

# 音频解码芯片规格书

## ——AC1082 芯片

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ZHUHAI

## AC1082 Features

### High performance 8-bit MCU

- DC-48MHZ operation
- Compatible with 8051
- Extended 16-bit DSP instructions
- All instructions are single-cycle except branching instructions
- Two data pointer for indirect addressing

### Program Memory

- 16K Bytes OTP program memory

### Interrupt Feature

- 16 Vectored interrupts
- External wake up/interrupt on 1 GPIO
- 4 Levels interrupt priority

### Flexible I/O

- 9 GPIO pins
- All GPIO pins can be programmable as input or output individually
- All GPIO pins are internal pull-up/pull-down selectable individually
- CMOS/TTL level Schmitt triggered input

### Digital Peripheral Feature

- Two multi-function 8-bit timers, support capture and PWM mode
- Two multi-function 16-bit timers, support Capture mode
- Watchdog
- MPEG-1, MPEG-2, MPEG-2.5 Audio Layer 1,2,3 decoder , Bit rate 8-448Kbps, CBR/VBR/ABR
- Support 9 sampling frequency:  
8kHz/11.025kHz/12kHz/16kHz/22.05kHz/24kHz/32kHz/44.1kHz/48kHz
- One full-duplex UART
- One SPI with EMI mode, support DMA
- IIC HOST/DEVICE controller
- SD Card Host controller
- Full speed USB 2.0 HOST/DEVICE controller

### Analog Peripheral Features

- One 1~24MHz Crystal Oscillator
- One internal RC oscillator
- One internal high- performance RC oscillator
- Full speed USB 2.0 PHY
- 48MHz PLL-based clock generator
- 16-bit Stereo DAC , SNR > 90dB
- Embedded headphone amplifier

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- 2 channels Analog MUX
- 1 channels Analog MIC
- 8 Channels 10-bit ADC
- 2 channels 4 levels Low Voltage Detector
- Power-on reset
- Two LDO: 5V to 1.8V, 5V to 3.3V

### Power Supply

- VDDLDO is 3.2V to 5.5V
- VDDIO is 3.0V to 3.6V
- VDDCORE is 1.6V to 2.0V

### Packages

- SOP16

### Temperature

- Operating temperature: -40 to +85
- Storage temperature: -65 to +150

# 引脚定义

## 1.1 引脚分配

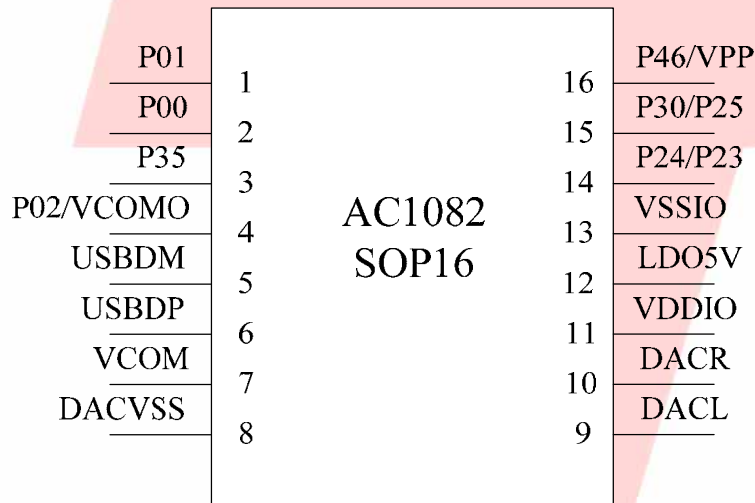


图 1 AC1082\_16PIN 引脚分配图

## 1.2 引脚描述

表 1 AC1082 引脚描述

AC1082 (SOP16)	Name	I/O Type	Drive (mA)	Function	Other Function
1	P01	I/O	16	GPIO	High Frequency Oscillator Out ISP Data In ADC1: ADC Channel 1 Input IICDA4: IIC Data(D) SPIDOB: SPI Data Out(B) SDDATB: SD Data(B) ISD DAT1:ISD 2W Data1
2	P00	I/O	16	GPIO	High Frequency Oscillator In ISP Clock In ADC0: ADC Channel 0 Input IICK4: IIC Clock(D) SPICKB: SPI Clock(B) SDCMDB: SD Command(B) ISD CLK1:ISD 2W Clock1
3	P35	I/O	20	GPIO	ADC11: ADC Channel 11 Input SDCLKC: SD Clock(C)
4	P02	I/O	16	GPIO	ADC2: ADC Channel 2 Input T0CAP: Timer0 Capture Pin WKUP0:Port Interrupt/Wakeup ISP Data Out DAC L:
	VCOMO	P	/	DAC Reference Out	
5	USBDM	I/O	8	USB Negative Data	UARTRX3: UART Data In(D) IICDA3: IIC Data(D)

6	USBDP	I/O	8	USB Positive Data	UARTTX3: UART Data Out(D) IICK3: IIC Clock(D)
7	VCOM	P	/	DAC Reference	
8	DACVSS	P	/		
9	DACL	O	/	DAC Left Channel	
10	DACR	O	/	DAC Right Channel	
11	VDDIO	P	/	IO Power 3.3V	
12	LDO5V	P	/	LDO Power 5V	
13	VSSIO	P	/	IO Ground	
14	P23	I/O	16	GPIO	T2CAP: Timer2 Capture Pin MIC: MIC input
	P24	I/O	16	GPIO	UARTTX1: UART Data Out(B) AUXL0: Analog MUX left channel input 0 ISD CLK0:ISD 2W Clock0 FM IN:FM RF Signal In
15	P25	I/O	16	GPIO	UARTRX1: UART Data In(B) AUXR0: Analog MUX right channel input 0 ISD DAT0:ISD 2W Data0
	P30	I/O	20	GPIO	SDCLKB: SD Clock(B) T0PWM: Timer0 PWM Output
16	P46/VPP	I/O	8	OTP Program Power	Additional Input Only Pin T3CAP: Timer3 Capture Pin WKUP4: Port Interrupt/Wakeup