

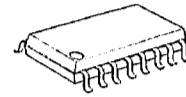
2-INPUT VIDEO SUPERIMPOSER

■ 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

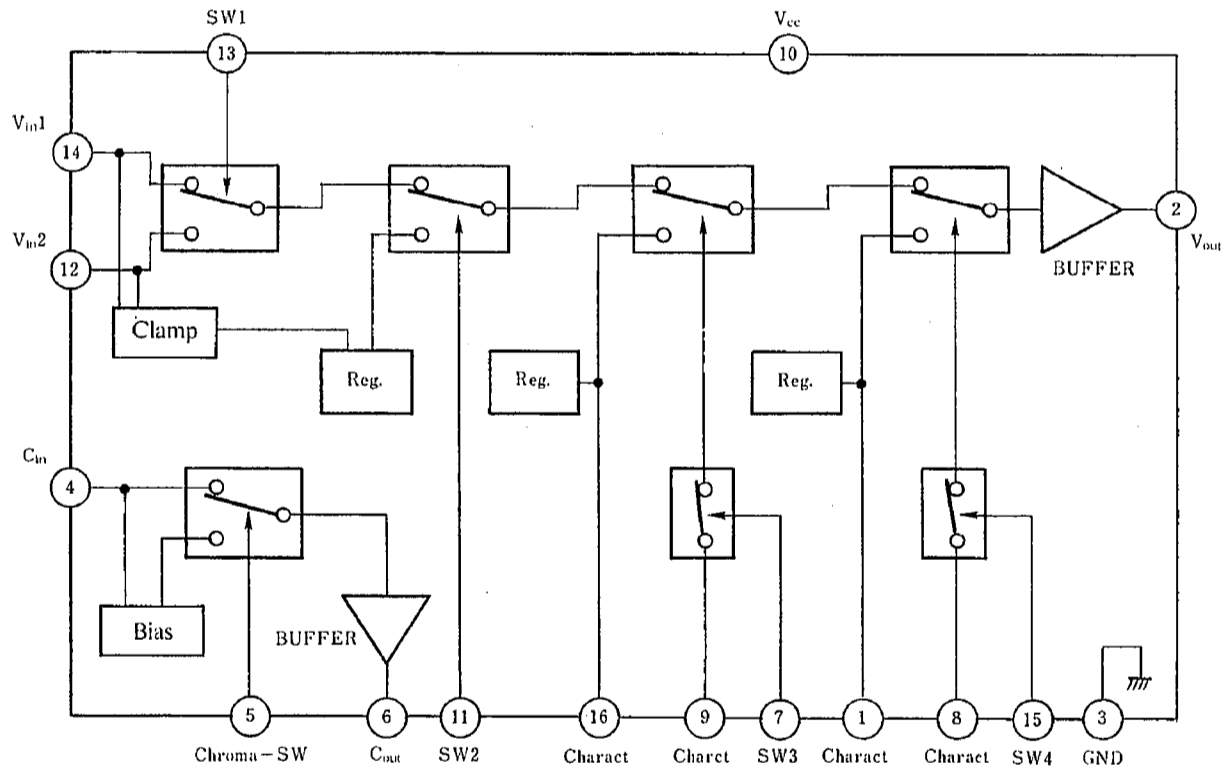
■ FEATURES

- 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



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## ■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V <sup>+</sup>	+7	V
Power Dissipation	P <sub>D</sub>	300	mW
Operating Temperature Range	T <sub>opr</sub>	-20~+75	°C
Storage Temperature Range	T <sub>stg</sub>	-40~+125	°C

## ■ ELECTRICAL CHARACTERISTICS

(V<sup>+</sup>=5V, V<sub>in</sub>=1V, Ta=25°C)

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

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

① V<sub>in1</sub>→V<sub>in2</sub> ② V<sub>in2</sub>→V<sub>in1</sub>

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

① C<sub>in</sub>→V<sub>in1</sub> ② C<sub>in</sub>→V<sub>in2</sub>

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

① V<sub>in1</sub>→C<sub>in</sub> ② V<sub>in2</sub>→C<sub>in</sub>

(note 4) White Level

(note 5) Black Level



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## ■ 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 <sub>p-p</sub> video signal.	
2	V <sub>OUT</sub>	Output terminal of Y signal	
3	GND	GND	
4	C <sub>IN</sub>	Input terminal (Bias Input) of gate switch for C signal.	
5	Chroma-SW	Control Terminal of C-SW. Lo   Signal Output Hi   Bias Voltage Output	

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■ TERMINAL FUNCTION

PIN NO.	PIN NAME	FUNCTION	EQUIVALENT CIRCUIT
6	CoUT	Output terminal of C-SW.	
7	SW 3	ON/OFF control terminal of character signal inputted from 9 pin Lo   Character Signal Through Hi   Character 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 <sub>cc</sub> =5V	

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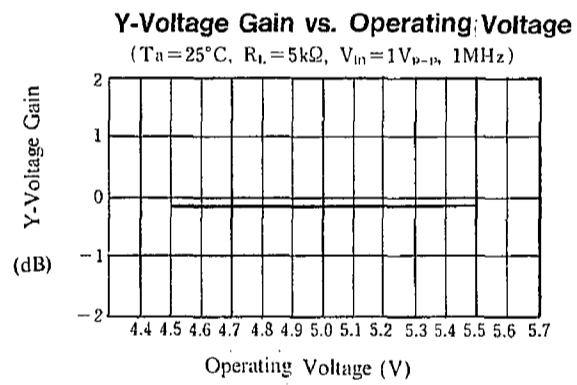
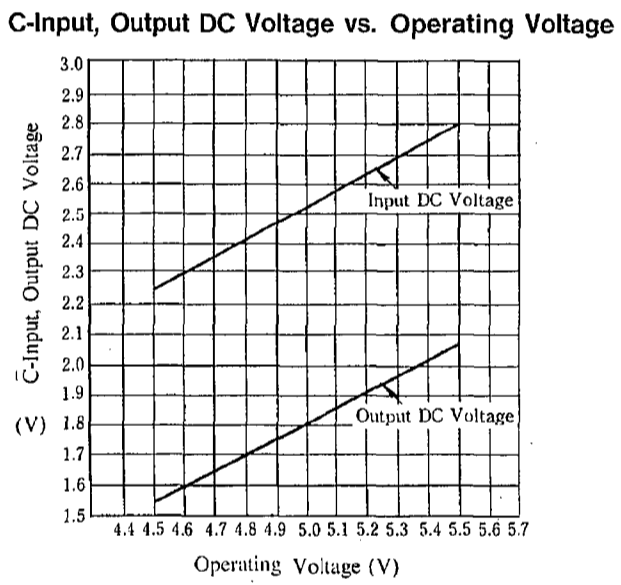
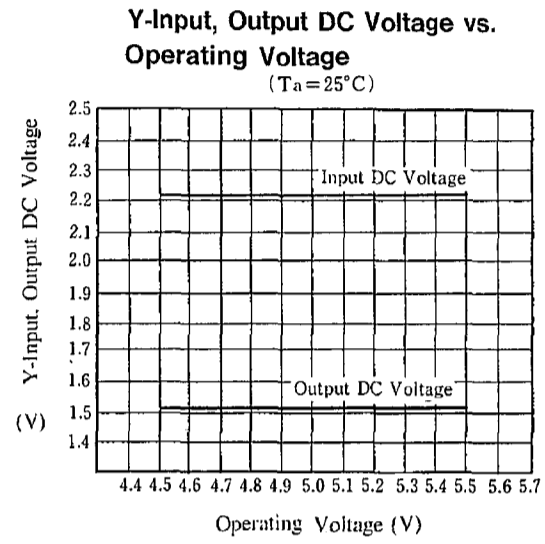
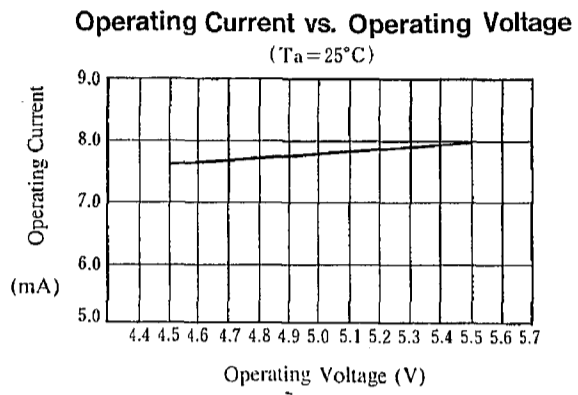
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## ■ TERMINAL FUNCTION

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 SIRE (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 $3.5\Omega$ .)							
13	SW 1	Contorol terminal for input signal switch of Y signal. <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td colspan="2">Output</td> </tr> <tr> <td><math>L_0</math></td> <td><math>V_{in 1}</math></td> </tr> <tr> <td><math>H_1</math></td> <td><math>V_{in 2}</math></td> </tr> </table>	Output		$L_0$	$V_{in 1}$	$H_1$	$V_{in 2}$	
Output									
$L_0$	$V_{in 1}$								
$H_1$	$V_{in 2}$								
14	$V_{in 1}$	Input terminal of Y signal ( $1V_{P-P}$ ). Clamp circuit is internalized and clamp voltage is about 2.15V. (Oscillation migh occire when higher impedance source. So, please contorol source impedance under $3.5k\Omega$ .)							
15	SW 4	ON/OFF control terminal of charactor signal inputted from 8 pin. <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td><math>L_0</math></td> <td>Charactor Through</td> </tr> <tr> <td><math>H_1</math></td> <td>Charactor Signal OFF</td> </tr> </table>	$L_0$	Charactor Through	$H_1$	Charactor Signal OFF			
$L_0$	Charactor Through								
$H_1$	Charactor Signal OFF								
16	Charact-Level 1								

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■ TYPICAL CHARACTERISTICS

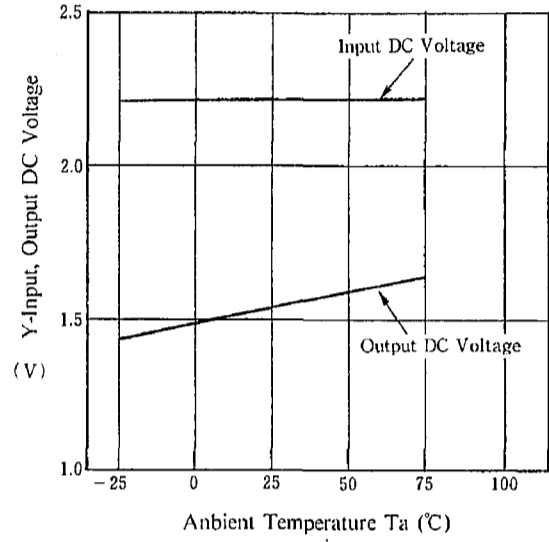


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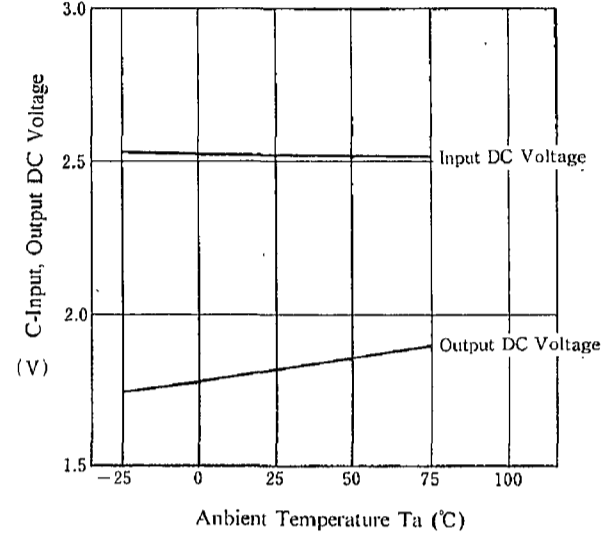
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## ■ TYPICAL CHARACTERISTICS

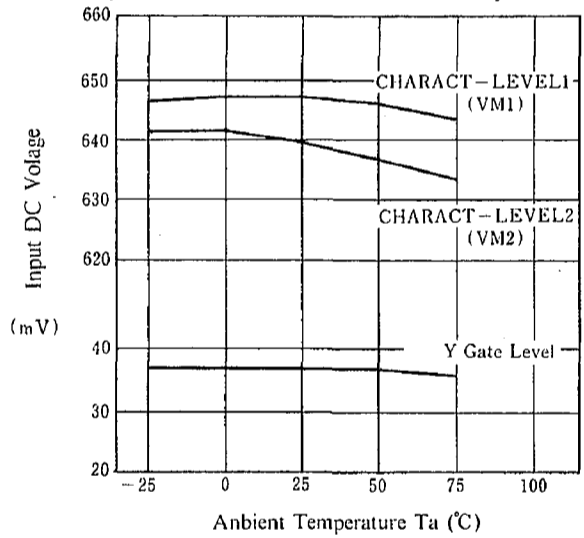
Y-Input, Output DC Voltage vs. Ambient Temperature



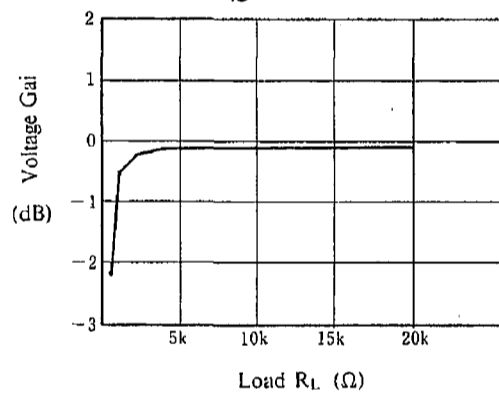
C-Input, Output DC Voltage vs. Ambient Temperature



Input DC Voltage vs. Ambient Temperature



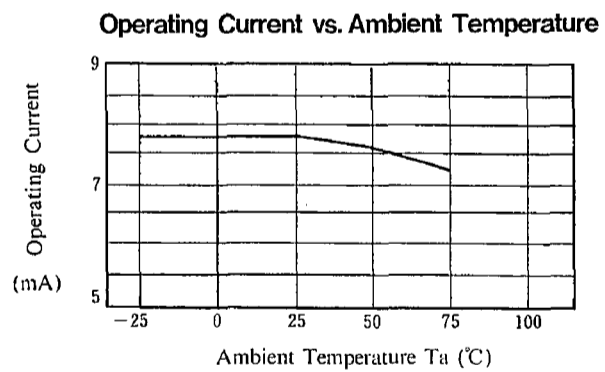
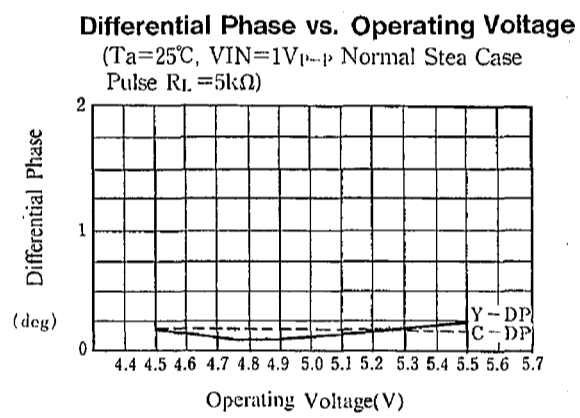
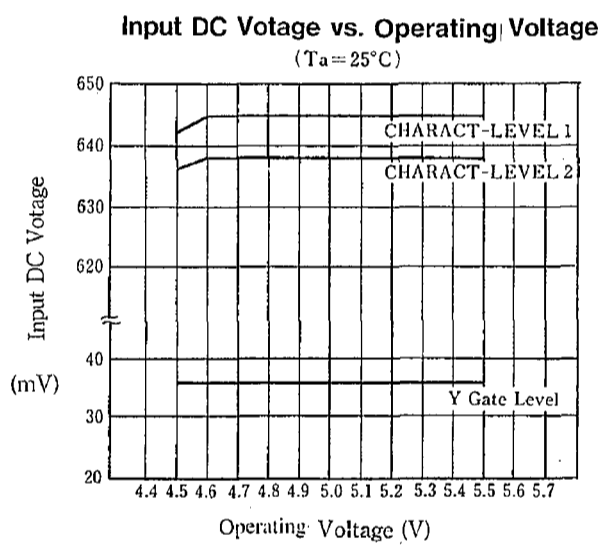
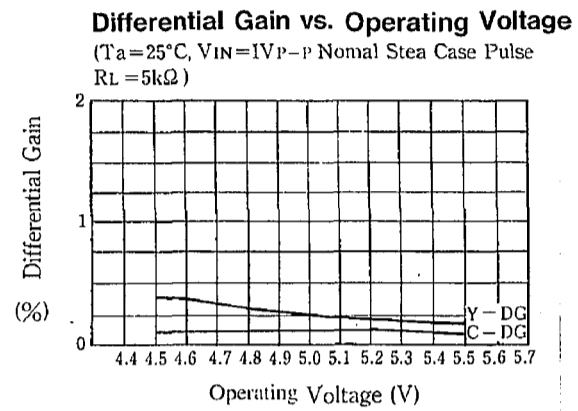
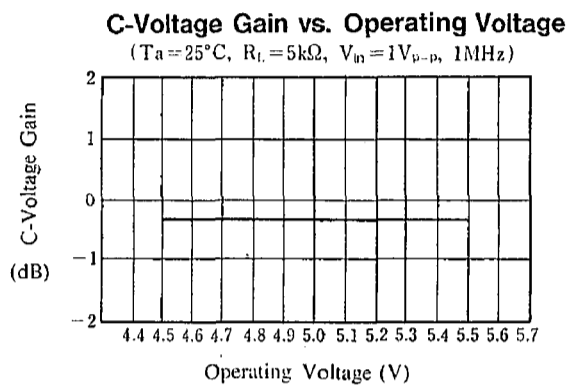
Voltage Gain vs. Load



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■ TYPICAL CHARACTERISTICS

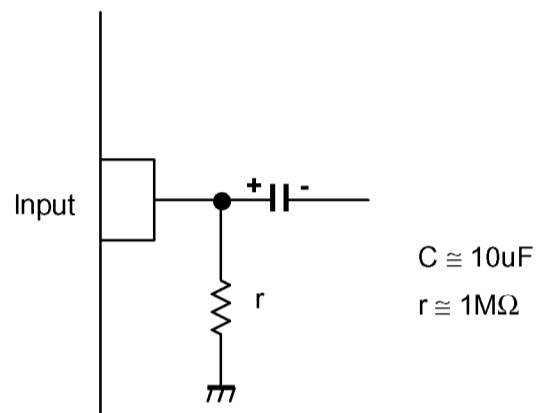


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## ■APPLICATION

This IC requires  $1M\Omega$  resistance between INPUT and GND pin for clamp type input since the minute current causes an unstable pin voltage.



[CAUTION]  
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