

AN6366NK, AN6366NS

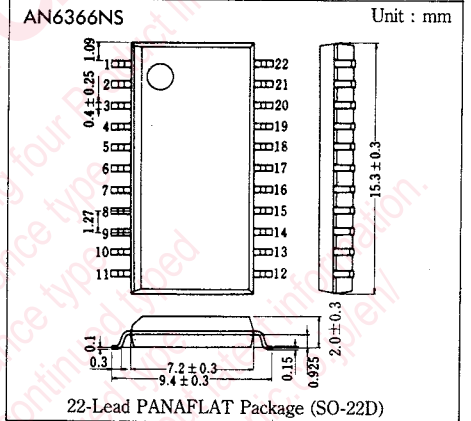
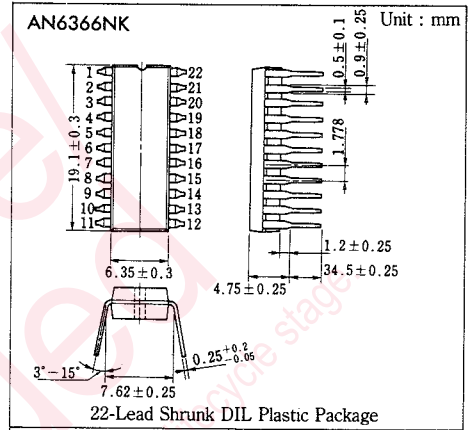
VTR Color Signal Processing Circuits for NTSC System

■ Outline

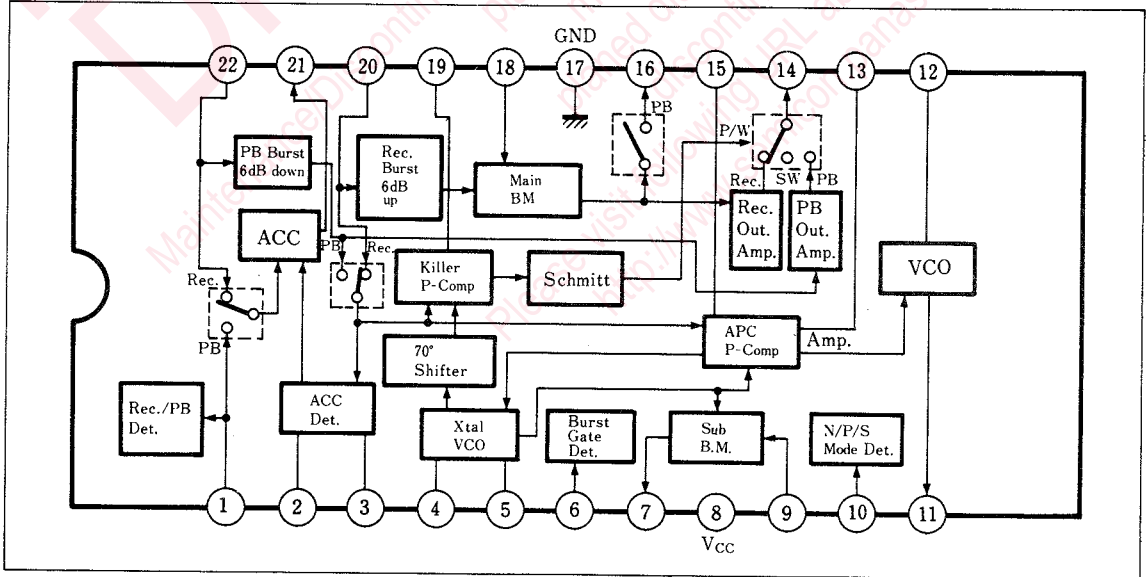
The AN6366NK and The AN6366NS by combining with the MN6163A, are integrated circuits provided with the function which processes VTR color signals matching each mode of 2H/4H/6H in the NTSC system.

■ Features

- Operated by low supply voltage : $V_{cc}=5V$
- Low power consumption(110mW)
- AFC+APC system during recording mode Only APC system during playback mode
- Better S/N ratio by chroma ACC(2H/6Hmode)



■ Block Diagram



■ Absolute Maximum Ratings (T_a=25°C)

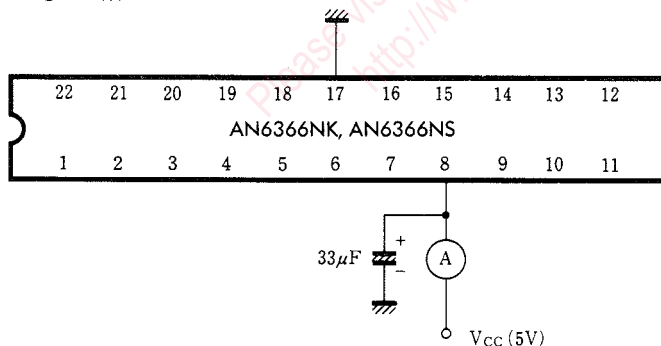
Item	Symbol	Rating	Unit
Supply voltage	V _{CC}	6	V
Power dissipation (T _a =70°C)	P _D	250	mW
Operating ambient temperature	T _{opr}	-20~+70	°C
Storage temperature	T _{stg}	-40~+150	°C

■ Electrical Characteristics (T_a=25°C)

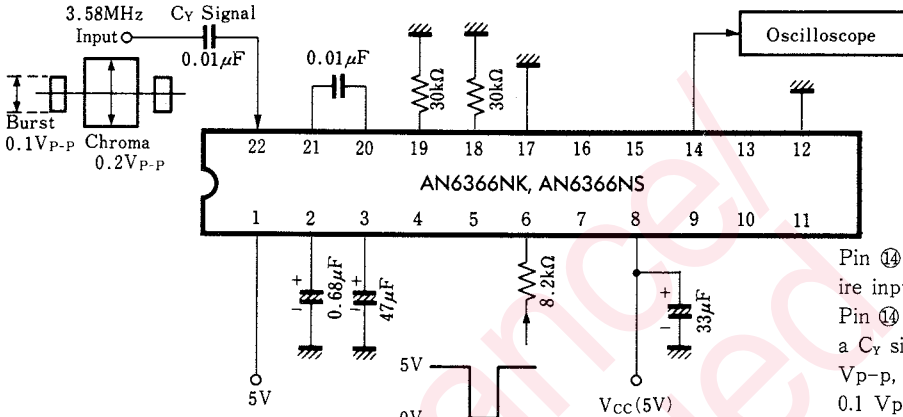
Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Total circuit current	I _{tot}	1	V _{CC} =5V	15		32	mA
REC output amplitude (Burst ACC)	v _{O14-R}	2	V _{CC} =5V, Pin ② Input Burst 0.1V _{P-P}	0.5		1.2	V _{P-P}
REC ACC control sensitivity (Burst ACC)	β _{AGC-B}	2	V _{CC} =5V, +6dB~-15dB			3	dB
Chroma ACC	β _{AGC-C}	2	V _{CC} =5V	0.5		4.5	dB
Main BM amp. gain	G _{V-16}	3	V _{CC} =5V, Pin ⑩ Input 0.5V _{P-P}	4		9	dB
Main BM carrier leak	CL ₁₆	4	V _{CC} =5V			-33	dB
Burst emphasis amount	G _{E11}	5	V _{CC} =5V, Pin ⑩ Input 0.25V _{P-P}	5		7	dB
REC current up rate	G _{REC}	5	V _{CC} =5V, Pin ⑩ Input 0.25V _{P-P}	0.5		2.5	dB
PB output amplitude (2H)	v _{O14-P}	6	V _{CC} =5V, Pin ① Input 0.2V _{P-P}	0.2		0.55	V _{P-P}
Burst de-emphasis amount	G _{DE}	6	V _{CC} =5V, Pin ① Input 0.2V _{P-P}	-6.5		-4.5	dB
PB/REC cross talk	CT _{14-P}	7	V _{CC} =5V			-40	dB
REC control voltage	S _{I-REC}	7	V _{CC} =5V	4.6			V
Sub BM amp. gain	G _{V-7}	8	V _{CC} =5V, Pin ⑨ Input 0.65V _{P-P}	1		5	dB
Sub BM carrier leak	CL ₇	9	V _{CC} =5V			-35	dB
Killer sensitivity (ON)	K _{gate1}	10	V _{CC} =5V, Pin ② Input 0dB=0.25V _{P-P}	-22			dB
Killer sensitivity (OFF)	K _{gate2}	10	V _{CC} =5V, Pin ② Input 0dB=0.25V _{P-P}			-10	dB
Killer output (LOW)	V _{14-L}	10	V _{CC} =5V			0.5	V
VCO FREE frequency	f _{OSC}	11	V _{CC} =5V	3		7	MHz
VCO control sensitivity	β ₂	11	V _{CC} =5V	1.5		3.5	kHz/mV
VCO output amplitude	v _{O11}	11	V _{CC} =5V	0.4			V _{P-P}
REC Pull in range (H)	f _{APC-H}	12	V _{CC} =5V	500			Hz
REC Pull-in range (L)	f _{APC-L}	12	V _{CC} =5V			-500	Hz
2H mode range	S ₁₀₋₁	13	V _{CC} =5V			0.6	V
4H mode range	S ₁₀₋₂	13	V _{CC} =5V	1.6		2	V
6H mode range	S ₁₀₋₃	13	V _{CC} =5V	3.2		3.6	V

Note) Operating supply voltage: V_{CC(oper)} = 4.5~5.5V

Test Circuit 1 (I_{tot})

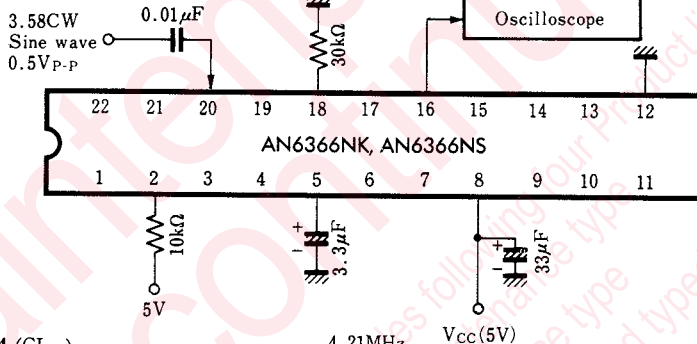


Test Circuit 2 (v_{O14-R} , β_{AGC-B} , β_{AGC-C})

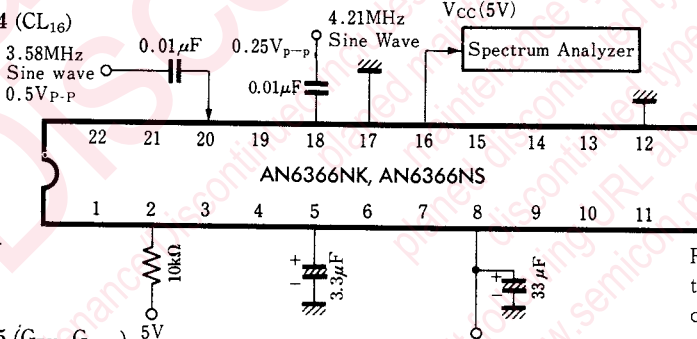


Pin ⑭ output ratio when entire input is +6 dB and -15 dB
 Pin ⑭ Burst output ratio when a C_Y signal is 0.2 V_{p-p} and O V_{p-p}, with constant Burst of 0.1 V_{p-p}

Test Circuit 3 (G_{V-16})

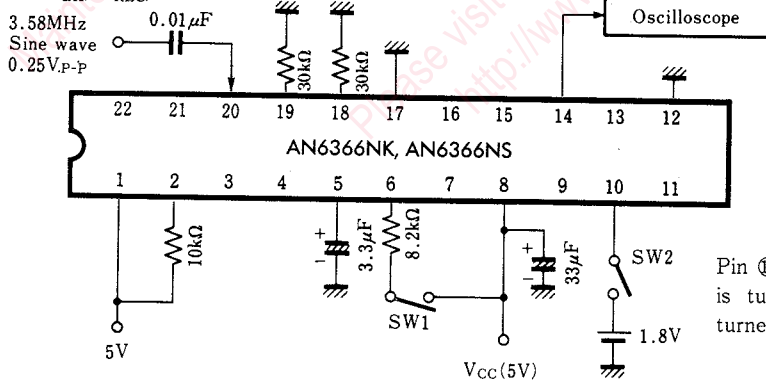


Test Circuit 4 (CL_{16})



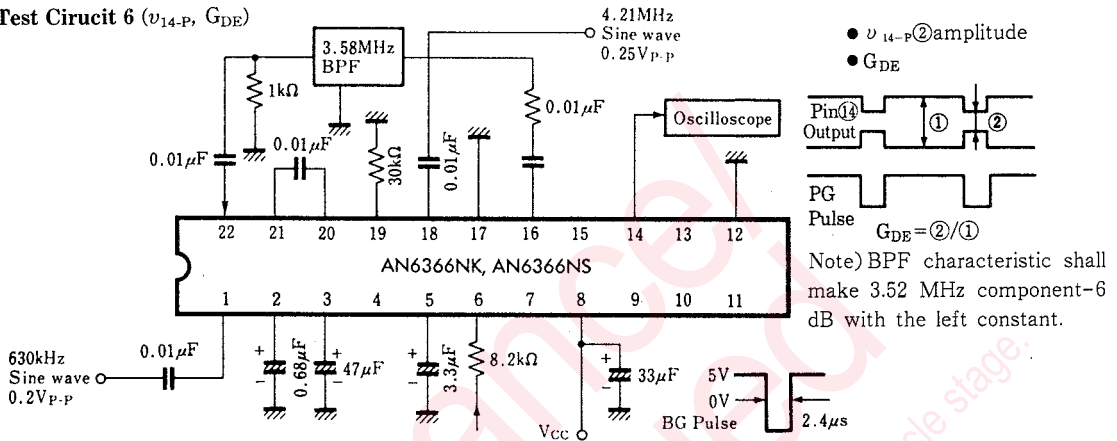
Ratio of 4.21 MHz component to Pin ⑯ 3.58 MHz output component

Test Circuit 5 (G_{EH} , G_{REC})

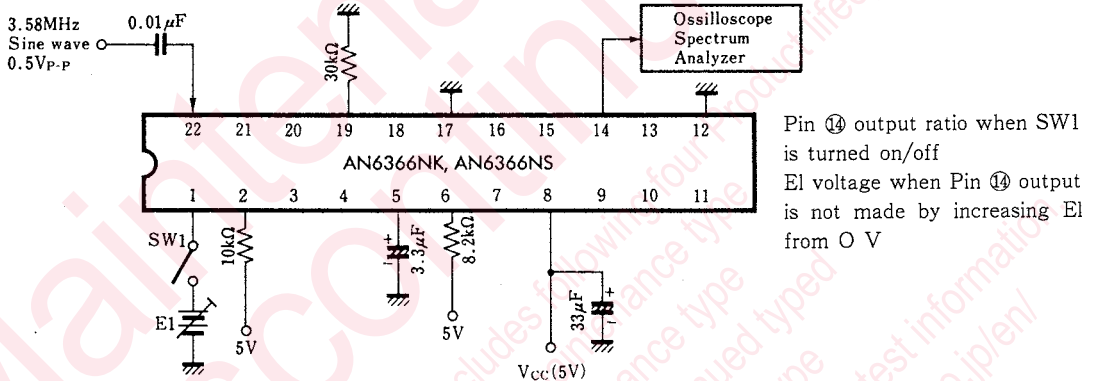


Pin ⑭ output ratio when SW1 is turned on/off with SW2 turned off

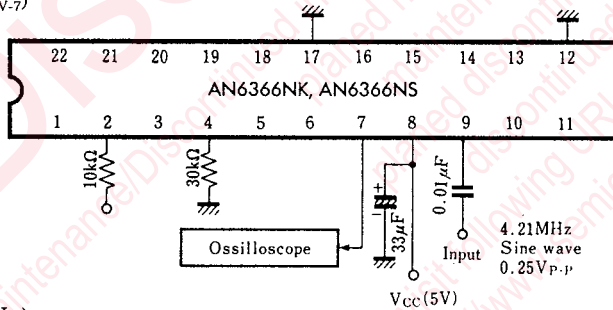
Test Circuit 6 (V_{14-P} , G_{DE})



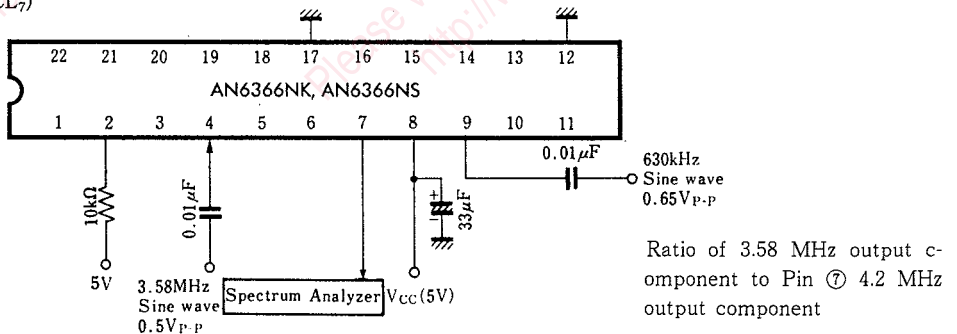
Test Circuit 7 (CT_{14-P} , S_{1-REC})



Test Circuit 8 (G_{V-7})



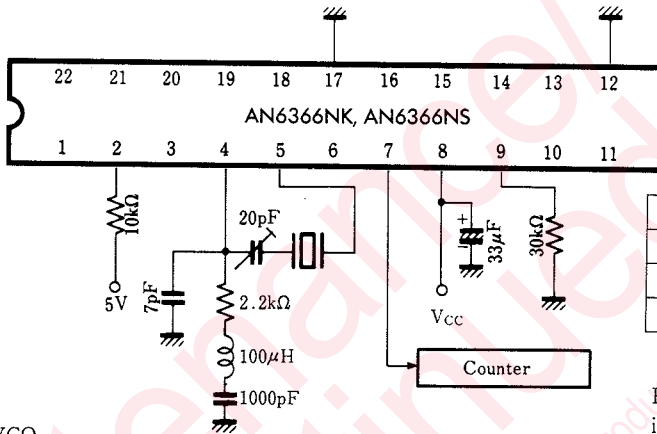
Test Circuit 9 (CL_7)



Precautions for Use

- (i) Allowable power supply range : 4.5V to 5.5 V
- (ii) Adjusting X'tal VCO

In the PB mode, connect 30 kΩ between the Pin ⑨ and, GND, and adjust a trimmer so that a Pin ⑦ frequency will be 3.579545 MHz.

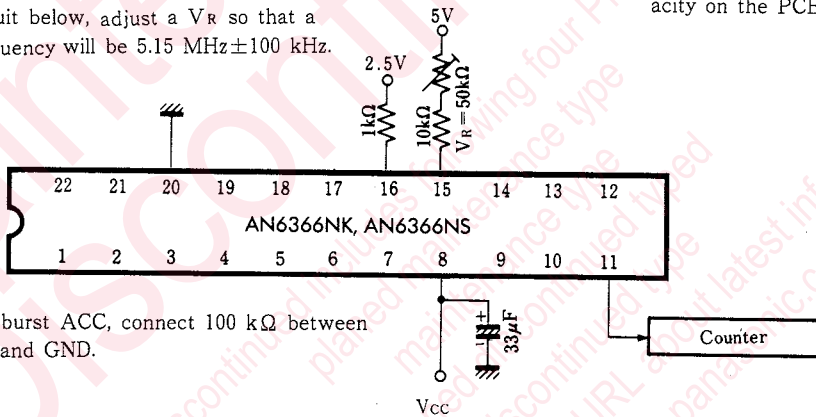


	NTSC	3 Systems
R	2.2kΩ	1.8kΩ
L	100 μF	47 μF
C	1000pF	1000pF

Note) For 7PF between the Pin ④ and GND, select taking into account an optimum capacity on the PCB, etc.

(iii) Adjusting VCO

In the circuit below, adjust a V_R so that a pin ⑩ frequency will be 5.15 MHz ± 100 kHz.



(iv) For forced burst ACC, connect 100 kΩ between the Pin ③ and GND.

■ Pin

Pin No.	Pin Name	Pin No.	Pin Name
1	PB Chroma Input Rec. Changeover Input	12	VCO Frequency Adjustment
2	ACC Burst Det.	13	VOC Control Terminal
3	ACC Ref. Level	14	Chroma Output
4	X'tal Osc. Input	15	X'tal APC Control Terminal
5	X'tal Osc. Output	16	PB Main BM Output
6	Burst Gate Pulse Input	17	GND
7	Sub. BM Output	18	Main BM Input
8	V _{cc}	19	Killer Control Terminal
9	Sub BM Input	20	ACC Input
10	2H/4H/6H Mode Selective Input	21	ACC Output
11	VCO Output	22	3.58MHz Chroma Input

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