



Voice OTP IC

Model: aP89341



Features:

- 1- Standard CMOS process.
- 2- Embedded 8M bits EPROM.
- 3- 341 sec Voice Length at 6 KHz sampling and 4-bit ADPCM compression.
- 4- Maximum 254 voice groups.
- 5- Combination of voice blocks to extend playback duration.
- 6- 7680 table entries are available for voice block combinations.
- 7- User selectable PCM or ADPCM data compression.
- 8- Three triggering modes are available (controlled by M1 and M0 input pins)
- 9- Voice group trigger options: Edge / Level; Hold / Un-hold; Retrigger / Non-retrigger.
- 10- Whole chip options: Ramp / No-ramp; Output Options; Long / Short debounce time.
- 11- Optional 16ms or 65μs (at 8 KHz sampling rate) selectable debounce time.
- 12- RST pin set to HIGH to stop the playback at once.
- 13- Three user programmable outputs for stop pulse, BUSY signal and flashing LED.
- 14- Built-in oscillator to control sampling frequency with an external resistor.
- 15- 2.2V – 3.6V single power supply and <5μA low stand-by current.
- 16- PWM Vout1 and Vout2 drive speaker directly.
- 17- D/A COUT pin drives speaker through an external BJT
- 18- Development system support voice compilation.

PIN configuration:

PIN (24-pin)	Playback Mode	OTP Program Mode	Description
1	S7	IO6	Trigger pin (I/O pin with internal pull-down)
2	S8	IO7	Trigger pin (I/O pin with internal pull-down)
3	VSS	VSS	Ground
4	VOUT1	-	PWM output to drive speaker directly
5	VOUT2	-	PWM output to drive speaker directly
6	VDD	VDD	Supply voltage
7	AVDD	AVDD	Analog supply voltage
8	VPP	VPP	Supply voltage for OTP programming
9	OSC	ACLK	Oscillator input
10	COUT	-	D/A current output
11	AVSS	AVSS	Analog ground
12	OUT3	-	Programmable output (I/O pin)
13	OUT2	SIO	Programmable output (I/O pin)
14	OUT1	OEB	Programmable output (I/O pin)
15	RST	DCLK	Reset pin (input pin with internal pull-down)
16	SBT	PGM	Trigger pin (I/O pin with internal pull-down)
17	M1	M1	Mode select pin 1 (input with internal pull-down)
18	M0	M0	Mode select pin 0 (input with internal pull-down)
19~24	S1~S6	IO0~IO5	Trigger input (I/O pin with internal pull-down)

Absolute maximum ratings:

Parameter	Rating	Unit
$V_{DD} - V_{SS}$	-0.5 ~ +3.8 V	V
V_{IN}	$V_{SS} - 0.3 < V_{IN} < V_{DD} + 0.3$	V
V_{OUT}	$V_{SS} < V_{OUT} < V_{DD}$	V
T (Operating)	-40 ~ +85	°C
T (Junction)	-40 ~ +125	°C
T (Storage)	-50 ~ +125	°C