

AN3223K

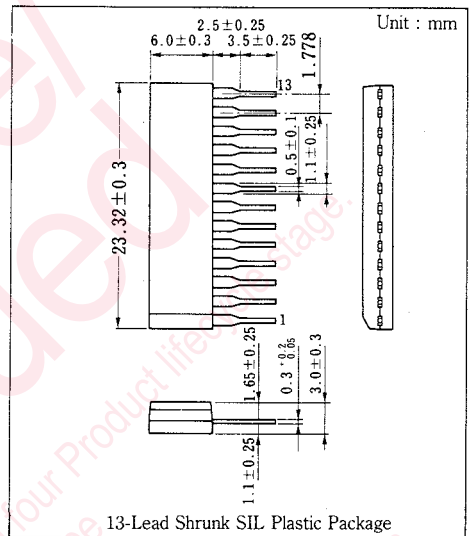
Recording Amplifier Circuit for Video Signal (2-Head Type)

■ Outline

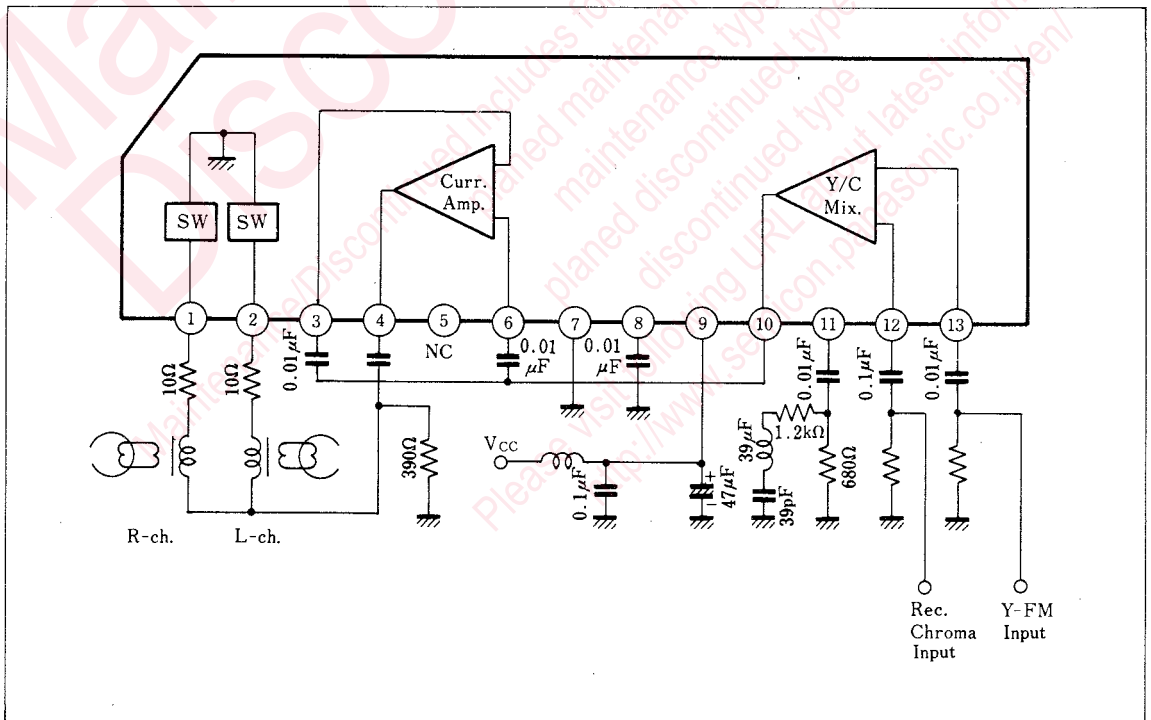
The AN3223K is an integrated circuit designed for recording amplifier circuit for video signal (2-head type).

■ Features

- Built-in switching transistor
- Supply voltage : $V_{cc}=12V$



■ Block Diagram



■ Pin

Pin No.	Pin Name	Pin No.	Pin Name
1	ON Switch 1 at Rec.	8	DC Monitor Terminal
2	ON Switch 2 at Rec.	9	V _{CC}
3	Current Amplifier Input	10	Y/C Mix Amplifier Input
4	Output	11	Gain Control
5	NC	12	Chrominance Input
6	Current Amplifier Input	13	Y-FM Input
7	GND	-	-

■ Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Rating	Unit
Supply Voltage	V _{CC}	14.4	V
Power Dissipation(Ta=70°C)	P _D	600	mW
Operating Ambient Temperature	T _{opr}	-20~+70	°C
Storage Temperature	T _{stg}	-55~+155	°C

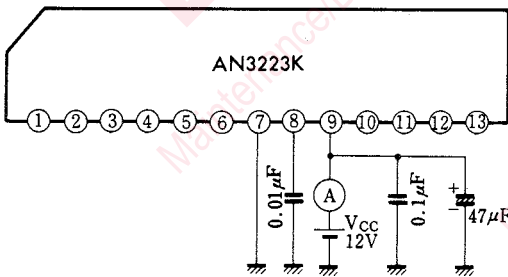
■ Electrical Characteristics (Ta=25°C)

Item	Symbol	Test Circuit	Condition	min.	typ.	max.	Unit
Total Circuit Current	I _{tot}	1	V _{CC} =12.0V	23		41.5	mA
Switching Tr. ON Voltage(I)	v ₁	2	V _{CC} =12.0V, v _i =40mV _{P-P} , 4MHz	68		128	mV _{P-P}
Switching Tr. ON Voltage(II)	v ₂	2	V _{CC} =12.0V, v _i =40mV _{P-P} , 4MHz	68		128	mV _{P-P}
Y Recording Current	I ₄	3	V _{CC} =12.0V, v _i =40mV _{P-P} , 4MHz	9.6		17.6	mA _{P-P}
Chroma Recording Current Output	I _{4C}	4	V _{CC} =12.0V, v _i =300mV _{P-P} , 1MHz	5.9		10.7	mA _{P-P}
Recording Current Rated Current Characteristics	I ₄ /I ₄	3	V _{CC} =12.0V, v _i =40mV _{P-P} , 4MHz	-0.8		0.8	dB
Recording Current Secondary Distortion	D _{2r} *	5	I _{OUT} =15mA _{P-P}			-40	dB
Composite Modulation	CM*	6	I _{Y(OUT)} =15mA _{P-P} , I _{OUT} Y/C=10dB			-40	dB

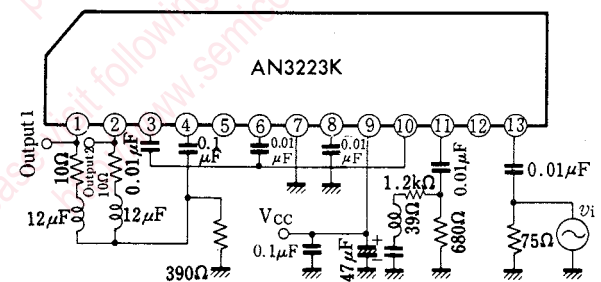
Note : Operating Supply Voltage Range : V_{CC(oper)}=10.8~13.2V

*It is a reference value but not a guaranteed value.

Test Circuit 1 (I_{tot})



Test Circuit 2 (v₁, v₂)



• Switching Tr. On Voltage (v₁, v₂)

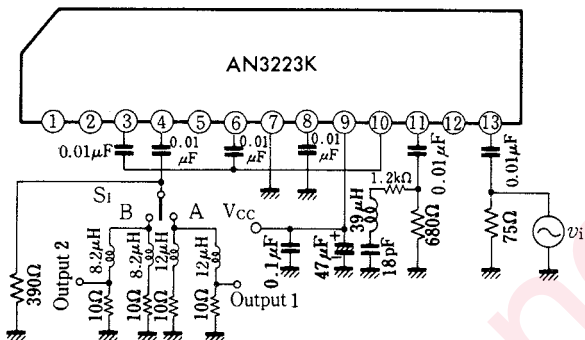
V_{CC}=12V, v_i=4MHz, 40mV_{P-P}

Measure voltages of Outputs 1 and 2 at the circuit above.

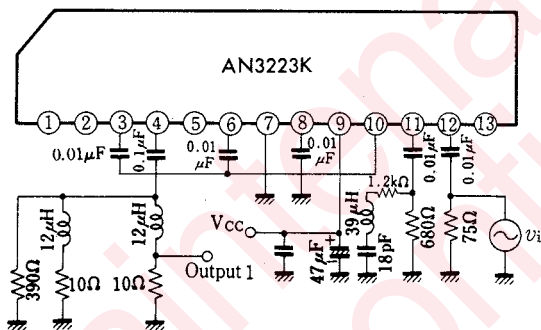
Output 1: v₁

Output 2: v₂

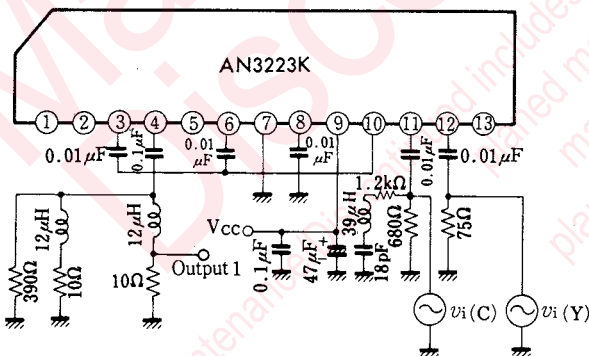
Test Circuit 3 ($I_4, I_4'/I_4$)



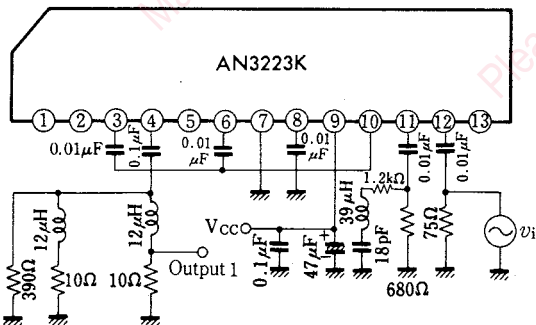
Test Circuit 4 (I_4-C)



Test Circuit 5 (D_2f)



Test Circuit 6 (CM)



• Y Recording Current (I_4)

v_i : 4MHz, 40mV_{P-P}

V_{CC} : 12V

S_1 : A

Measure the voltage of Output 1 at the circuit left, and divide it by 10Ω.

• Recording Current Rated Current Characteristics (I_4'/I_4)

v_i : 4MHz

V_{CC} : 12V

S_1 : B

Measure the voltage of Output 2 at the circuit left, and divide it by 10Ω, and compare it to I_4 .

• Chroma Recording Current (I_{4-c})

v_i : 1MHz, 300mV_{P-P}

V_{CC} : 12V

Measure the voltage of Output 1 at the circuit left, and divide it by 10Ω.

• Recording Current Secondary Distortion (D_2f)

v_i : 4MHz

V_{CC} : 12V

Adjust V_i so that I_{out} is 15mA_{P-P} and measure the secondary distortion with the spectrum analyzer.

• Composite Demodulation Distortion (CM)

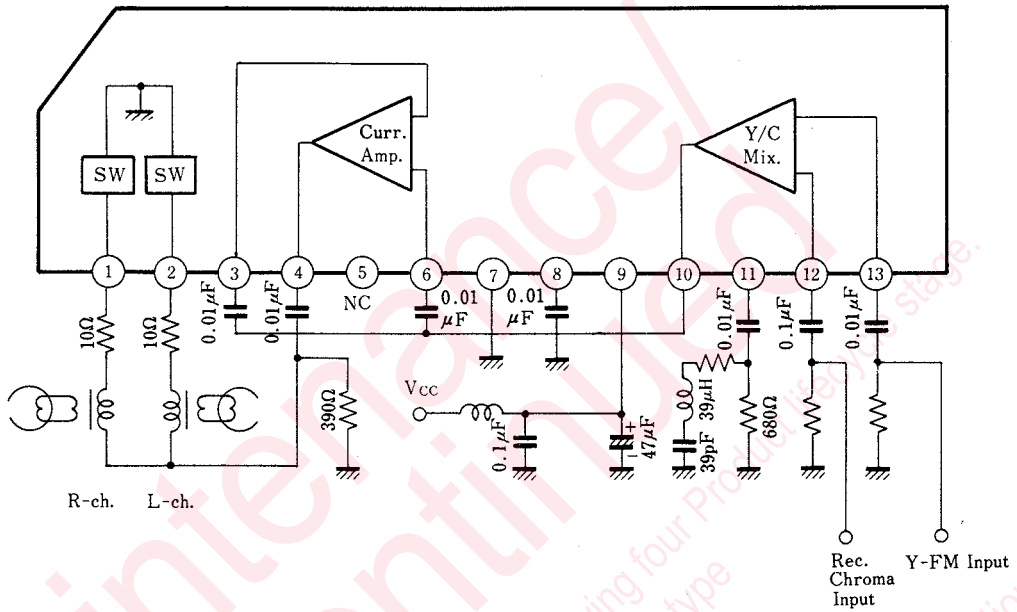
$f_{i(Y)}$: 4MHz, $f_{i(C)}$: 1MHz

V_{CC} : 12V

• Adjust $V_i(Y)$ so that the recording current output when only $V_i(Y)$ is input becomes 15mA_{P-P}. Adjust the chroma input so that $I_{out(Y)}/I_{out(C)}$ becomes 10dB.

• Measure the composite demodulation (indicating 5MHz element to 4MHz element).

■ Application Circuit



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