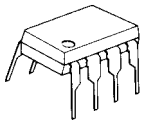
CHROMA SIGNAL HUE TINT CONTROLLER

■ GENERAL DESCRIPTION

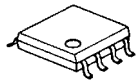
NJM2255 is a Chroma signal Hue, Tint controller IC, to be used for VCR, LCD & AV equipments.

In play back operation of video signals of VCRs, Hue and Tint of Chroma signal can be adjusted independently and continuousely 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



NJM2255M

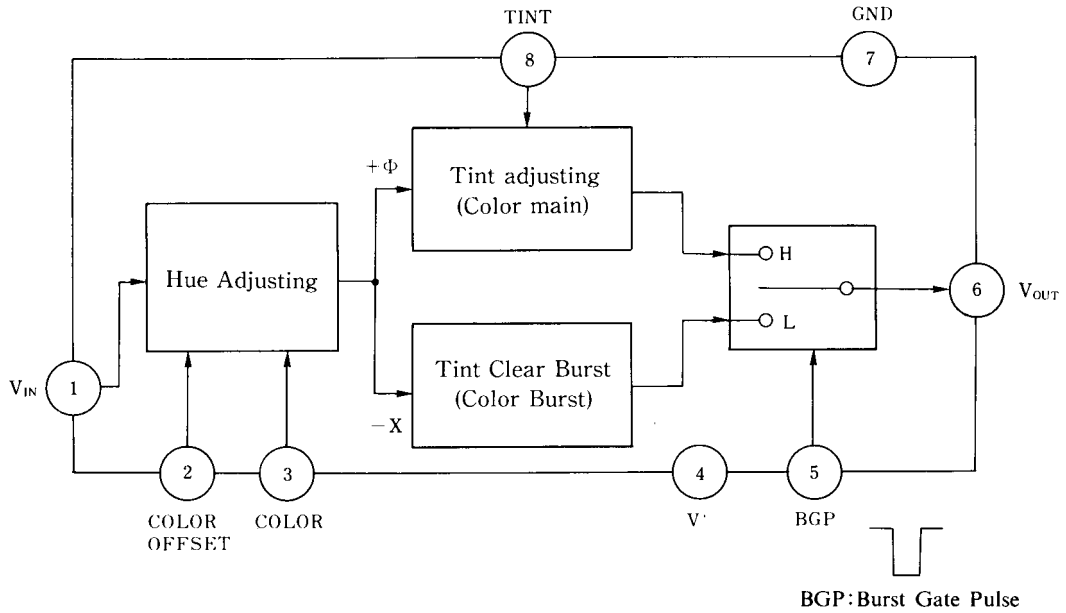
■ FEATURES

- Operating Voltage (+4.7V to +5.3V)
- Internalizing variable capacitor
- Internalizing changeable Gain Amplifier
- Hue and Tint of Chroma signals can be adjusted continuousely by DC voltage (0V to 5V)
- Internalizeng Dead Band Circuit
- Package Outline DIP8, DMP8
- Bipolar Technology

■ APPLICATIONS

- VCR, LCD, AV equipments

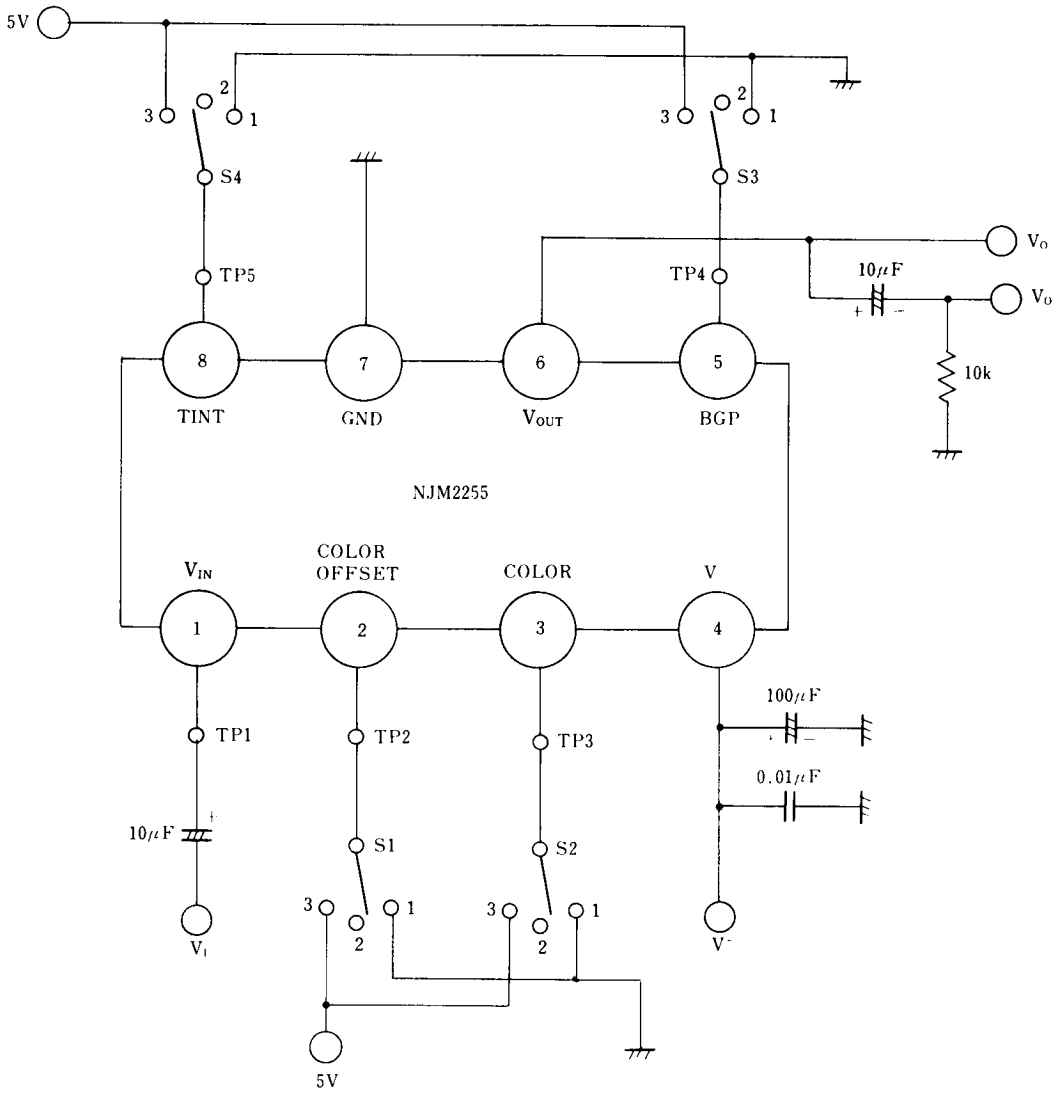
■ BLOCK DIAGRAM



■ CONTOROL INPUT - OUTPUT SIGNAL

SW1	Output Signal
H	Color Main
L	Color Burst

■ TEST CIRCUIT



■ ABSOLUTE MAXIMUM RATINGS

(T_a = 25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+	7	V
Power Dissipation	P_D	500	mW
Operating Temperature Range	T_{opr}	-20 to +75	°C
Storage Temperature Range	T_{stg}	-40 to +125	°C

■ ELECTRICAL CHARACTERISTICS

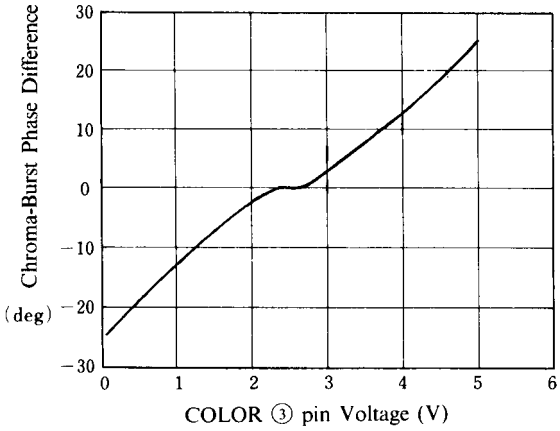
(V^+ = 5V, T_a = 25°C)

PARAMETER	SYMBOL	SWITCH				TEST CONDITION	MIN.	TYP.	MAX.	UNIT
		S1	S2	S3	S4					
Operating Current	I_{CC}	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 Threashold Voltage 1	VTHH	2	2	3	2	Switch on level	2.2	-	5.0	V
BGP Threashold 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

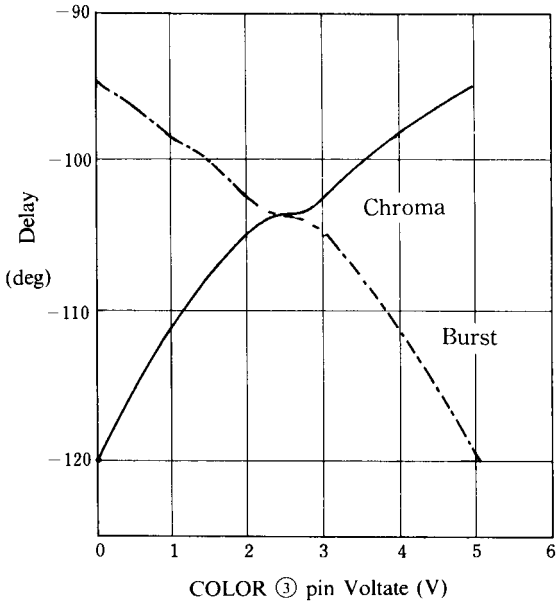
Note Unless otherwise specified, input signal is 3.58MHz and 300mV_{P-P} sine wave.

■ TYPICAL CHARACTERISTICS

Hue Control Voltage vs. Tint Changeable feature



Hue Control Voltage vs. Input Delay feature



Color Control Voltage vs. Chroma Gain Changeable