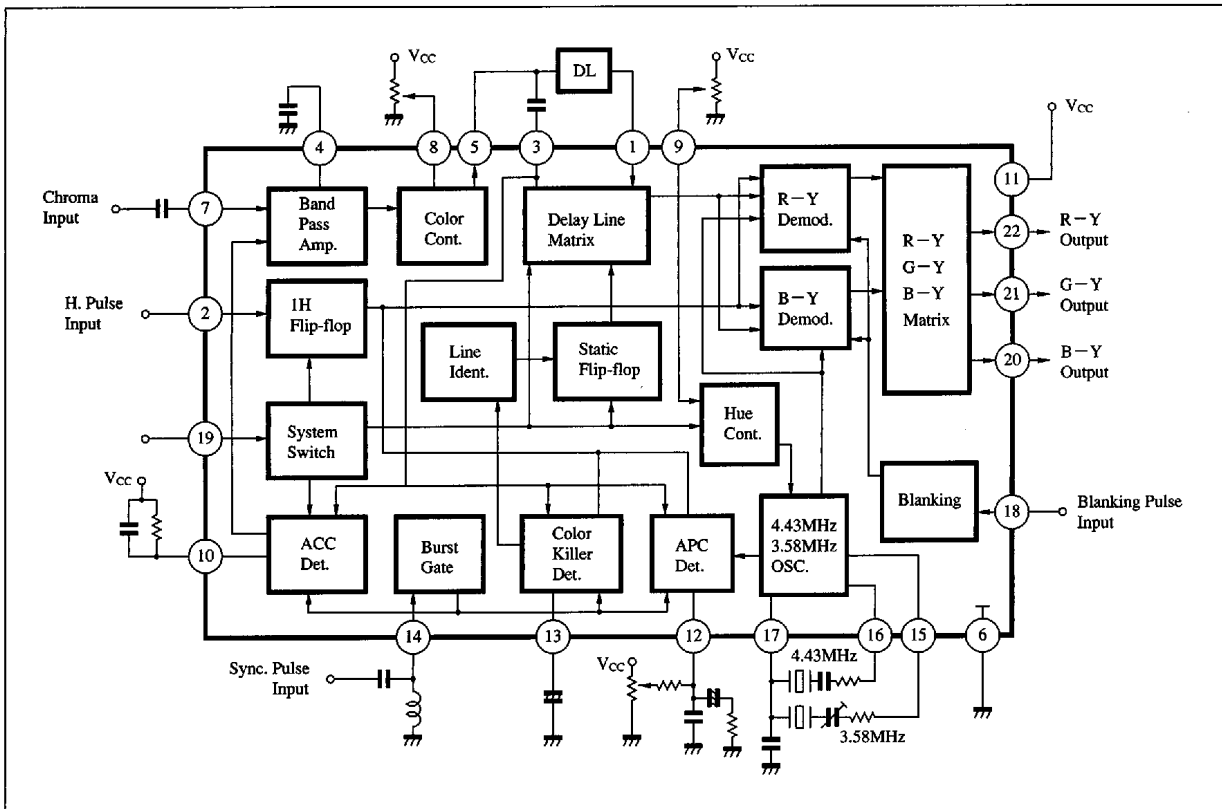
The AN5625N is an integrated circuit designed for color TV chrominance-signal processing circuit.

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 _{CC} | 22 | R-Y output |

Absolute Maximum Ratings (T_a = 25°C)

| Parameter | Symbol | Rating | Unit |
|-------------------|-------------------------------|------------------|-------------|
| Supply voltage | V _{CC} | 14.4 | V |
| Circuit current | I _{CC} | 83 | mA |
| Power dissipation | P _D | 1200 | mW |
| Temperature | Operating ambient temperature | T _{opr} | -20 to +70 |
| | Storage Temperature | T _{stg} | -55 to +150 |



Electrical Characteristics (T_a = 25°C)

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

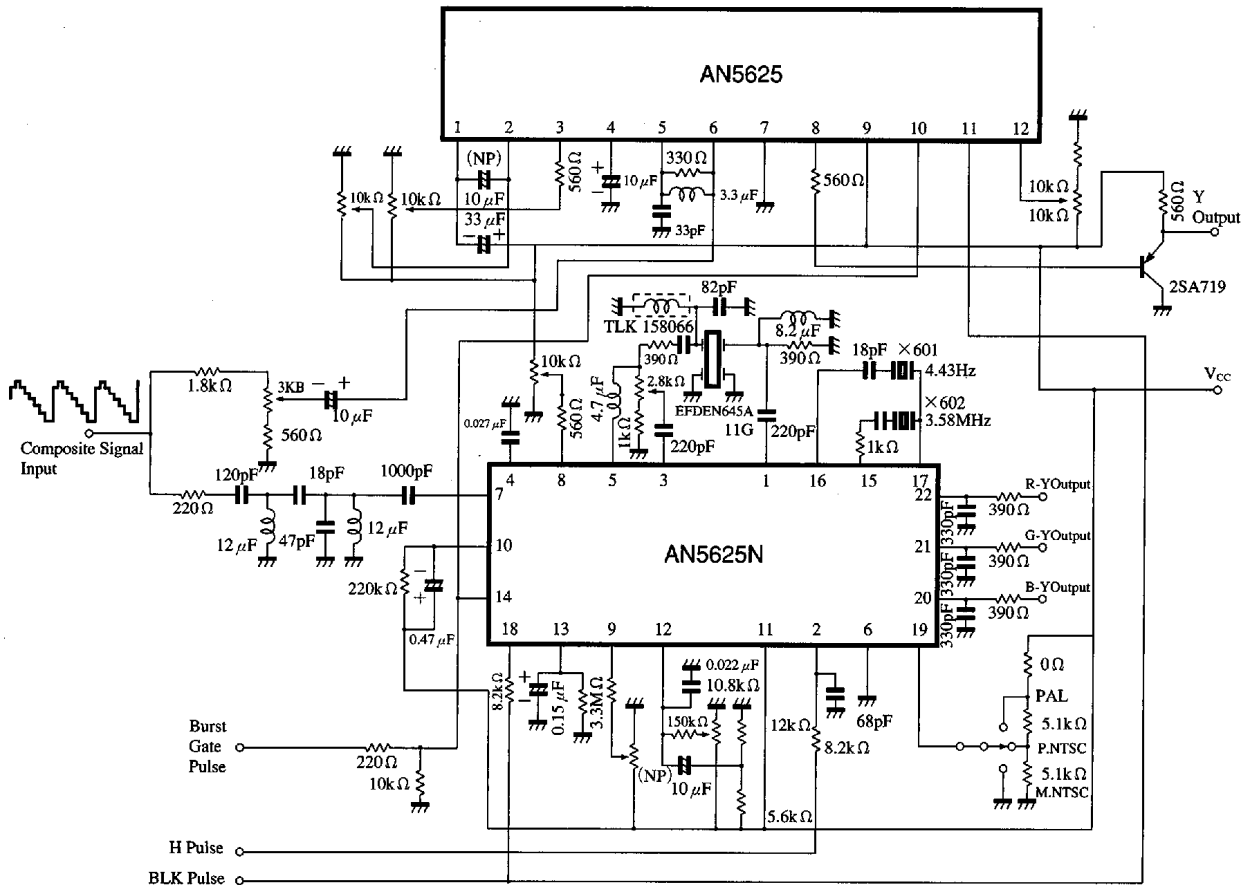
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Electrical Characteristics (cont.) (Ta=25°C)

| Parameter | Symbol | Condition | min | typ | max | Unit |
|---|----------------------------------|--|------|------|-----|---------|
| APC pull-in range | f _{APC} | Color bar 150mV _{P-P} , burst frequency variable | ±500 | ±800 | — | Hz |
| Free-run frequency supply voltage dependency | Δf _o /V _{CC} | No input, Pin ⑫ for non connection, V _{CC} =12V±20% | — | — | 120 | Hz |
| Free-run frequency ambient temperature dependency | Δf _o /Ta | No input, Pin ⑫ for non connection, Ta=-20 to +70°C | — | 1.5 | 2.5 | Hz/deg. |
| PAL/NTSC system changeover level | V _{I9 PAL} | Pin ⑭ control voltage | 5.6 | 6.1 | 6.6 | V |
| NTSC/M-NTSC system changeover level | V _{I9 NTSC} | Pin ⑭ control voltage | 1.9 | 2.2 | 2.5 | V |

Application Circuit



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