

**SONY****CXA1643M/P****2-input Microphone Amplifier with AGC****Description**

The CXA1643M/P is a 2-input microphone amplifier IC, covering various applications including karaoke sets.

**Features**

- AGC (automatic gain control) function maintains constant level of output, even during excessively high inputs
- Few external parts
- Wide operating voltage range (2.0 to 10V)

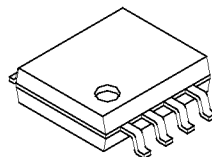
**Applications**

Ideally suited for duet microphone amplifiers of karaoke sets.

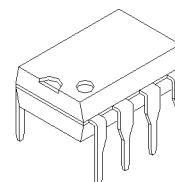
**Structure**

Bipolar silicon monolithic IC

CXA1643M  
8-pin SOP (Plastic)



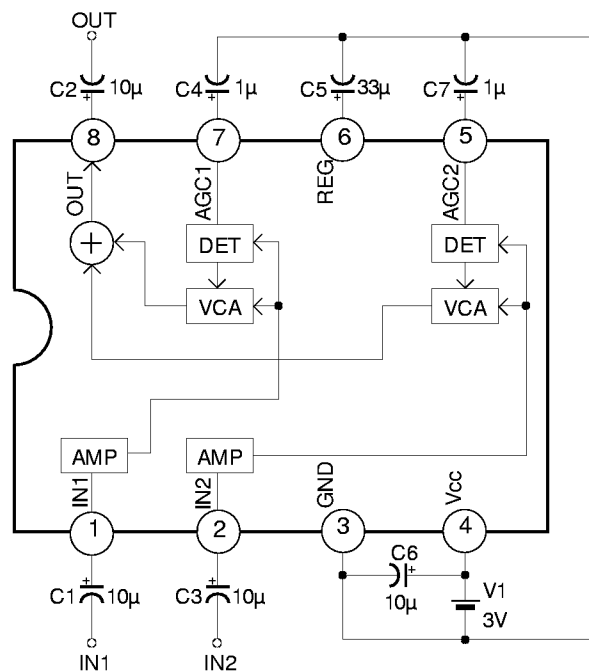
CXA1643P  
8-pin DIP (Plastic)

**Absolute Maximum Ratings** ( $T_a = +25^\circ\text{C}$ )

• Supply voltage	$V_{CC}$	12	V
• Operating temperature	$T_{opr}$	-20 to +75	$^\circ\text{C}$
• Storage temperature	$T_{stg}$	-65 to +150	$^\circ\text{C}$
• Allowable power dissipation	$P_D$	250 (SOP)	mW
		500 (DIP)	mW

**Operating Conditions**

Supply voltage	$V_{CC}$	2.0 to 10.0	V	DataSheet4U.com
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**Block Diagram, Pin Configuration and Application Circuit**

Application circuits shown are typical examples illustrating the operation of the devices. Sony cannot assume responsibility for any problems arising out of the use of these circuits or for any infringement of third party and other right due to same.

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## Pin Description

(Vcc=3V, Ta = +25°C)

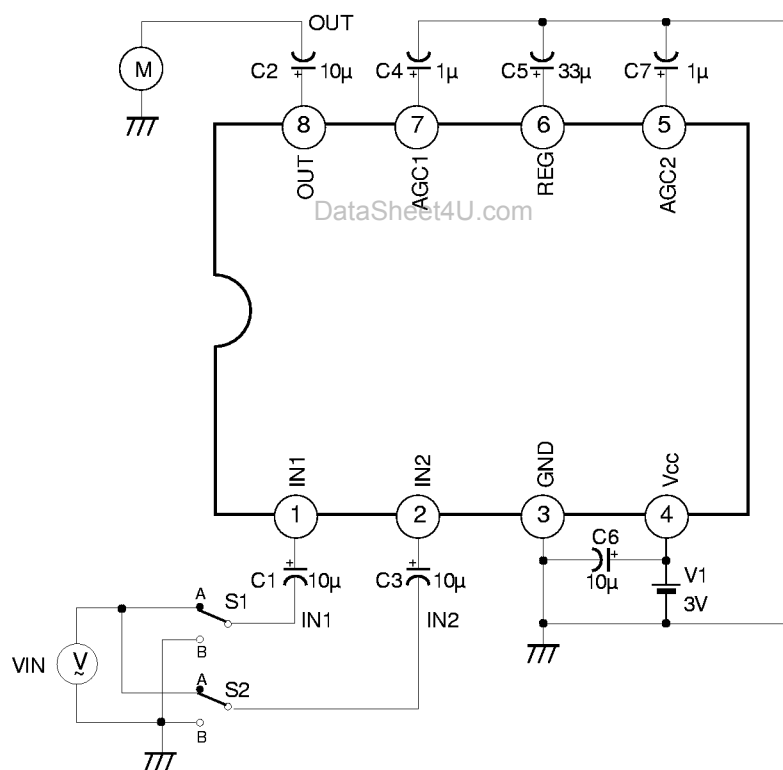
No.	Symbol	Pin Voltage	Equivalent Circuit	Description
1 2	IN1 IN2	1.3V 1.3V		Input pin
3	GND	0V		GND pin
4	Vcc	3V		Power supply
5 7	AGC1 AGC2	1.3V 1.3V		AGC pin
6	REG	1.3V		Regulator pin
8	OUT	1.3V		Output pin

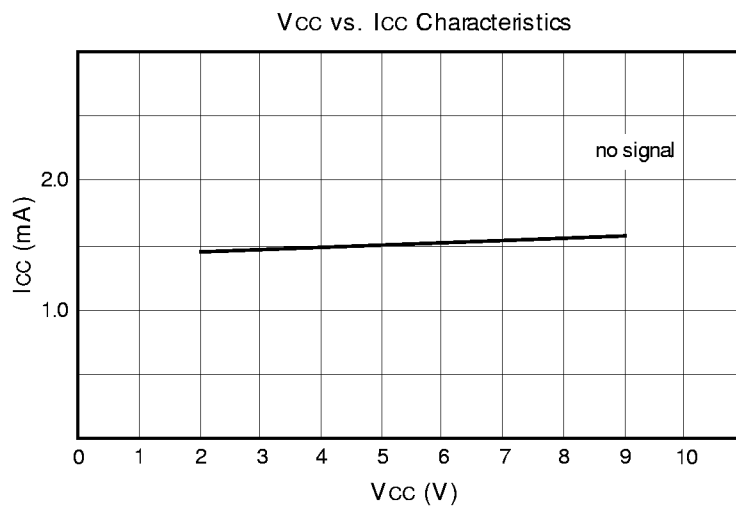
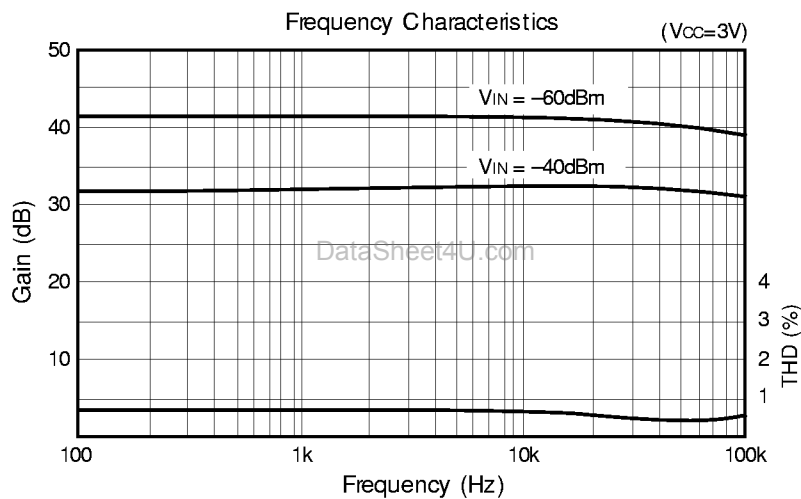
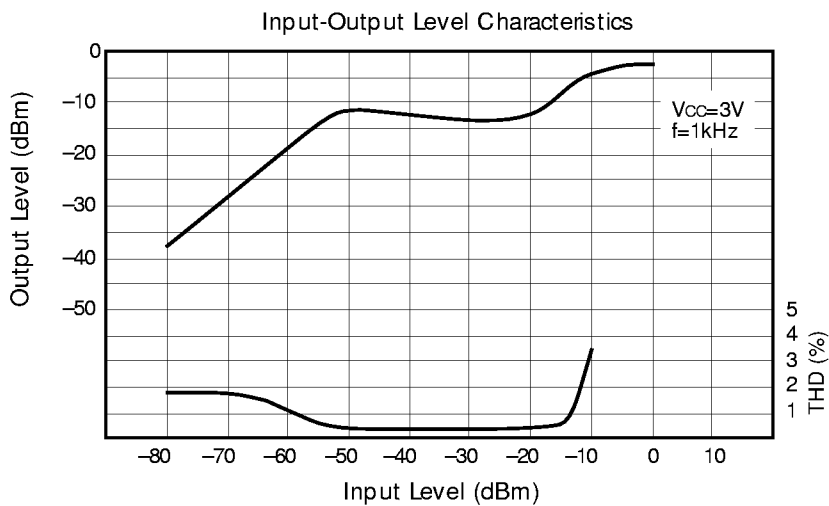
## Electrical Characteristics

(V<sub>CC</sub> = 3V, T<sub>a</sub> = +25°C)

Item	Condition	Min.	Typ.	Max.	Unit
No signal Current	No signal	—	1.6	2.8	mA
Voltage Gain	V <sub>in</sub> =-70dBm, f=1kHz	39	41	43	dB
Output Level	V <sub>in</sub> =-20dBm, f=1kHz	-16	-13	-10	dBm
Channel Balance	V <sub>in</sub> =-45dBm, f=1kHz IN1 voltage Gain-IN2 voltage Gain	-3	0	3	dB
Total Harmonic Distortion Factor	V <sub>in</sub> =-45dBm, f=1kHz	—	0.4	1.0	%
Output Noise Level	No signal, "A" Weighting filter	—	-48	—	dBm

## Electrical Characteristics Test Circuit





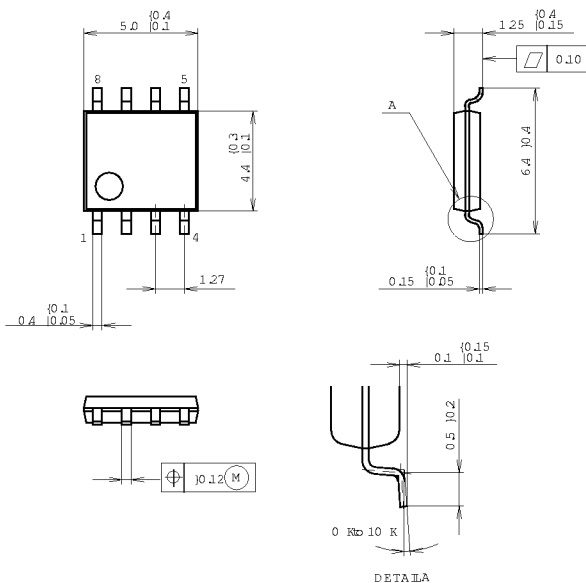
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Package Outline Unit : mm

CXA1643M

8PIN SOP (PLASTIC)



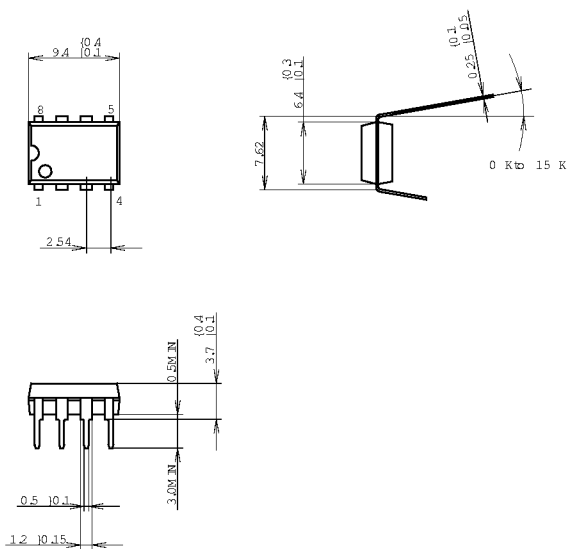
PACKAGE STRUCTURE

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

PACKAGE MATERIAL	EPOXY RESIN
LEAD TREATMENT	SOLDER PLATING
LEAD MATERIAL	42 ALLOY
PACKAGE WEIGHT	0.1g

CXA1643P

8PIN DIP (PLASTIC) 300mil



PACKAGE STRUCTURE

SONY CODE	DP-8P-01
EIAJ CODE	DP008-P-0300-A
JEDEC CODE	—

PACKAGE MATERIAL	EPOXY RESIN
LEAD TREATMENT	SOLDER PLATING
LEAD MATERIAL	COPPER ALLOY
PACKAGE WEIGHT	0.5g

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