

Digital Sound Processor with 32Kb SRAM

Description

The T62M0002A is an echo/surround effect processor. It is designed for various audio systems including karaoke, television, sound equipment, etc. The chip consists of a built-in pre-amplifier, VCO or Voltage control OSC, 32Kb SRAM, A/D and D/A converters as well as delay time control logic. Its built-in 32Kb SRAM can generate delay time effect and can control the delay time value through the external VCO resistor. The VCO circuit can reduce external components and make it easy to adjust the delay time.

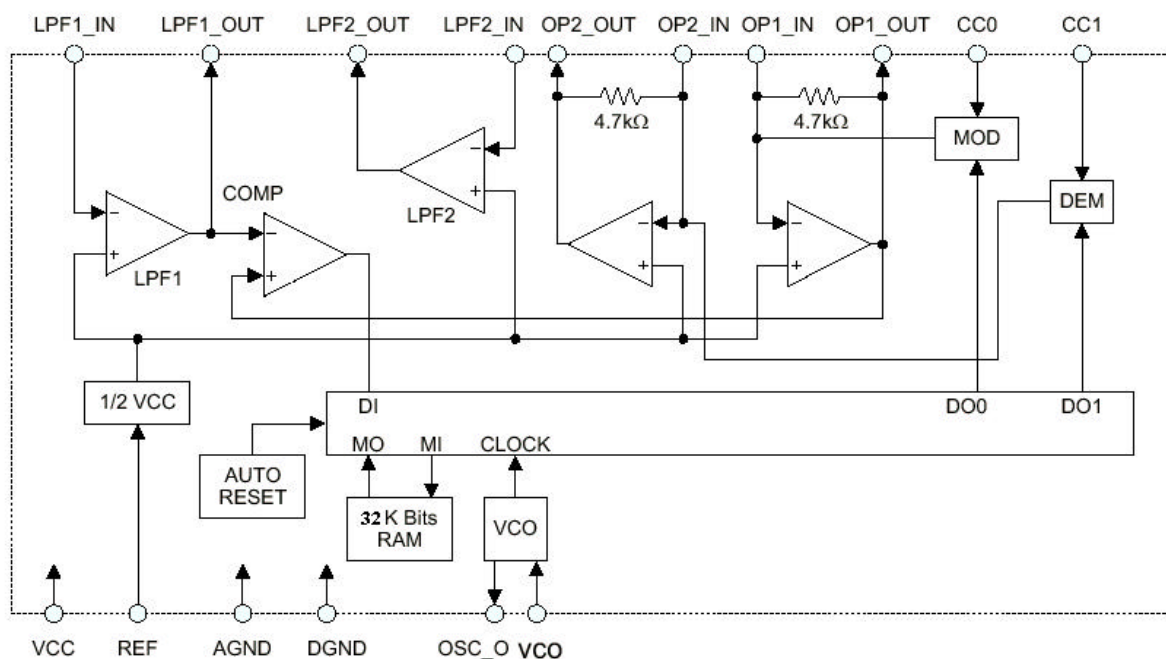
Features

- Operating voltage: 4.5V ~ 5.5V
- ADM algorithm
- Low noise (-88dB typical)
- Low distortion rate (0.5% typical)
- Built-in 32Kb SRAM
- Automatic reset function
- Package type: 16-pin DIP/SOP

Applications

- Television
- Karaoke systems
- Video disc player
- Sound equipment

Block Diagram



PIN Configuration

VCC	1	16	LPF1-IN
REF	2	15	LPF1-OUT
AGND	3	14	LPF2-OUT
DGND	4	13	LPF2-IN
OSC_O	5	12	OP2-OUT
VCO	6	11	OP2-IN
CC1	7	10	OP1-IN
CC0	8	9	OP1-OUT

T62M0002A**PIN Description**

Pin NO.	Pin Name	I/O	Description
1	VCC	-	Analog and positive power supply
2	REF	I	Analog reference voltage
3	AGEND	-	Analog ground
4	DGEND	-	Digital ground
5	OSC_O	I	System oscillator output
6	VCO	I	System oscillator input,system frequency adjustable pin
7	CC1	-	Current control1
8	CC2	-	Current control2
9	OP1_OUT	O	OP1 output
10	OP1_IN	I	OP1 input
11	OP2_IN	I	OP2 input
12	OP2_OUT	O	OP2 output
13	LPF2_IN	I	Low pass filter2 input
14	LPF2_OUT	O	Low pass filter2 output
15	LPF1_OUT	O	Low pass filter1 output
16	LPF1_IN	I	Low pass filter1 input

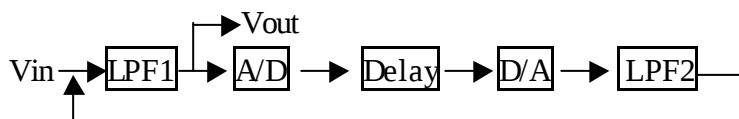
Function Description

The T62M0002A is an echo/surround effect generator with built-in 32Kb SRAM. It ensures low distortion as well as low noise for processing audio signal delay. The chip provides two playing modes(echo and surround) and the playing function block diagrams are shown as follows.

- Surround Mode



-Echo Mode



Electrical Characteristics

Ta=25° C

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
		VDD	Conditions				
V _{CC}	Operating Voltage	-	-	4.5	5.0	5.5	V
I _{CC}	Operating Current	5V	-	-	15	30	mA
G _V	Voltage Gain	5V	R _L =47KΩ	-	0.5	2.5	dB
V _{OMAX}	Maximum Output Voltage	5V	THD=10%	1.0	1.6	-	V _{rms}
THD	Total Harmonic Distortion	5V	30KHz L.P.F.	-	0.5	1.5	%
No	Output Noise Voltage	5V	DIN Audio	-	-88	-80	dBV

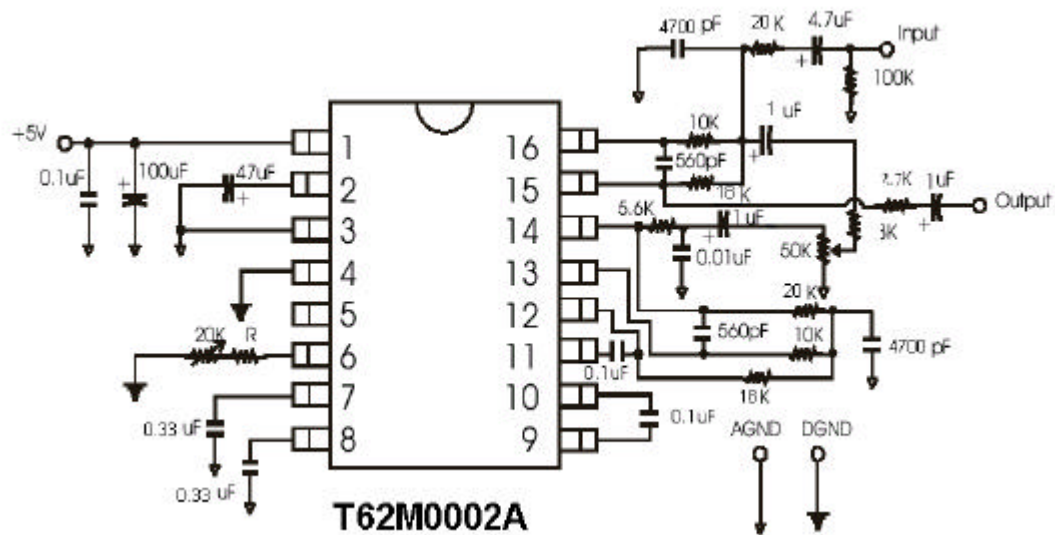
Absolute Maximum Ratings

Supply Voltage	-0.3V to 6V
Input Voltage	V _{SS} -0.3V to VDD+0.3V
Storage Temperature	-50° C to 125° C
Operating Temperature	-20° C to 70° C

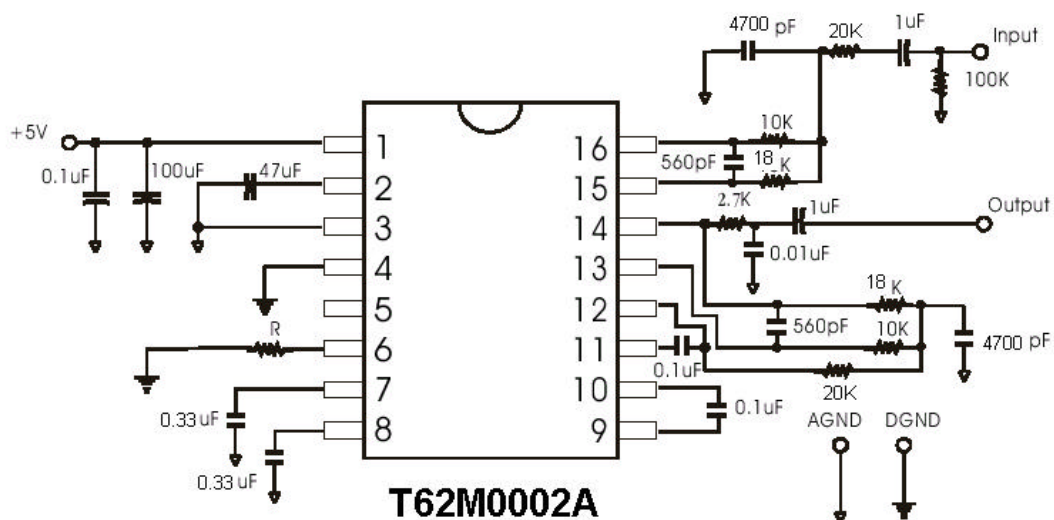
Note: These are stress ratings only. Stresses exceeding the range specified under “Absolute Maximum Ratings” may cause substabtial damage to the device. Functional operation of this device at other conditions beyond those listed in the specification is not implied and prolonged exposure to exteme conditions may affect device reliability.

Application Circuits

Echo Mode



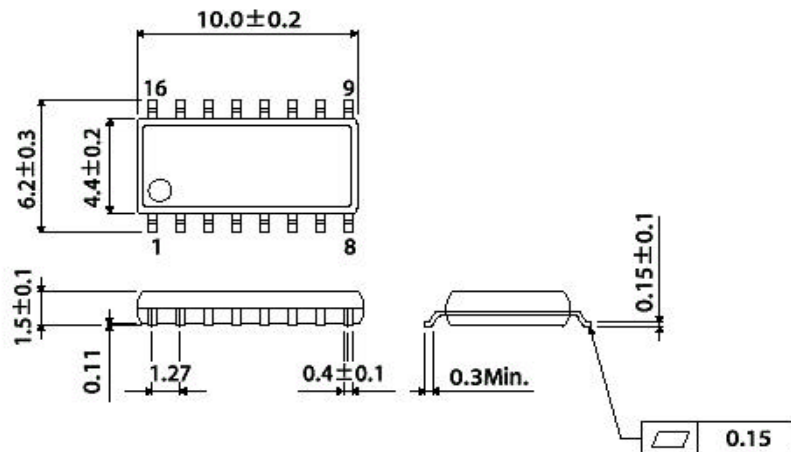
Surround Mode



IC Package

T62M0002A 16-SOP

Unit:mm



T62M0002A 16-DIP

Unit:mm

