AN5650

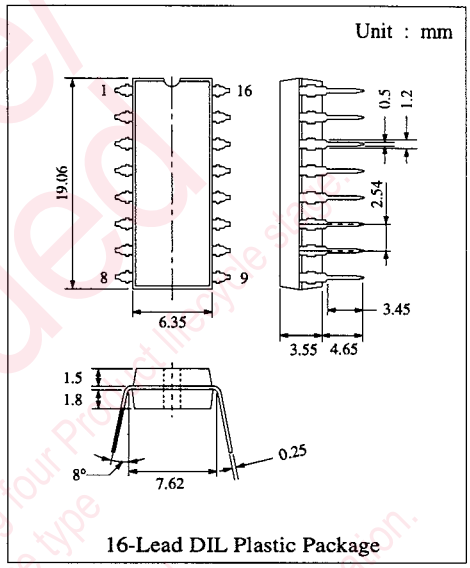
Colour TV Synchronization Signal Processing Circuit

■ Description

The AN5650 is an intergrated circuit designed for colour TV synchronizing signal processing circuit.

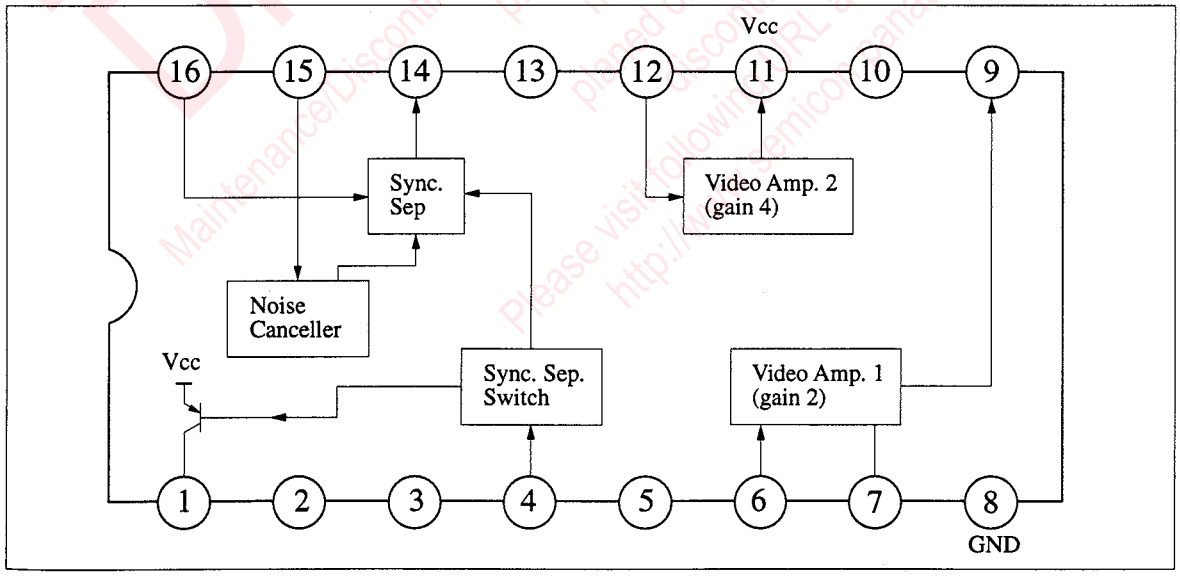
■ Features

- Built-in video signal amplifier circuit
- A synchronizing separation circuit highly stable against noise
- Built-in synchronization signal output switching circuit



16-Lead DIL Plastic Package

■ Block Diagram



■ Absolute Maximum Ratings (Ta=25°C)

Item		Symbol	Rating		Unit
Voltage	Supply Voltage	V_{13-8}	14.4		V
	Circuit Voltage	V_{1-8}	0	V_{13-8}	V
		V_{4-8}	0	V_{13-8}	V
		V_{6-8}	0	V_{13-8}	V
		V_{7-8}	0	V_{13-8}	V
		V_{12-8}	0	V_{13-8}	V
		V_{14-8}	0	V_{13-8}	V
		V_{15-8}	0	6	V
		V_{16-8}	-3	2	V
Current	Supply Current	I_{13}	40		mA
	Circuit Current	I_1	-2	0	mA
		I_7	-3	0	mA
		I_9	-5	0	mA
		I_{11}	-5	0	mA
		I_{14}	0	10	mA
		I_{16}	-1	1	mA
Power Dissipation		P_D	560		mW
Operating Ambient Temperature		Topr	-20 ~ +70°C		°C
Storage Temperature		Tstg	-55 ~ +150°C		°C

■ Electrical Characteristics (Ta=25°C)

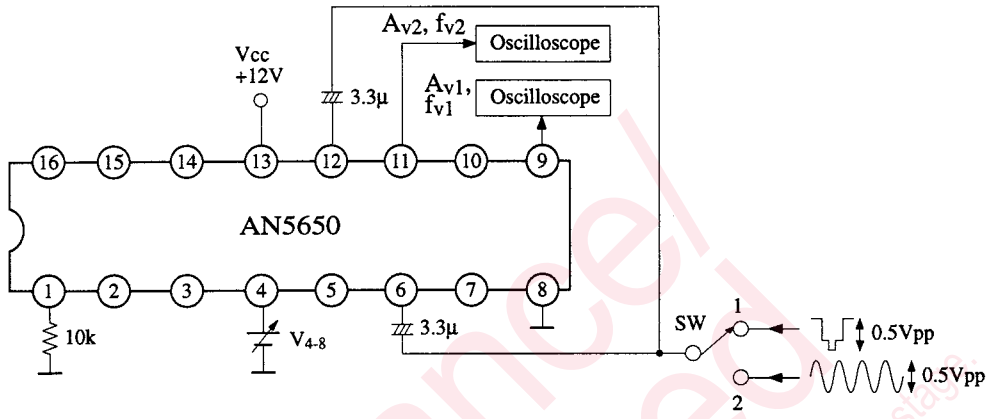
Item	Symbol	Test Cct	Condition	min.	typ.	max.	Unit
Voltage Gain (Video Amp. 1)	A_{v1}	1	Video signal input 0.5Vpp SW1	1.5	1.9	2.3	times
Voltage Gain (Video Amp. 2)	A_{v2}	1	Video signal input 0.5Vpp SW2	3.4	3.9	4.3	times
Frequency Characteristics (Video Amp. 1)	f_{v1}	1	Sine wave input 0.5Vpp SW2 input frequency when A_{V1} becomes -3dB	5			MHz
Frequency Characteristics (Video Amp. 2)	f_{v2}	1	Sine wave input 0.5Vpp SW2 input frequency when A_{V2} becomes -3dB	5			MHz
Switch Operating Voltage	V_{4-8}	1	Switch input voltage when switch output becomes 0.7V or more	1.5			V
Max. Allowable Input (Video Amp. 1)	$V_{in(max.)1}$	1	APL = 50%			1.9	Vpp
Max. Allowable Input (Video Amp. 2)	$V_{in(max.)2}$	1	APL = 50%			1.4	Vpp
Sync. Sep. Input*	V_{in3}	2	Vcc = 12V, APL = 50%	1.0		2.5	Vpp

* Design reference value

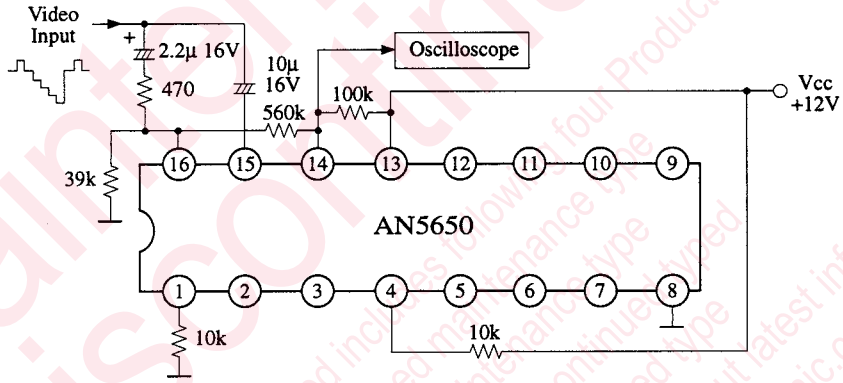
■ Pin Description

Pin No	Pin Name	Pin No	Pin Name
1	Switch Output	9	Video Signal Output 1
2	NC	10	NC
3	NC	11	Video Signal Output 2
4	Sync. Sep. Switch Input	12	Video Signal Input 2
5	NC	13	Vcc
6	Video Signal Input 1	14	Sync. Sep. Output
7	Gain Control	15	Noise Det. Input
8	GND	16	Video Signal Input 3

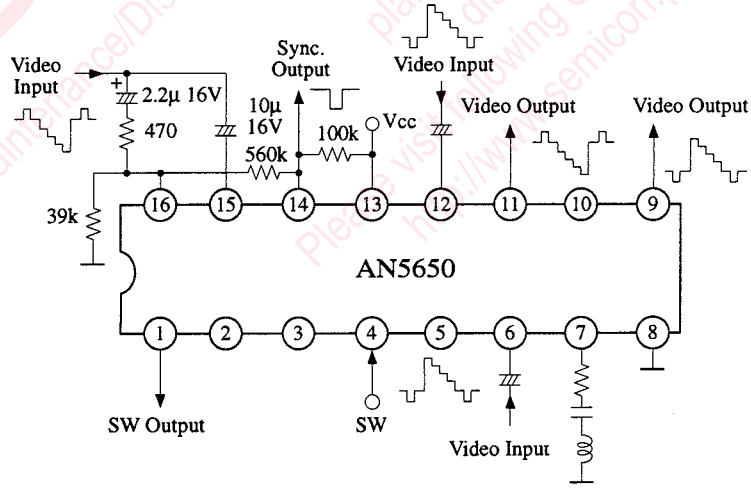
Test Circuit 1 (A_{v1}, A_{v2}, f_{v1}, f_{v2}, V_{4-8}, $V_{in(max.)1}$, $V_{in(max.)2}$)



Test Circuit 2 (V_{in3})



■ Application Circuit



(When input is high, Sync. Sep. and SW Output Operates.)

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