SONY

CXA1211M

Electronic Volume

Description

The CXA1211M is a wide band general purpose VCA. This bipolar IC incorporates 2 channels.

8 pin SOP (Plastic)

Features

- Wide band frequency characteristics: 100kHz to 20MHz (–0.5dB)
- Wide dynamic range
- Low noise, low distortion
- Low power consumption

Applications

Video signals and other wide band VCA

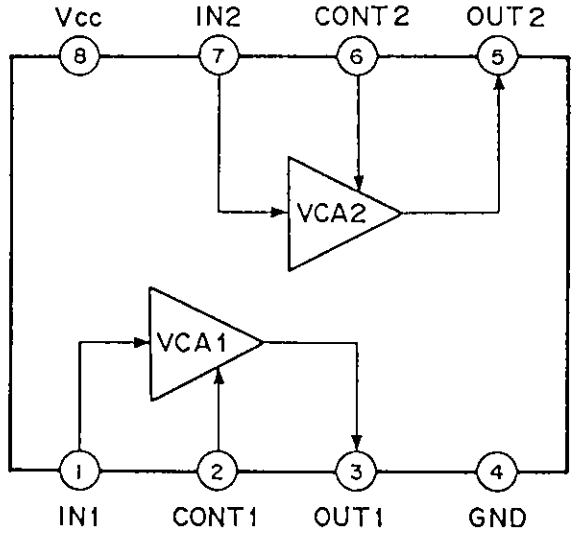
Operating Conditions

Supply voltage	Vcc	4.50 to 5.50	V

Absolute Maximum Ratings

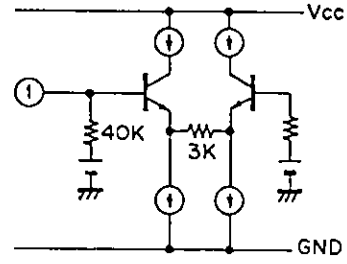
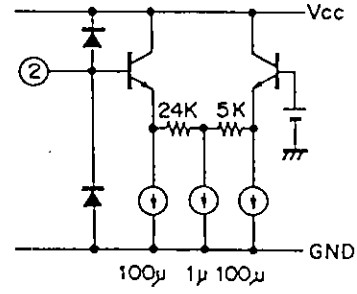
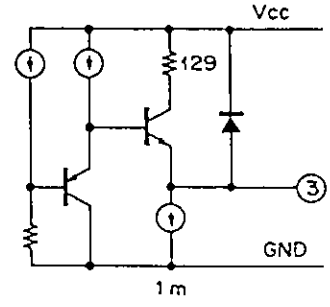
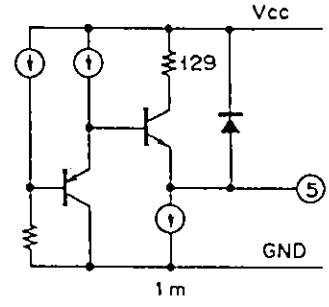
• Supply voltage	Vcc	14	V
• Operating temperature	Topr	–20 to +75	°C
• Storage temperature	Tstg	–65 to +150	°C
• Allowable power dissipation	PD	510	mW

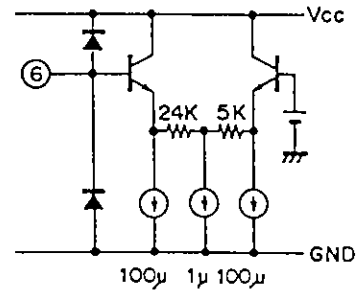
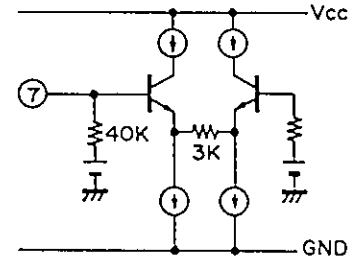
Block Diagram and Pin Configuration



E90534B57–ST

Pin Description

Pin No.	Symbol	Voltage DC	Voltage AC	I/O resistance	Equivalent circuit	Description
1	IN1	2.5V	1.0Vpp *	40kΩ		Signal input pin (CH 1)
2	CONT1	2.7V *	—			Input pin of gain control signal (CH 1). At "L" power save is possible L: 1V and below
3	OUT1	1.9V	1.0Vpp			Signal output pin (CH 1)
4	GND	0V *	—	—	—	GND pin
5	OUT2	1.9V	1.0Vpp			Signal output pin (CH 2)

Pin No.	Symbol	Voltage DC	Voltage AC	I/O resistance	Equivalent circuit	Description
6	CONT2	2.7V *	—			Input pin of gain control signal (CH 2). At "L" power save is possible L: 1V and below
7	IN2	2.5V	1.0Vpp *	40kΩ		Signal outpt pin (CH 2)
8	Vcc	5V *	—	—	—	Vcc pin

* External input

Notes on Operation

Do not fail to take the following precautions upon usage of CXA1211M.

1. Countermeasure to crosstalk between channels
   Fix a bypass capacitor to Pins CONT 1 and CONT 2 that control the amplifier gain. When the impedance of the control voltage source is visible, depending on the package volume and others, crosstalk between channels is easily generated.

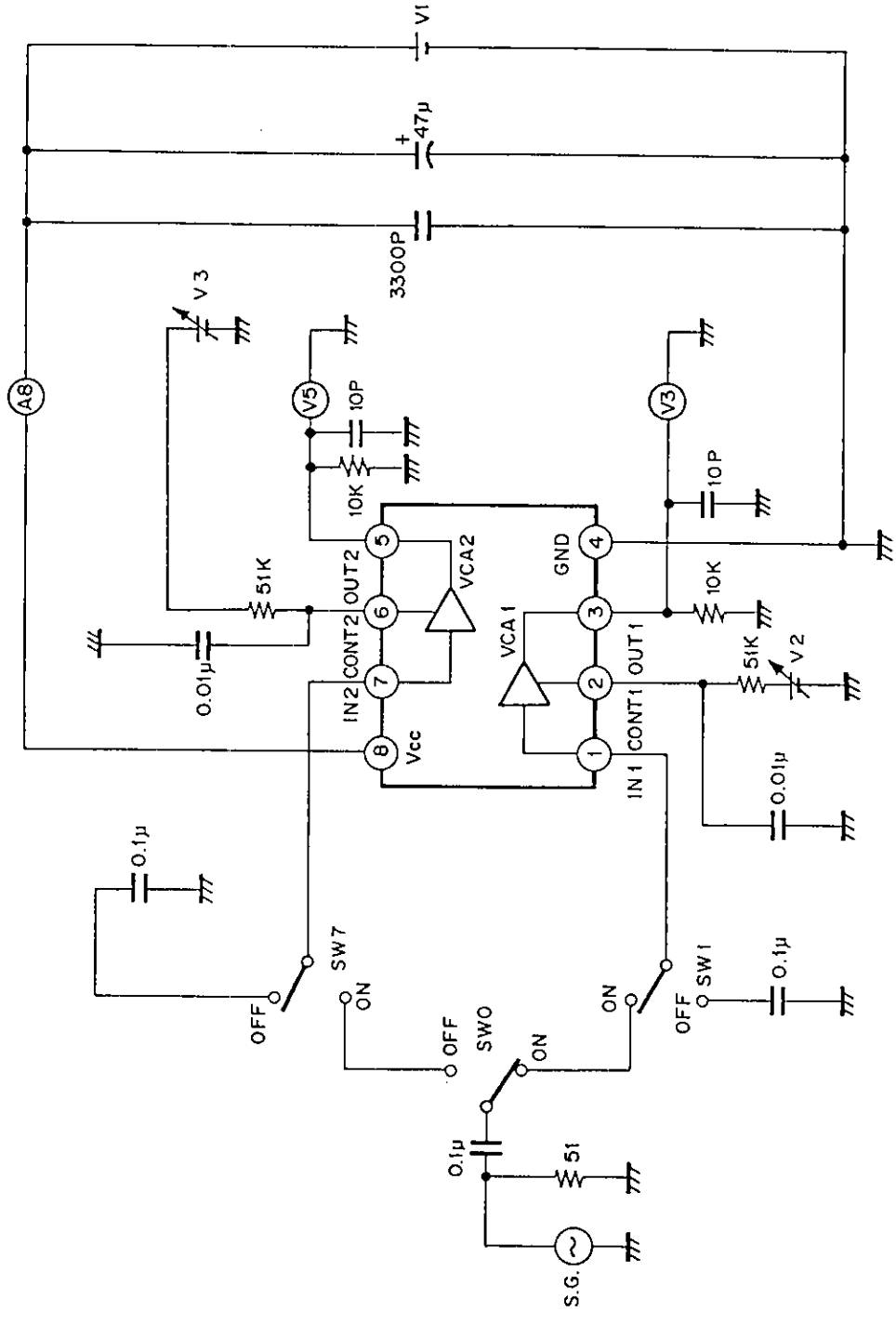
2. On the input signal dynamical range
   The input dynamical range is at a max of 1.4Vp-p. When the input signal exceeds 1.4Vp-p, the waveform may be clipped and deformed.

Electrical characteristics

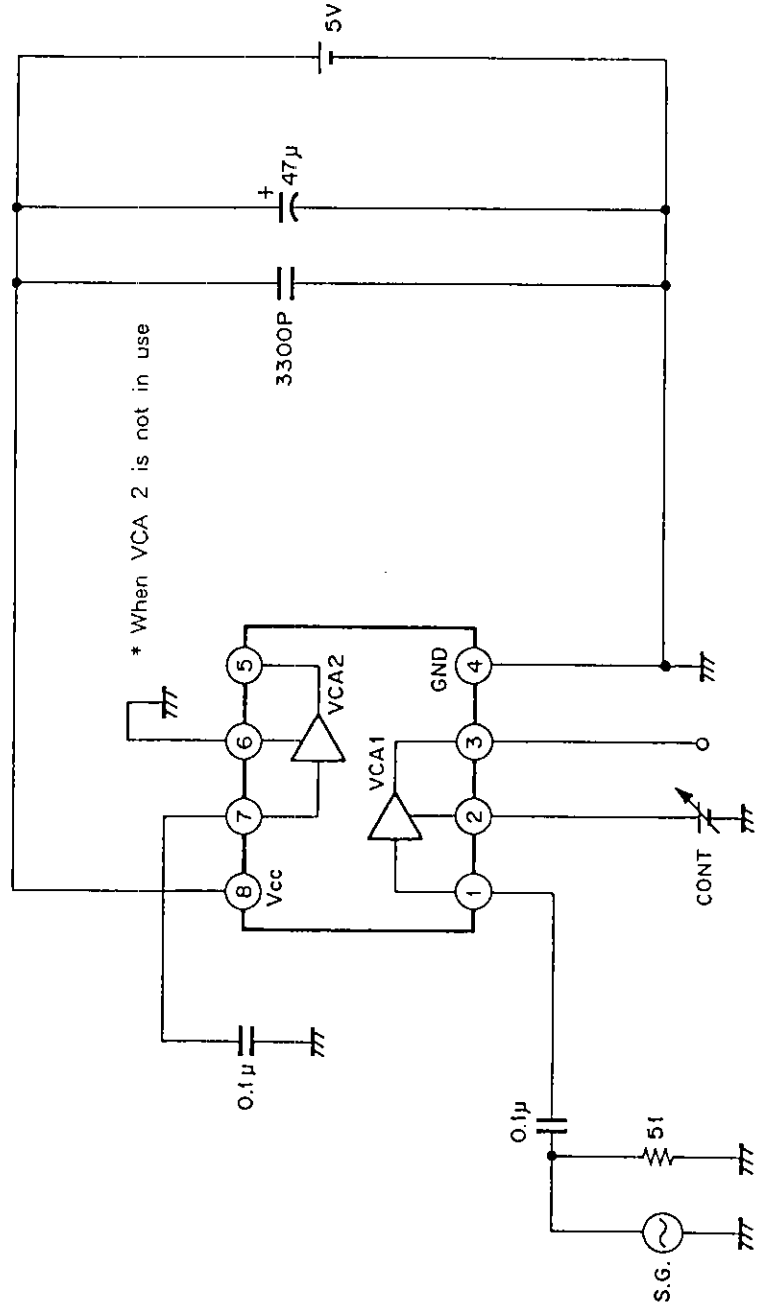
(Ta=25 °C , Vcc=5.0V, See Electrical characteristics Test Circuit)

Item		Symbol	Test Conditions					Test point	Test method	Min.	Typ.	Max.	Unit
			Input conditions			CONT voltage (V)	ON SWITCH						
			IN	Level	Freq								
Current consumption	1-ch	I_{1CH}				0	0	A8	When only 1 inch is used, ch used is set to 2.87V	2.0	4.0	6.0	mA
	Both-ch	I_{2CH}				2.87				4.5	7.5	12	
Max. gain	CH1	G_{1MAX}	1	500 mVpp	300 kHz	5.0	0, 1	3		3.0	5.0	7.0	dB
	CH2	G_{2MAX}	7				7	5					
Min. gain	CH1	G_{1MIN}	1	500 mVpp	300 kHz	1.8	0, 1	3		–7.0	–5.0	–3.0	dB
	CH2	G_{2MIN}	7				7	5					
Frequency characteristics	CH1	V_{F1}	1	500 mVpp	300k to 20M	2.87	0, 1	3	$\frac{\text{20MHz level}}{\text{300kHz level}}$	–1.0		+1.3	dB
	CH2	V_{F2}	7				7	5					
Distortion 1	CH1	D_{1CH}	1	1.0 Vpp	5.0 MHz		0, 1	3	Adjust CONT to obtain 1.0Vp-p at output		–40		dB
	CH2	D_{2CH}	7				7	5					
S/N	CH1	N_{1CH}	1	0.5 Vpp	100k to 4.2M	1.8	0, 1	3	Test at no signal condition		61		dB
	CH2	N_{2CH}	7				7	5					

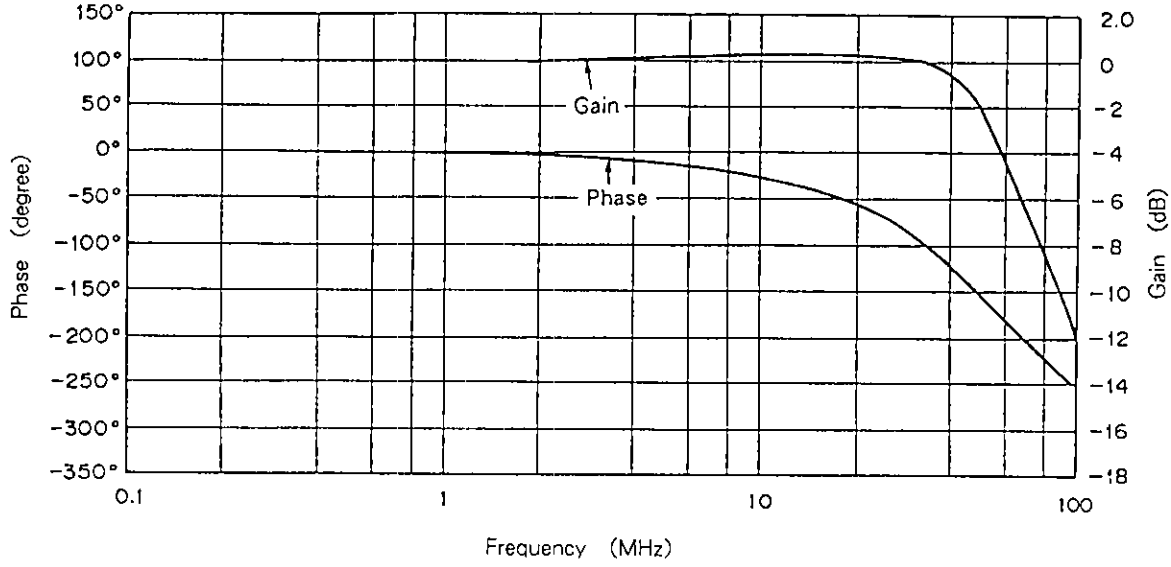
Electrical Characteristics Test Circuit



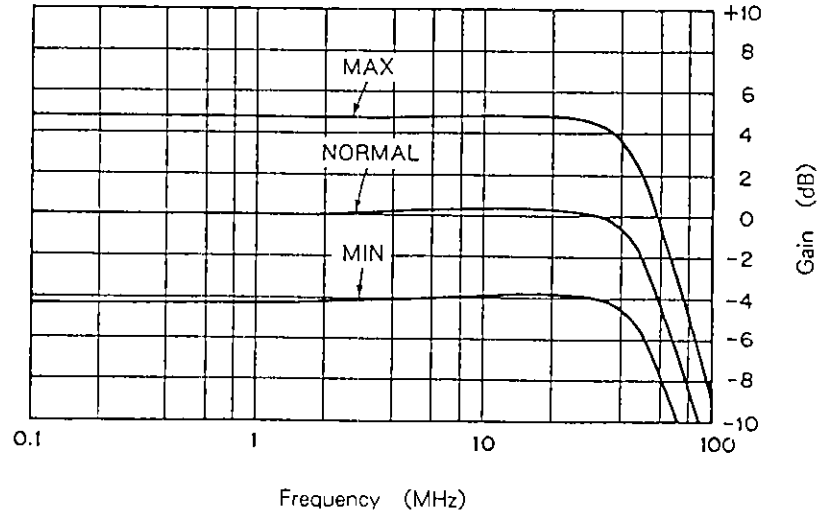
Application Circuit



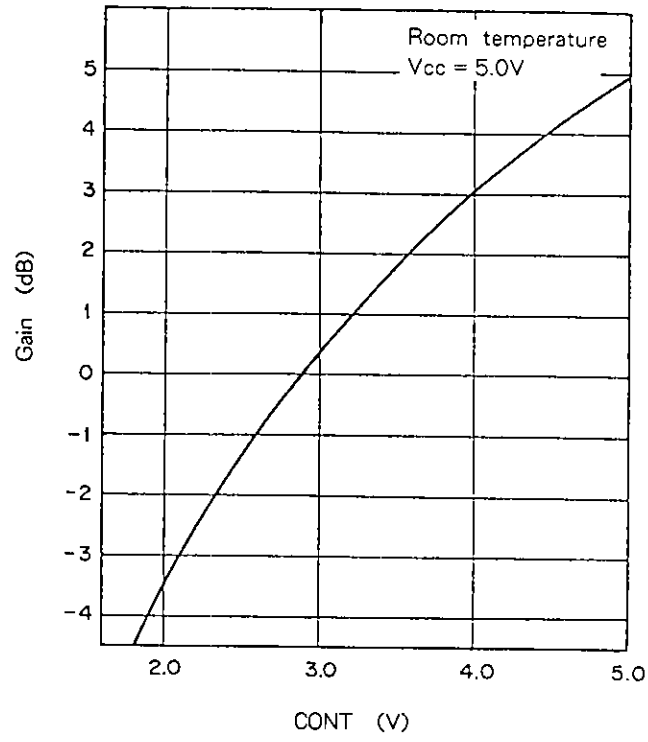
Frequency Characteristics 1 (When Gain=0dB)



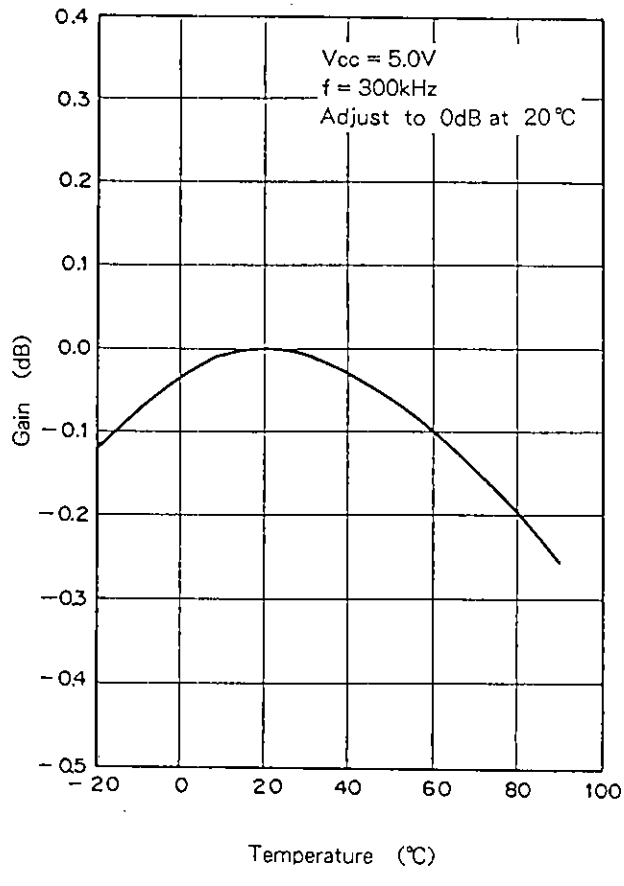
Frequency Characteristics 2 (MAX Gain, MIN Gain)



Gain/CONT voltage characteristics



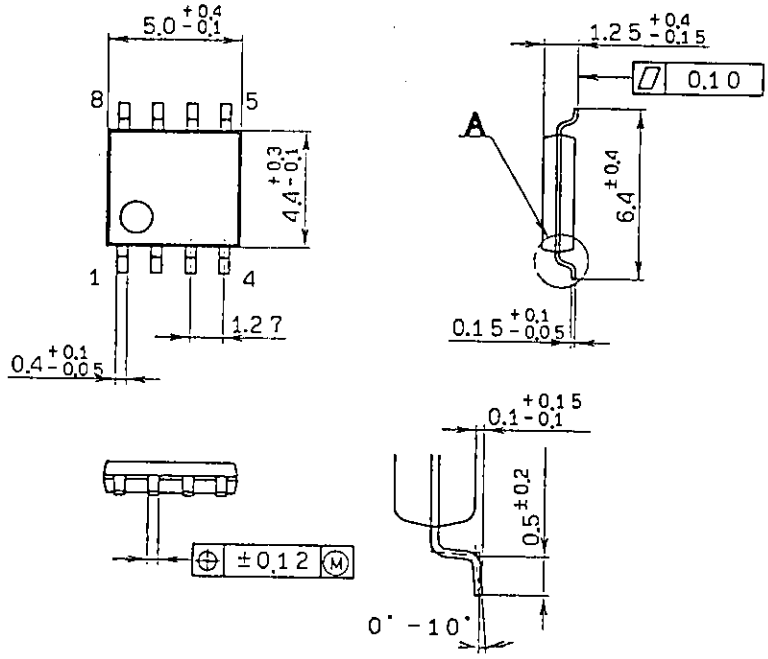
Gain/Temp. characteristics



Package Outline

Unit : mm

8pin SOP (Plastic) 225mil



Detailed diagram of A

SONY NAME	SOP-8P-L03
EIAJ NAME	*SOP008-P-0225-A
JEDEC CODE	———