

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)

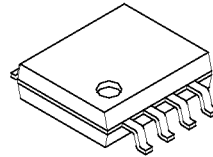
Applications

Ideally suited for duet microphone amplifiers of karaoke sets.

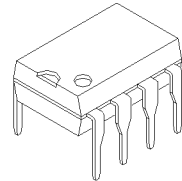
Structure

Bipolar silicon monolithic IC

CXA1643M
8-pin SOP (Plastic)



CXA1643P
8-pin DIP (Plastic)



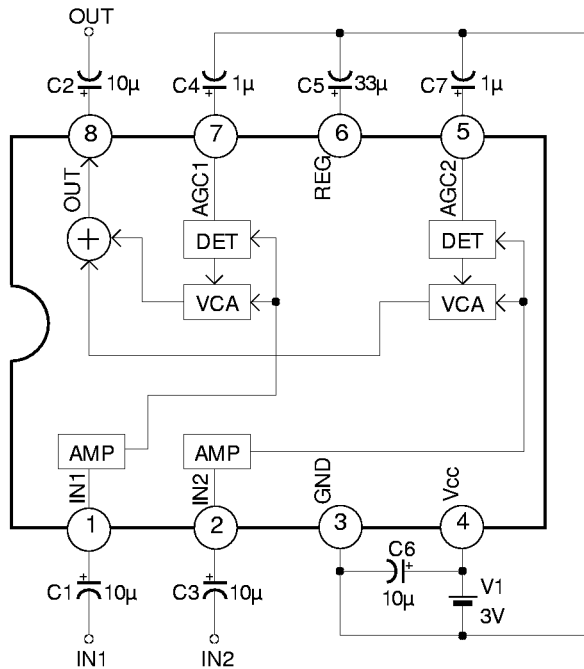
Absolute Maximum Ratings (Ta = +25°C)

| | | | |
|-------------------------------|------|-------------|----|
| • Supply voltage | VCC | 12 | V |
| • Operating temperature | Topr | -20 to +75 | °C |
| • Storage temperature | Tstg | -65 to +150 | °C |
| • Allowable power dissipation | PD | 250 (SOP) | mW |
| | | 500 (DIP) | mW |

Operating Conditions

| | | | |
|----------------|-----|-------------|---|
| Supply voltage | VCC | 2.0 to 10.0 | V |
|----------------|-----|-------------|---|

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.

Pin Description

(Vcc=3V, Ta = +25°C)

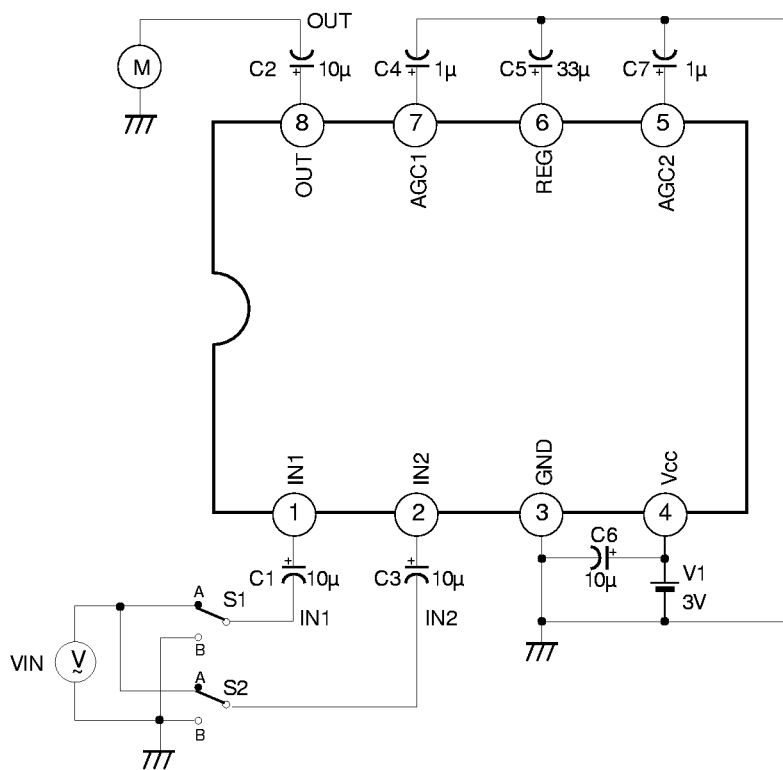
| No. | Symbol | Pin Voltage | Equivalent Circuit | Description |
|--------|--------------|--------------|--------------------|---------------|
| 1 2 | IN1 IN2 | 1.3V 1.3V | | Input pin |
| 3 | GND | 0V | | GND pin |
| 4 | Vcc | 3V | | Power supply |
| 5 7 | AGC1 AGC2 | 1.3V 1.3V | | AGC pin |
| 6 |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

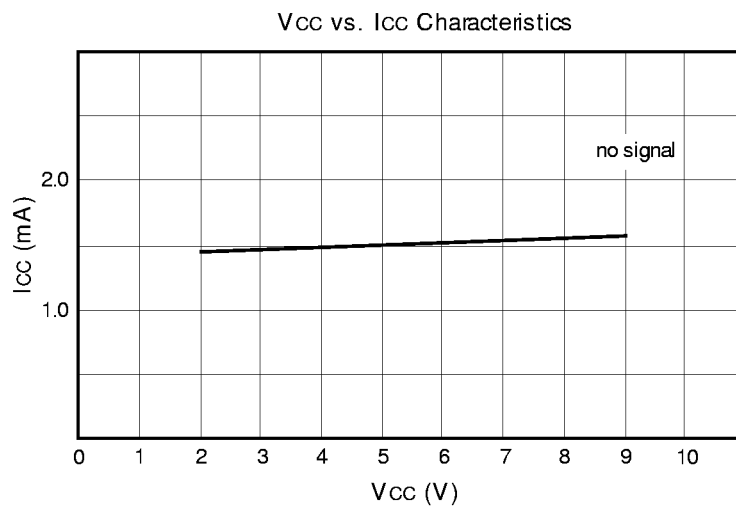
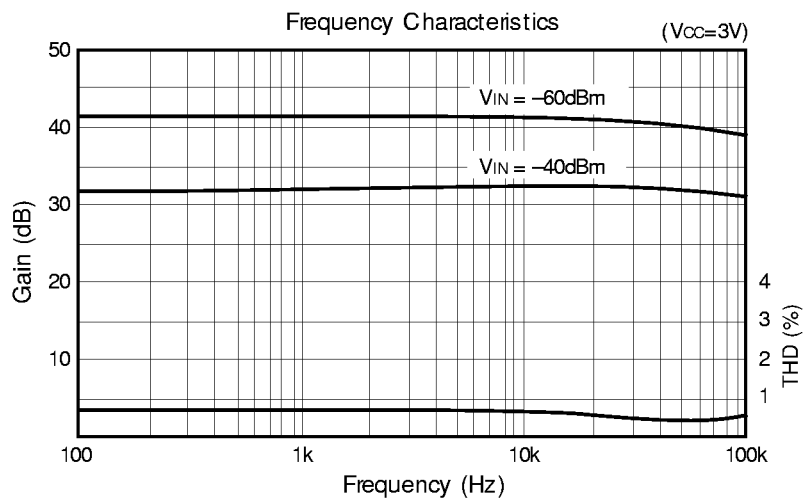
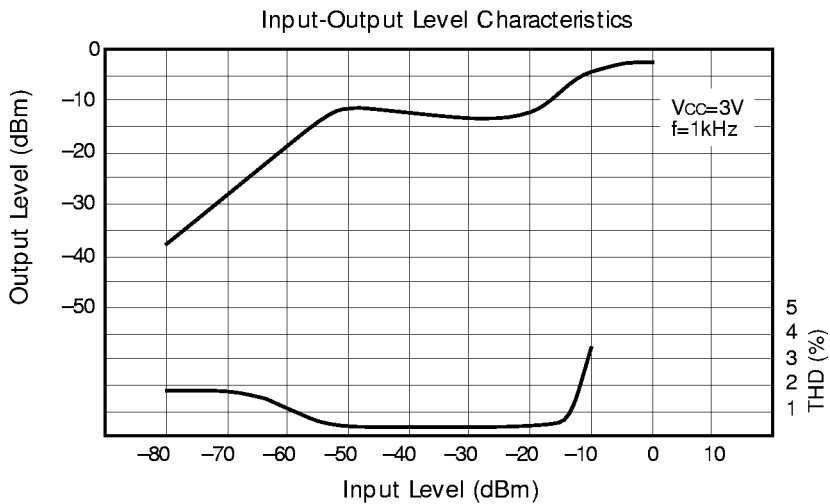
Electrical Characteristics

(Vcc = 3V, Ta = +25°C)

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

Electrical Characteristics Test Circuit

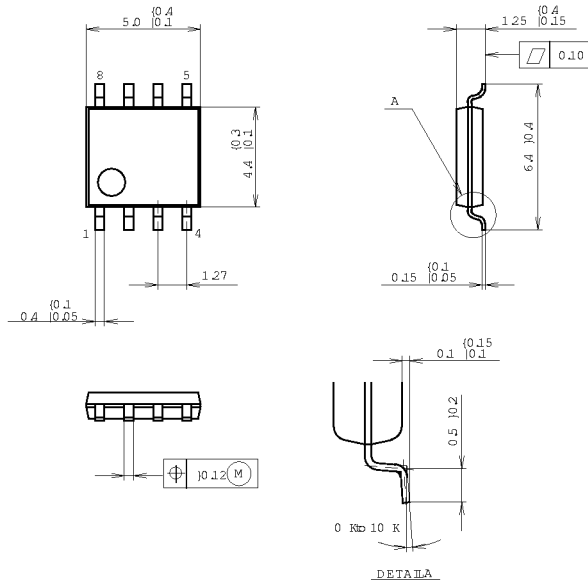




Package Outline Unit : mm

CXA1643M

8P IN SOP (PLASTIC)



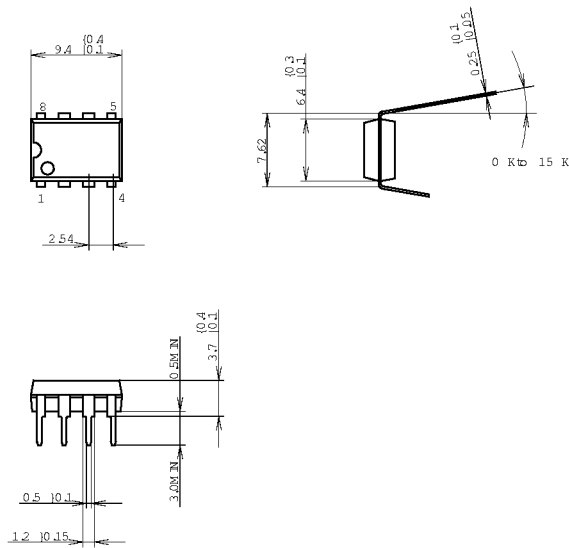
PACKAGE STRUCTURE

| | |
|------------|------------------|
| 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

8P IN DIP (PLASTIC) 300mil



PACKAGE STRUCTURE

| | |
|------------|-----------------|
| SONY CODE | DIP-8P-01 |
| EIAJ CODE | DIP008-P-0300-A |
| JEDEC CODE | ————— |

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