

AN6398, AN6398S

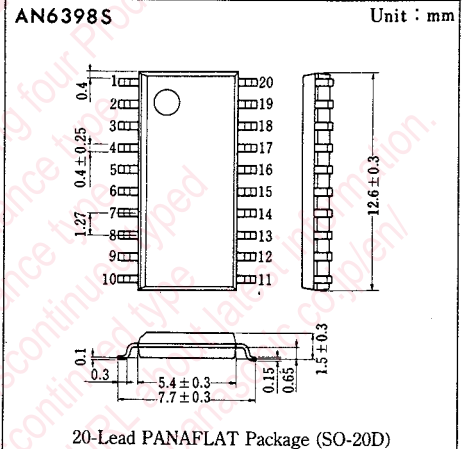
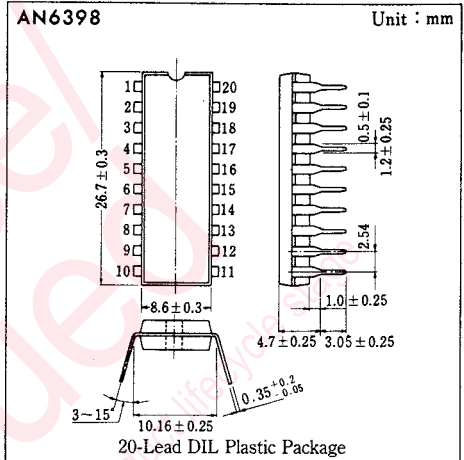
VTR SECAM Color Killer Circuits

■ Outline

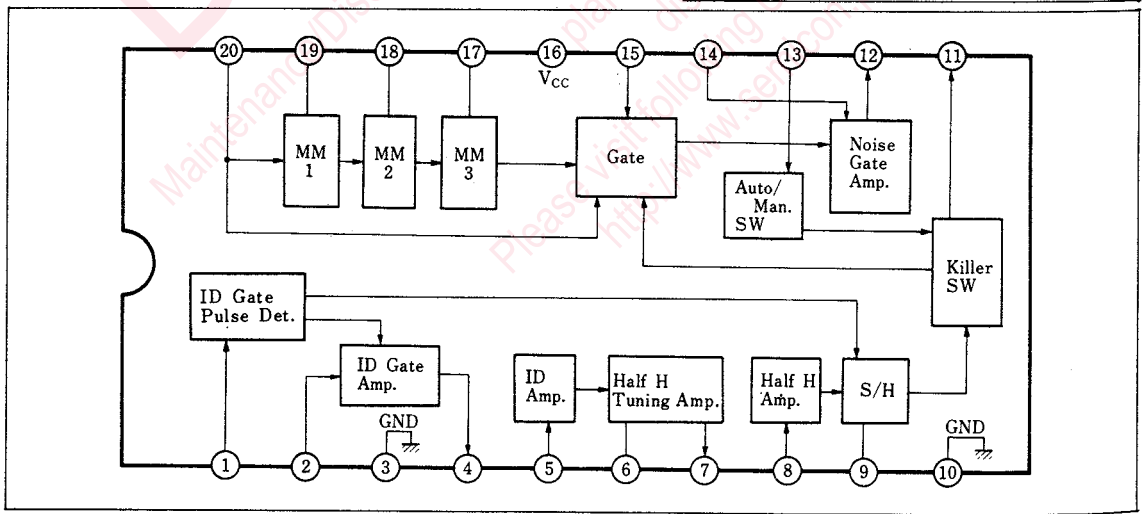
The AN6398 and the AN6398S are integrated circuit designed for VTR SECAM killer and constitute a VTR SECAM-system color signal processing circuit by combining with the AN6397 or the AN5397S.

■ Features

- The functions consist of :
 - Noise-gate circuit
 - SECAM-killer circuit
- Supply voltage : 5V



■ Block Diagram



■ Pin

Pin No.	Pin Name	Pin No.	Pin Name
1	ID Gate Pulse	11	Killer Output
2	Chroma Input (II)	12	Chroma Output
3	GND	13	Auto/Manual SW
4	ID Gate Output	14	Chroma Input (I)
5	Trap Filter Output	15	V Blank Pulse Input
6	Filter	16	V _{cc}
7	Half f _H Tuning Amp. Output	17	MM3 Control
8	Half f _H Input	18	MM2 Control
9	S & H	19	MM1 Control
10	GND	20	H Sync. Pulse Input

■ Absolute Maximum Ratings (Ta=25°C)

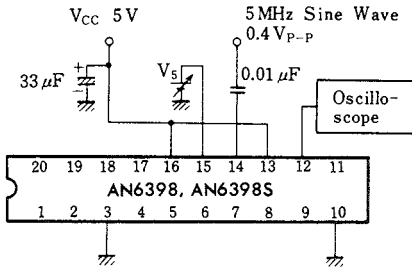
Item	Symbol	Rating	Unit
Supply voltage	V _{CC}	6.0	V
Power dissipation (Ta=70°C)	P _D	250	mW
Operating ambient temperature	T _{opr}	-20~+70	°C
Storage temperature	T _{stg}	-40~+125	°C

■ Electrical Characteristics (V_{CC}=5V, Ta=25°C±2°C)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Total circuit current	I _{tot}	1		22		43	mA
ID gate pulse input sensitivity	S _I	2		2			V _{P-P}
Forced color input voltage	V _{I(H-13)}	3		4.5		5	V
Forced monochrome input voltage	V _{I(L-13)}	4		0		0.5	V
Lead-in current (Killer mode)	I _{O-11}	4	Pin ⑩ 0.3V	0.5		2	mA
Monochrome evaluation level (Killer mode)	S _(B/W-9)	5				1.3	V
Color evaluation level (Killer mode)	S _(Color-9)	5		2.2			V
H Sync. pulse input voltage (High)	V _{IH-20}	6		3.5		5	V
H Sync. pulse input voltage (Low)	V _{IL-20}	6		0		0.5	V
V blank pulse input voltage (High)	V _{IH-15}	7		3		5	V
V blank pulse input voltage (Low)	V _{IL-15}	7		0		0.3	V
Gate amp. gain	G _{V-12}	8	Pin ⑭ input 400 mV _{P-P}	1		6	dB
Gate amp. cross talk	CT ₁₂	8				-30	dB
Gate amp. offset voltage	V _{offset}	9		-50		+50	mV

Note) Operating supply voltage range V_{CC(opp)}=4.5~5.5V

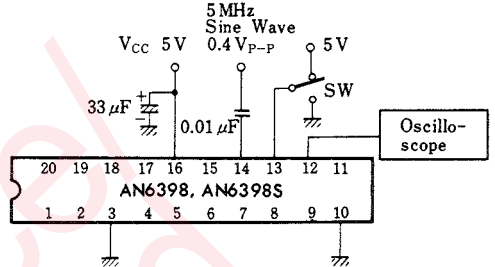
Test Circuit 7 (V_{IH-15} , V_{IL-15})



V_{IL-15} : Pin 15 voltage to output a sine wave of about $0.6V_{P-P}$ to the Pin 12

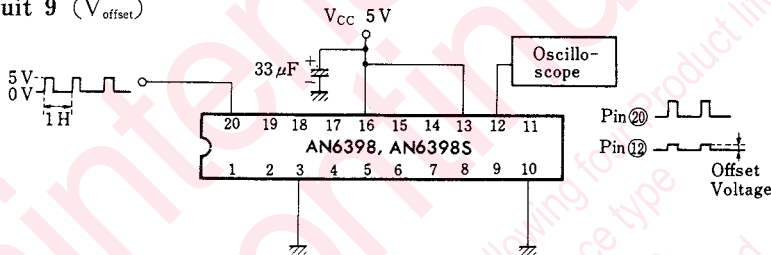
V_{IH-15} : Pin 15 voltage not to output the signal of the level above to the Pin 12

Test Circuit 8 (G_{V-12} , CT_{12})

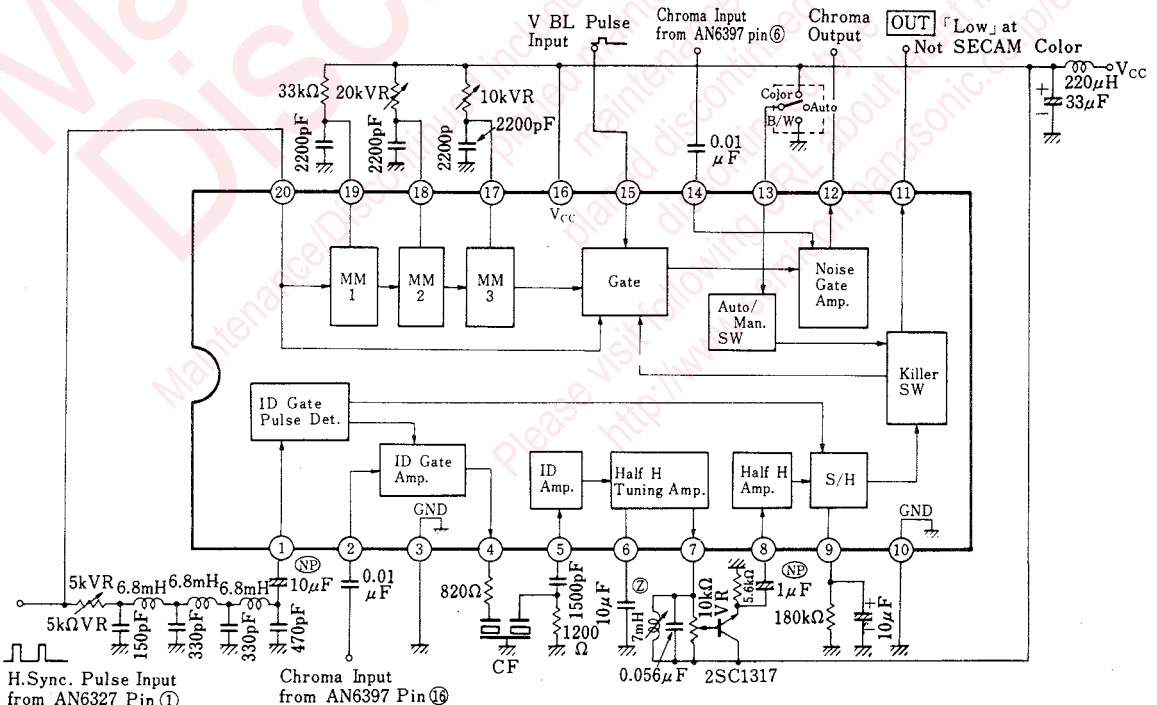


G_{V-12} : Ratio of Pin 12 output amplitude and Pin 14 input amplitude when the Pin 13 is set to 5V

Test Circuit 9 (V_{offset})



Application Circuit

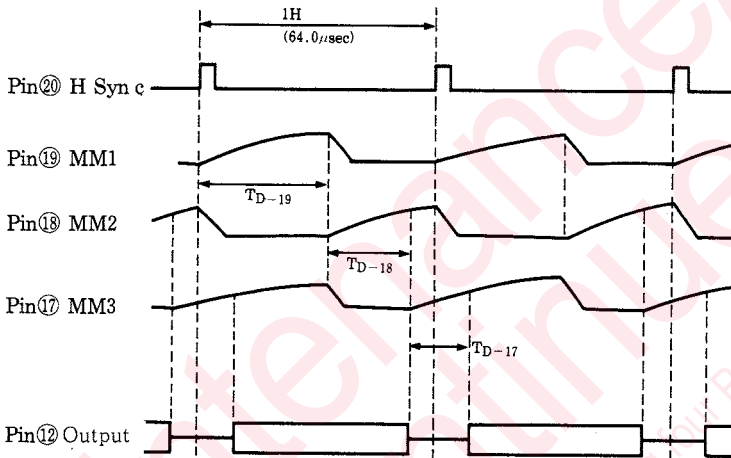


Precautions for Use

1) MM1, MM2 and MM3 delay times

$$T_D = C_x \cdot R_x \cdot \ln 2 \quad C_x \begin{matrix} \blacktriangle \\ \blacktriangledown \end{matrix} \begin{pmatrix} C_x \text{ and } R_x \text{ are external constant} \\ \text{values for each MM} \end{pmatrix}$$

2) MM1 through MM3 standard setting



- * $1H - (T_{D-19} + T_{D-18}) = 1.5 \mu s$
- * $(T_{D-18} + T_{D-18} + T_{D-17}) - H = 5.3 \mu s$
- * A lead-in current for each MM is 0.3 to 4.0mA.

3) Half H frequency adjustment

Use LC so that a value of Pin⑦ external LC will be $\frac{f_H}{2} = \frac{1}{2\pi\sqrt{LC}}$

4) Half H level adjustment

For a value the Pin⑦ external variable resistor, make adjustment so that Pin⑑ input signal level will be $0.90V_{p-p}$ when inputting a standard-level signal to combined AN6397 and inputting the standard-level signal to the Pins① and ② of AN6398.

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