

■ INTRODUCTION

SN67d10 Series is a 10 seconds one-channel single chip voice synthesizer IC which contains a PWM Direct Drive Circuit. There are two IO pins (one input, one IO), which can be configured as two trigger pins, or one trigger and one output. By filling a coding form, users' applications, including section combination, trigger modes, and different output status, can be easily implemented.

■ FEATURES

- ◆ Single power supply 2.4V – 5.1V
- ◆ 10 seconds voice capacity is provided
- ◆ 1-bit input port (P1) and 1-bit I/O port (P2) are provided
- ◆ 16*1 bits RAM are provided
- ◆ Built in a high quality speech synthesizer
- ◆ Two different playing rate, 6KHz and 8KHz.
- ◆ Built in a PWM Direct Drive circuit output BUO1 and BUO2 directly connected to Speaker for sound output
- ◆ System clock: 2MHZ
- ◆ Low Voltage Reset

■ PIN ASSIGNMENT

Symbol	I/O	Function Description
P1	I	Input port
P2	I/O	I/O port
VDD	I	Positive power supply
OSC	I	Oscillation component connection pin
GND	I	Negative power supply
BUO1	O	PWM output 1
BUO2	O	PWM output 2

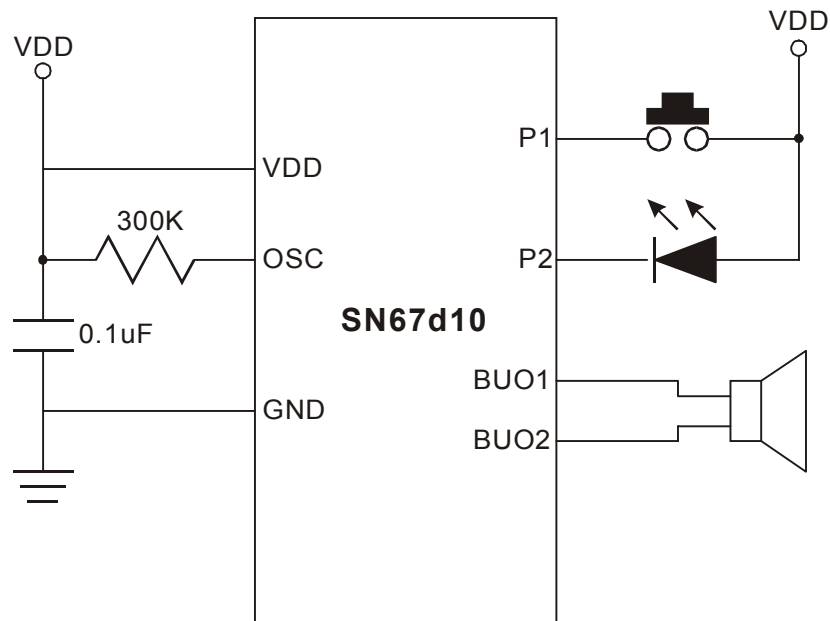
■ ABSOLUTE MAXIMUM RATINGS

Items	Symbol	Min	Max	Unit.
Supply Voltage	$V_{DD}-V$	-0.3	6.0	V
Input Voltage	V_{IN}	GND-0.3	$V_{DD}+0.3$	V
Operating Temperature	T_{OP}	-20.0	70.0	°C
Storage Temperature	T_{STG}	-55.0	125.0	°C

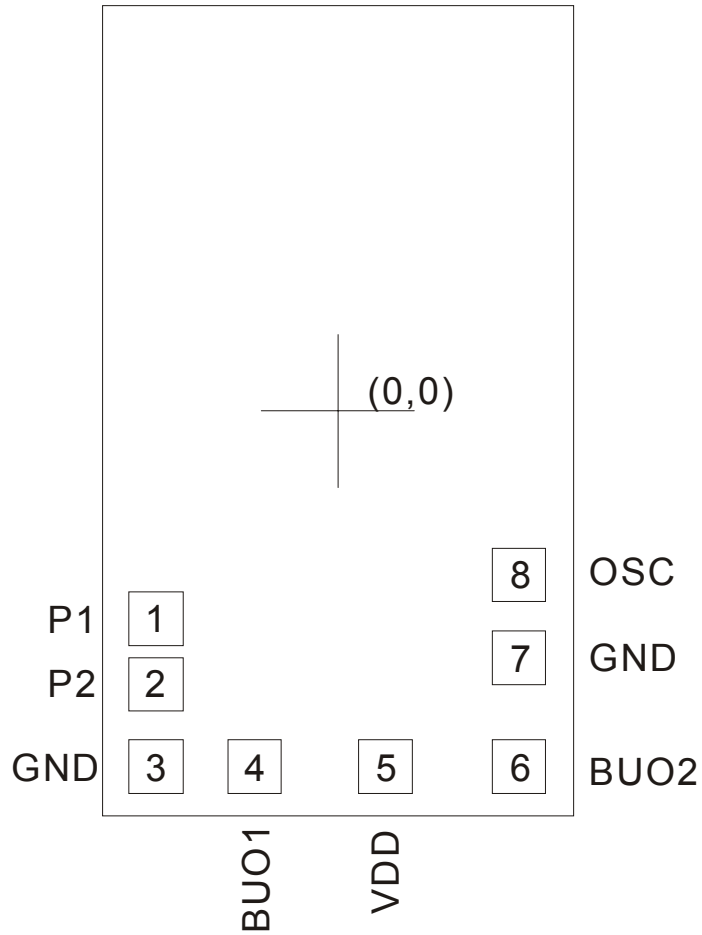
■ ELECTRICAL CHARACTERISTICS

Item	Sym.	Min.	Typ.	Max.	Unit	Condition
Operating Voltage	V_{DD}	2.4	3.0	5.1	V	
Standby current	I_{SBY}	-	-	2.0	μA	$V_{DD}=3V$, no load
Operating Current	I_{OPR}	-	-	250	μA	$V_{DD}=3V$, no load
Input current of P1, P2	I_{IH}	-	3.0	10.0	μA	$V_{DD}=3V, V_{IN}=3V$
Drive current of P2	I_{OD}	1.5	2	-	mA	$V_{DD}=3V, V_O=2.4V$
Sink Current of P2	I_{OS}	2.0	3	-	mA	$V_{DD}=3V, V_O=0.4V$
Drive current of Buo1	I_{OD}	100	120	-	mA	$V_{DD}=3V, Buo1=1.5V$
Sink Current of Buo1	I_{OS}	100	120	-	mA	$V_{DD}=3V, Buo1=1.5V$
Drive Current of Buo2	I_{OD}	100	120	-	mA	$V_{DD}=3V, Buo2=1.5V$
Sink Current of Buo2	I_{OS}	100	120	-	mA	$V_{DD}=3V, Buo2=1.5V$
Oscillation Freq.	F_{OSC}	-	2.0	-	MHz	$V_{DD}=3V$

■ **APPLICATION CIRCUIT**



■ **BONDING PAD**



Note: The substrate MUST be connected to Vss in PCB layout.

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