

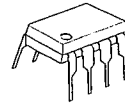
CHROMA SIGNAL HUE TINT CONTROLLER

■ GENERAL DESCRIPTION

NJM2255 is a Chroma signal Hue, Tint controller IC, to be used for VCR, LCD & AV equipments.

In play back operation of video signals of VCRs, Hue and Tint of Chroma signal can be adjusted independently and continuously by the external DC voltage. NJM2255 internalizes the variable capacitor in it, so that it can be operated with minimal external components.

■ PACKAGE OUTLINE



NJM2255D

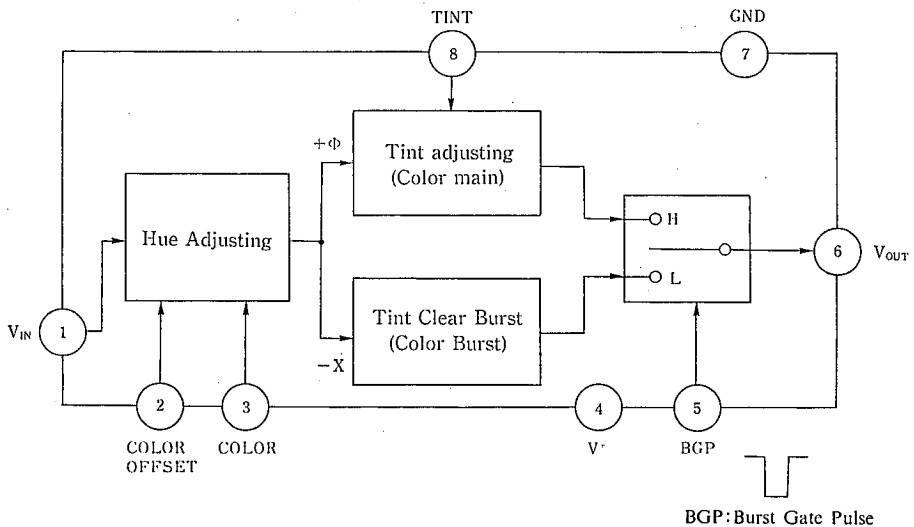
■ FEATURES

- Operating Voltage (+4.7V ~ +5.3V)
- Internalizing variable capacitor
- Internalizing changeable Gain Amplifier
- Hue and Tint of Chroma signals can be adjusted continuously by DC voltage (0V ~ 5V)
- Internalizing Dead Band Circuit
- Package Outline DIP8
- Bipolar Technology

■ APPLICATIONS

- VCR, LCD, AV equipments

■ BLOCK DIAGRAM

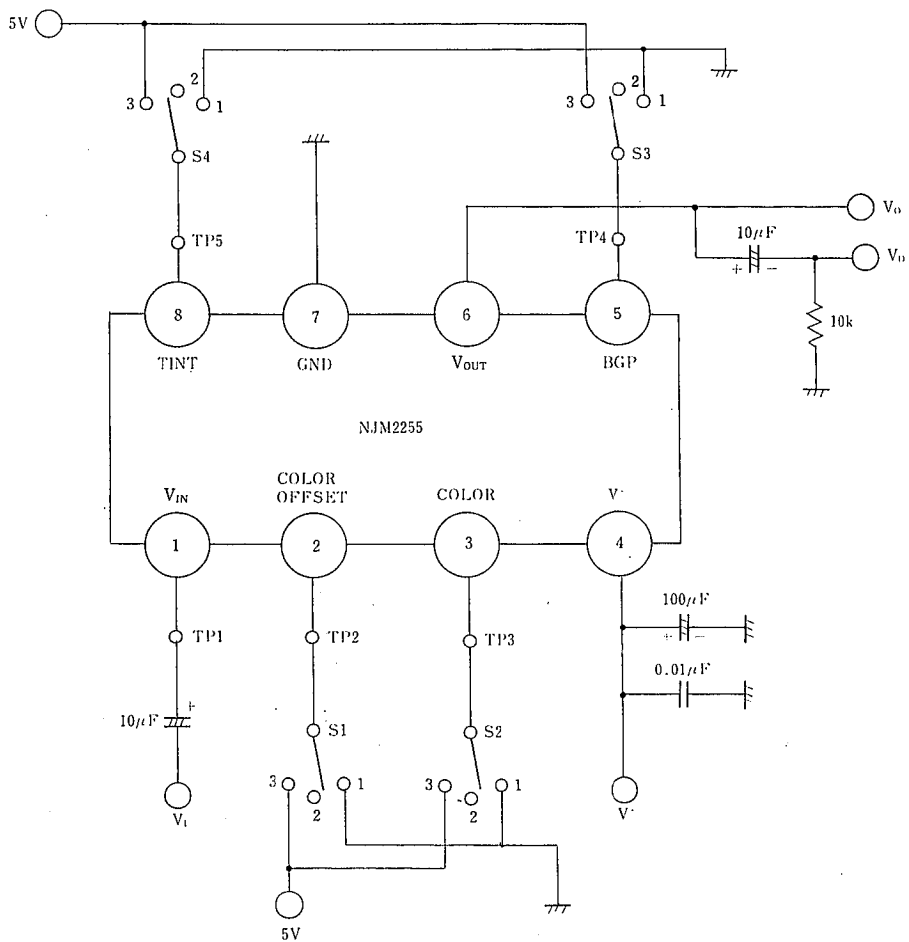


■ CONTROL INPUT - OUTPUT SIGNAL

| | |
|-----|---------------|
| SW1 | output Signal |
| H | Color Main |
| L | Color Burst |

NJM2255

■ TEST CIRCUIT



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■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

| PARAMETER | SYMBOL | RATINGS | UNIT |
|-----------------------------|--------|----------|------|
| Supply Voltage | V* | 7 | V |
| Power Dissipation | Pd | 500 | mW |
| Operating Temperature Range | Topr | -20~+75 | °C |
| Storage Temperature Range | Tsig | -40~+125 | °C |

■ ELECTRICAL CHARACTERISTICS

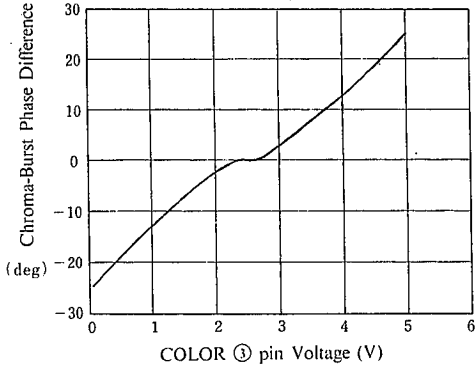
(V+=5V, Ta=25°C)

| PARAMETER | SYMBOL | SWITCH | | | | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|-------------------------------|--------|--------|----|----|----|--|------|------|------|------|
| | | S1 | S2 | S3 | S4 | | | | | |
| Operating Current | Icc | 2 | 2 | 2 | 2 | No signal | — | 22.0 | 28.0 | mA |
| Voltage Gain 1 | GC | 2 | 2 | 3 | 2 | V _{OUT} /V _{IN} | -1.0 | 0 | 1.0 | dB |
| Voltage Gain 2 | GB | 2 | 2 | 1 | 2 | V _{OUT} /V _{IN} | -1.0 | 0 | 1.0 | dB |
| Hue Offset | T1 | 2 | 2 | | 2 | S3=1/3 V _{OUT} Phase difference | -3.5 | 0 | 3.5 | deg |
| Hue Changeable width 1 | T2 | 2 | 3 | | 2 | S3=1/3 V _{OUT} Phase difference | 20 | 22 | — | deg |
| Hue Changeable width 2 | T3 | 2 | 1 | | 2 | S3=1/3 V _{OUT} Phase difference | — | -22 | -20 | deg |
| Tint Changeable width 1 | GC | 2 | 2 | | 2 | Gain (S3=3)—Gain (S3=1) | -0.6 | 0 | 0.6 | dB |
| Tint Changeable width 2 | GB | 2 | 2 | | 3 | Gain (S3=3)—Gain (S3=1) | 4.5 | 5.5 | — | dB |
| Tint Changeable width 3 | T1 | 2 | 2 | | 1 | Gain (S3=3)—Gain (S3=1) | — | — | -20 | dB |
| Hue Offset Adjustment width 1 | OSTH | 3 | 2 | | 2 | S3=1/3 V _{OUT} | — | — | -3.5 | deg |
| Hue Offset Adjustment width 2 | OSTL | 1 | 2 | | 2 | S3=1/3 V _{OUT} | 3.5 | — | — | deg |
| BGP Threshold Voltage 1 | VTHH | 2 | 2 | 3 | 2 | Switch on level | 2.2 | — | 5.0 | V |
| BGP Threshold Voltage 2 | VTHL | 2 | 2 | 3 | 2 | Switch off level | 0 | — | 0.8 | V |
| Secondary Distortion 1 | HC | 2 | 2 | 3 | 2 | 3.58MHz, 700mV _{p-p} Sine Wave | — | -37 | -33 | dB |
| Secondary Distortion 2 | HB | 2 | 2 | 1 | 2 | 3.58MHz, 700mV _{p-p} Sine Wave | — | -37 | -33 | dB |

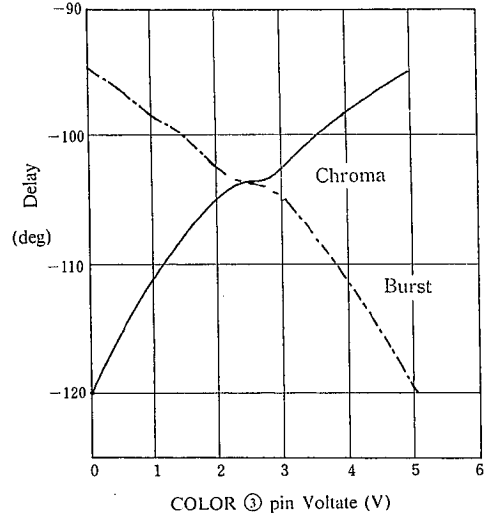
Note Unless otherwise specified, input signal is 3.58MHz and 300mV_{p-p} sine wave.

■ TYPICAL CHARACTERISTICS

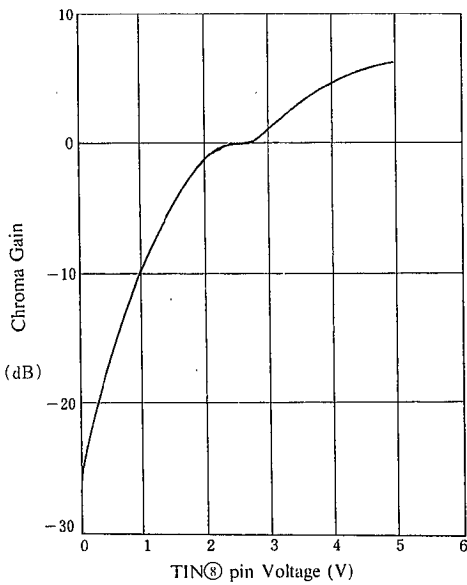
Hue Control Voltage vs. Tint Changeable feature



Hue Control Voltage vs. Input Delay feature



Color Control Voltage vs. Chroma Gain Changeable



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MEMO

[CAUTION]

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