

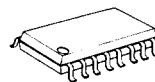
2-INPUT VIDEO SUPERIMPOSER

■ GENERAL DESCRIPTION

NJM 2262 is a 2input video superimposer, including video switch circuit that consist of four Y signal circuit and one C signal circuit.

Its impose voltage is set up white level and black level but You can fix its impose voltage.

■ PACKAGE OUTLINE



NJM2262M

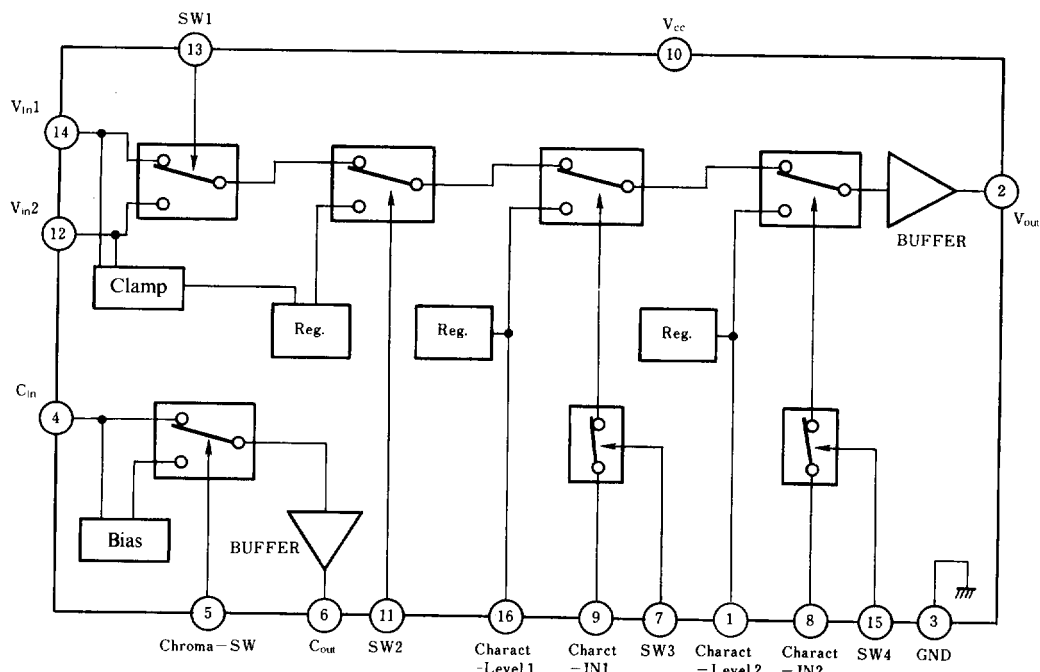
■ FEATURES

- Operating Voltage (4.5V~5.5V)
- Low Operating Current : 5V movement ($I_{cc}=8mA$)
- Internal Video SW
- Internal Clamp circuit and Bias circuit
- Impose voltage is step up white level and black level but you can fix is impose voltage.
- Package Outline DMP16
- Bipolar Technology

■ APPLICATION

- VTR Camera, VTR, TV etc.

■ BLOCK DIAGRAM



NJM2262M



■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺	+7	V
Power Dissipation	P _D	300	mW
Operating Temperature Range	T _{opr}	-20 ~ +75	°C
Storage Temperature Range	T _{stg}	-40 ~ +125	°C

■ ELECTRICAL CHARACTERISTICS

(V⁺=5V, V_{in}=1V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Current	I _{CC}	No signal	—	8.0	12.0	mA
Y Voltage Gain	G _{VY}	1MHz, 1V _{p-p} Sine Wave	-0.7	-0.2	+0.3	dB
C Voltage Gain	G _{Ve}	1MHz, 1V _{p-p} Sine Wave	-0.8	-0.3	+0.2	dB
Y Frequency Characteristics	G _{fY}	Vo(7MHz)/Vo(1MHz)	-1.0	0	+1.0	dB
C Frequency Characteristics	G _{fE}	Vo(7MHz)/Vo(1MHz)	-1.0	0	+1.0	dB
Differential Gain	DG	Stepped	—	—	3.0	%
Differential Phase	DP	Stepped	—	—	3.0	deg
Output offset Voltage	V _{os}		-15.0	0	+15.0	mV
Y Cross-Talk	CT _y	4.43MHz Vo/vi	—	-60.0	-50.0	dB
C-Y Cross-Talk	CT _{cy}	4.43MHz Vo/Vi	—	-60.0	-50.0	dB
Y-C Cross-Talk	CT _{yc}	4.43MHz Vo/Vi	—	-60.0	-50.0	dB
Input Impedance 1	R _{i1}	V _{in1} , V _{in2}	10.0	—	—	kΩ
Input Impedance 2	R _{i2}	C _{in}	—	15.0	—	kΩ
Output Impedance	R _o		—	20.0	—	ΩV
Charact-LEVEL 1	V _{M1}		607	643	679	mV
Charact-LEVEL 2	V _{M2}		607	643	679	mV
Y Gate Level	V _{gy}	From Crump Level	0	35.7	71.4	mV
C Gate Level	V _{GC}	From Bias Level	-10.0	0	10.0	mV
Threshold Voltage 1	V _{th1}	SW1 (ON LEVEL) (OFF LEVEL)	2.5 —	— —	— 0.8	V V
Threshold Voltage 2	V _{th2}	SW2 (ON LEVEL) (OFF LEVEL)	2.5 —	— —	— 0.8	V V
Threshold Voltage 3	V _{th3}	SW3 (ON LEVEL) (OFF LEVEL)	3.0 —	— —	— 1.0	V V
Threshold Voltage 4	V _{th4}	SW4 (ON LEVEL) (OFF LEVEL)	3.0 —	— —	— 1.0	V V
Threshold Voltage 5	V _{th5}	SW5 (ON LEVEL) (OFF LEVEL)	2.5 —	— —	— 0.8	V V
Threshold Voltage 6	V _{th6}	SW6 (ON LEVEL) (OFF LEVEL)	2.5 —	— —	— 0.8	V V
Threshold Voltage 7	V _{th7}	SW7 (ON LEVEL) (OFF LEVEL)	2.5 —	— —	— 0.8	V V

(note 1) Next two cross-talk (One side 0Ω termination)

① V_{in1}→V_{in2} ② V_{in2}→V_{in1}

(note 2) Next two cross-talk (One side 0Ω termination)

① C_{in}→V_{in1} ② C_{in}→V_{in2}

(note 3) Next two cross-talk (One side 0Ω termination)

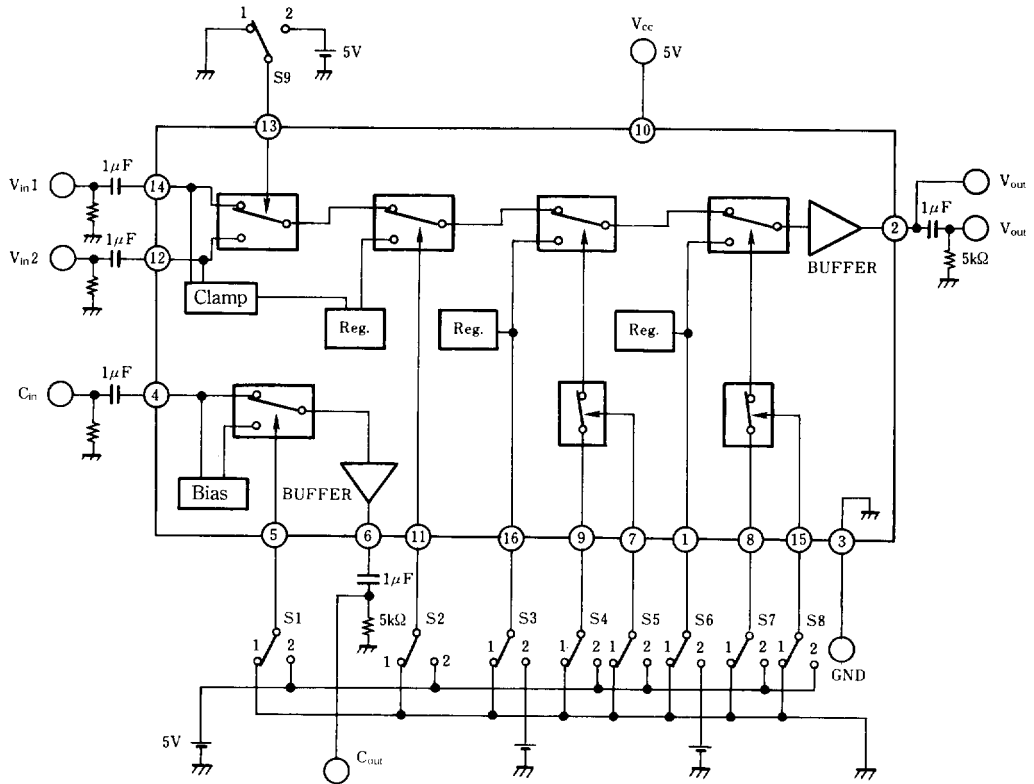
① V_{in1}→C_{in} ② V_{in2}→C_{in}

(note 4) White Level

(note 5) Black Level



■ TEST CIRCUIT





NJM2262

■ TERMINAL FUNCTION

PIN NO.	PIN NAME	FUNCTION	EQUIVALENT CIRCUIT
1	Charact-Level 2	Input terminal of the DC Voltage or the signal in the super imposing condition. In opening condition, presetted in voltage level of 90IRE (White Level) at 1 V _{p-p} video signal.	
2	V _{OUT}	Output terminal of Y signal	
3	GND	GND	
4	C _{IN}	Input terminal (Bias Input) of gate switch for C signal.	
5	Chroma-SW	Control Terminal of C-SW. L _O Signal Output H _I Bias Voltage Output	



■ TERMINAL FUNCTION

PIN NO	PIN NAME	FUNCTION	EQUIVALENT CIRCUIT
6	Count	Output terminal of C-SW.	
7	SW 3	ON/OFF control terminal of character signal inputted from 9 pin L _O Charactor Signal Through H _i Charactor Signal OFF	
8	Charact IN 2	Terminal to input character signal for super impose.	
9	Charact IN 1	Terminal to input character signal for super impose.	
10	Vcc	V _{cc} = 5V	



■ TERMINAL FUNCTION

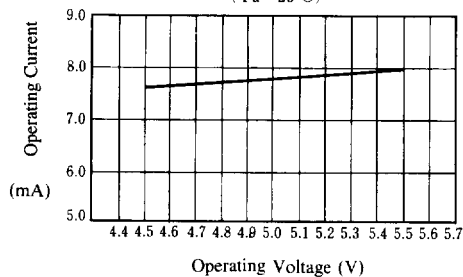
PIN NO.	PIN NAME	FUNCTION	EQUIVALENT CIRCUIT
11	SW 2	Terminal to input charactor signal for super impose. Voltage for impose is presetted internally, at the voltage level 5IRE (Black Level)with 1V _{p-p} video signal.	
12	V _{in} 2	Input terminal of Y signal(1V _{p-p}). Clamp circuit is internalized and clamp voltage is about 2.15V. (Oscillation might occur when higher impedance source. So, please control source impedance under 3.5Ω.)	
13	SW 1	Control terminal for input signal switch of Y signal. Output L₀ V_{in} 1 H_i V_{in} 2	
14	V _{in} 1	Input terminal of Y signal (1V _{p-p}). Clamp circuit is internalized and clamp voltage is about 2.15V. (Oscillation might occur when higher impedance source. So, please control source impedance under 3.5kΩ.)	
15	SW 4	ON/OFF control terminal of charactor signal inputted from 8 pin. Charactor Through L₀ H_i Charactor Signal OFF	
16	Charact Level 1		



■ TYPICAL CHARACTERISTICS

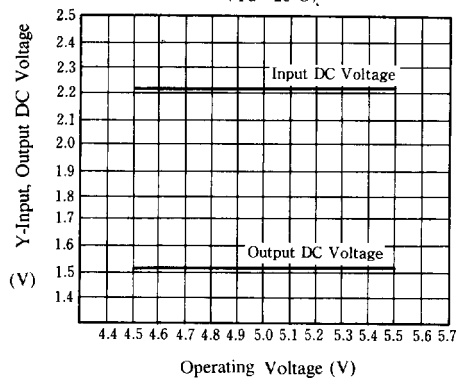
Operating Current vs. Operating Voltage

($T_a = 25^\circ\text{C}$)

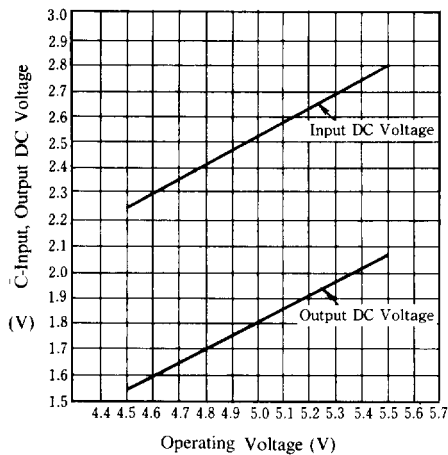


Y-Input, Output DC Voltage vs. Operating Voltage

($T_a = 25^\circ\text{C}$)

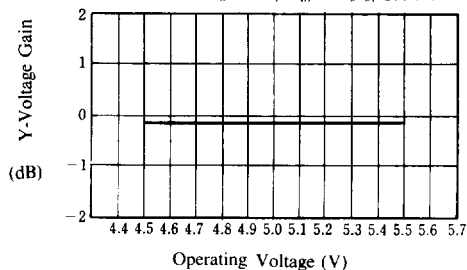


C-Input, Output DC Voltage vs. Operating Voltage



Y-Voltage Gain vs. Operating Voltage

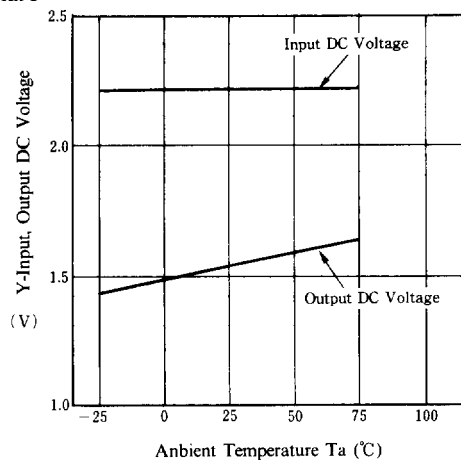
($T_a = 25^\circ\text{C}$, $R_t = 5\text{k}\Omega$, $V_{in} = 1\text{V}_{p-p}$, 1MHz)



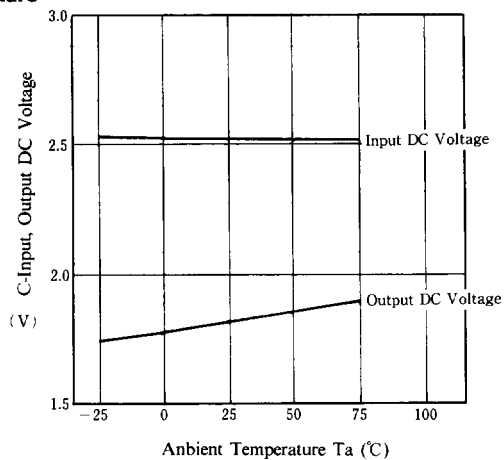


TYPICAL CHARACTERISTICS

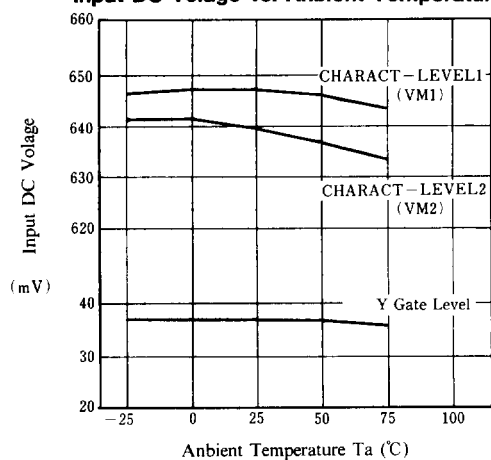
Y-Input, Output DC Voltage vs. Ambient Temperature



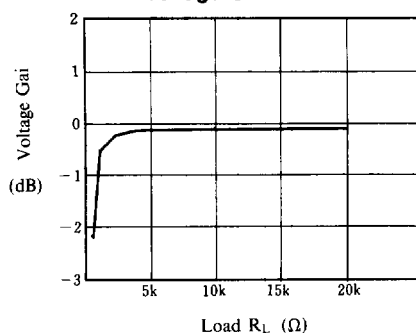
C-Input, Output DC Voltage vs. Ambient Temperature

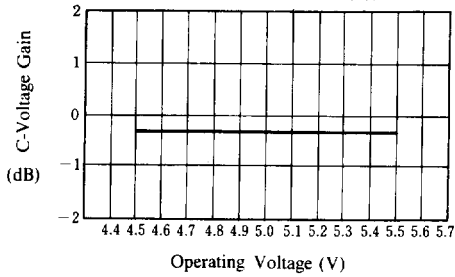
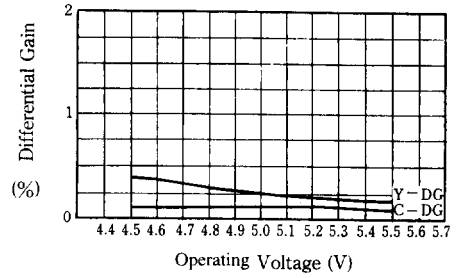
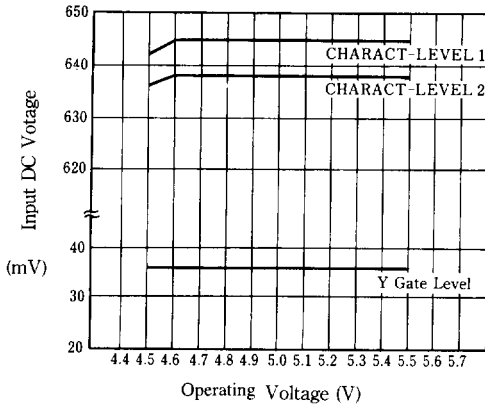
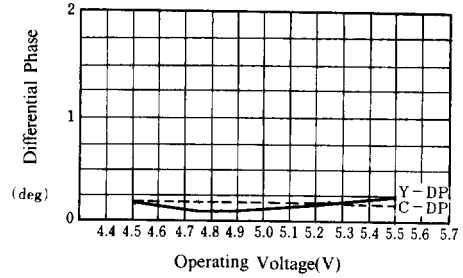


Input DC Voltage vs. Ambient Temperature



Voltage Gain vs. Load



**■ TYPICAL CHARACTERISTICS****C-Voltage Gain vs. Operating Voltage** $(T_a = 25^\circ\text{C}, R_L = 5\text{k}\Omega, V_{in} = 1\text{V}_{p-p}, 1\text{MHz})$ **Differential Gain vs. Operating Voltage** $(T_a = 25^\circ\text{C}, V_{in} = 1\text{V}_{p-p} \text{ Normal Stea Case Pulse } R_L = 5\text{k}\Omega)$ **Input DC Voltage vs. Operating Voltage** $(T_a = 25^\circ\text{C})$ **Differential Phase vs. Operating Voltage** $(T_a = 25^\circ\text{C}, V_{in} = 1\text{V}_{p-p} \text{ Normal Stea Case Pulse } R_L = 5\text{k}\Omega)$ **Operating Current vs. Ambient Temperature**