

■ INTRODUCTION

SN67004 is a 4 seconds single chip voice synthesizer IC which contains I/O pins and a tiny controller. By programming through the tiny controller, user's applications including section combination, trigger modes, output status, and other logic functions can then be easily implemented.

FEATURES

- Single power supply 2.4V 5.1V
- Built in a tiny controller
- 4 seconds voice capacity are provided
- 6 I/O pins are provided
- 32*4 bits RAM are provided
- Maximum 16k program ROM is provided
- Readable ROM code data
- Built in a high quality speech synthesizer
- Adaptive playing speed from 2.5k-20kHz is provided
- Fixed current D/A output is provided to drive external connected transistor for sound output



■ PIN ASSIGNMENT

Symbol	I/O	Function Description			
P20	I/O	Bit0 of I/O port 2			
P21	I/O	Bit1 of I/O port 2			
P22	I/O	Bit2 of I/O port 2			
P23	I/O	Bit3 of I/O port 2			
P30	I/O	Bit0 of I/O port 3			
P31	I/O	Bit1 of I/O port 3			
V _{DD}	Ι	Positive power supply			
OSC	Ι	Oscillation component connection pin			
TEST	Ι	For testing only			
V _{SS}	Ι	Negative power supply			
Vo	0	D/A current output			



■ ABSOLUTE MAXIMUM RATING

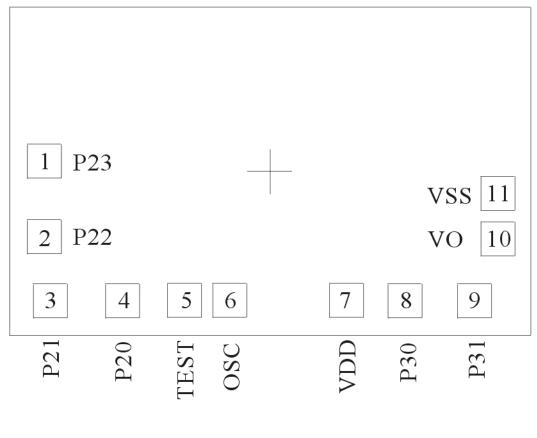
Items	Symbol	Min	Мах	Unit.	
Supply Voltage	V_{DD}	-0.3	6.0	V	
Input Voltage	V _{IN}	V _{SS} -0.3	V _{DD} +0.3	V	
Operating Temperature	T _{OP}	-20.0	70.0	°C	
Storage Temperature	T _{STG}	-55.0	125.0	°C	

■ ELECTRICAL CHARACTERISTICS

ltem	Sym.	Min.	Тур.	Max.	Unit	Condition
Operating Voltage	V_{DD}	2.4	3.0	5.1	V	
Standby Current	I _{SBY}	-	-	1.0	иA	V _{DD} =3V, no load
Operating Current	I _{OPR}	-	-	250	иA	V _{DD} =3V, no load
Input Current of P1	li	-	3	-	uА	V _{DD} =3V
Drive Current of P2,P3	I _{OD}	1.5	2	-	mА	V _{DD} =3V,V _O =2.4V
Sink Current of P2,P3	I _{OS}	2.0	3	-	mА	V _{DD} =3V,V _O =0.4V
D/A Output Current	I _{vo}	2.0	3.0	4.0	mА	V _{DD} =3V,V _O =0.7V
Oscillation Freq.	Fosc	I	1.0	-	MHz	V _{DD} =3V



BOUNDING PAD



SN67004

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



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