

WaveFront™ Sounds (8M Bit CMOS Mask ROM)

General Description

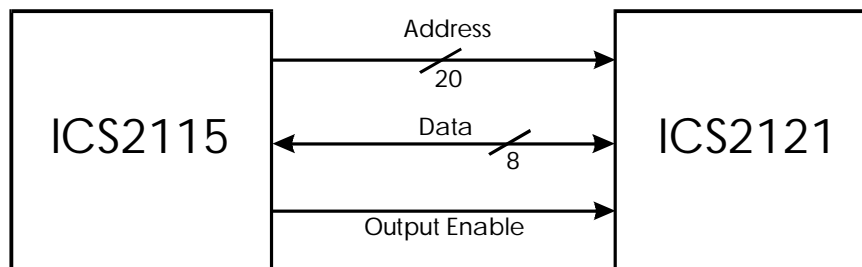
WaveFront Sounds are masked ROMs that serve as the wavetable for the ICS2115 WaveFront Synthesizer. Each sound set, 4 MB, 2 MB, 1 MB and 512 KB, contains the musical data needed to synthesize the instruments from the General MIDI specification. The 4 MB sound set consists of two 2 MB ROMs, the ICS2124M-001 and ICS2124M-002. The 2 MB sound set consists of one 2 MB ROM, the ICS2122M-001. The 1 MB sound set consists of one 1 MB ROM, the **ICS2121M-001**. The 512 KB sound set consists of one 512 KB ROM, the ICS2125M-001.

Features

- Complete set of General MIDI sounds, which contains 128 instruments and 69 drum sounds.
- Available in four sizes, 4 MB, 2 MB, 1 MB and 512 KB, to provide the optimal balance between price and performance for many applications.
- 16-bit linear wavetable (ICS2124-001/-002), compressed wavetable (ICS2122-001 and **ICS2121-001**), or full-featured wavetable (ICS2125-001).
- **ICS2121** is footprint-compatible with the ICS2122.

Block Diagram

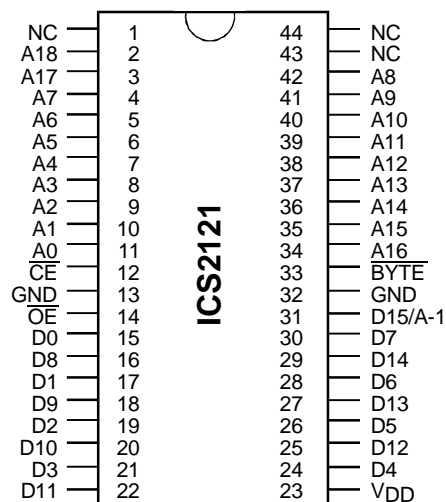
1 MB Patch Set





ICS2121

Pin Configuration



44-Pin SOP

Pin Descriptions

PIN NUMBER	PIN NAME	TYPE	DESCRIPTION
2-11, 34-42	A0-A18	I	Address Inputs.
15-22, 24-30	D0-D14	O	Data Outputs.
12	\overline{CE}	I	Chip Enable Input.
14	\overline{OE}	I	Output Enable Input.
31	D15/A-1	I/O	Data Output/Address Input.
33	\overline{BYTE}	I	Word, Byte Selection Input, tied low for byte operation.
23	VDD	P	Power Supply.
13, 32	GND	P	Ground.
1, 43, 44	NC	-	No Connection.



Absolute Maximum Ratings

SYMBOL	ITEM	RATING	UNIT
V _{DD}	Power Supply Voltage	-0.5~7.0	V
V _{IN}	Input Voltage	-0.5~V _{DD}	V
V _{OUT}	Output Voltage	0~V _{DD}	V
P _D	Power Dissipation	1.0/0.6	W
T _{STG}	Storage Temperature	-55~150	°C
T _{OPR}	Operating Temperature	0~70	°C
T _{SOLDER}	Soldering Temperature · Time	260 · 10	°C · sec

AC Characteristics

T_A = 0~70°C, V_{DD}=5±10%

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS
Cycle Time	t _{CYC}	150	-	-	ns
Address Access Time	t _{ACC}	-	-	150	ns
Chip Enable Access Time	t _{CE}	-	-	150	ns
Output Enable Access Time	t _{OE}	-	-	70	ns
Output Disable Time from \overline{CE}	t _{CED}	-	-	40	ns
Output Disable Time from \overline{OE}	t _{OED}	-	-	40	ns
Output Hold Time	t _{OH}	5	-	-	ns

AC Test Conditions

Output Load: 100pf + 1TTL

Input Levels: 0.6V, 2.4V

Timing Measurement Reference Levels/Input: 0.8V, 2.2V

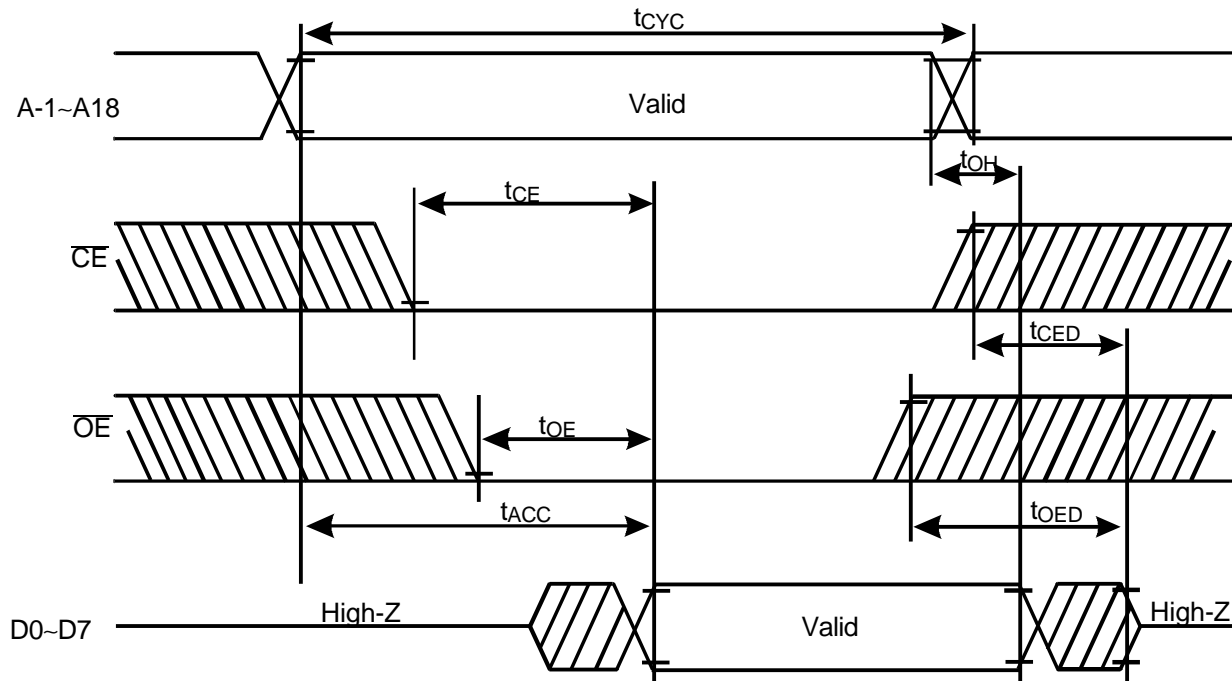
Timing Measurement Reference Levels/Output: 0.8V, 2.0V

Input Rise and Fall Time: 5ns

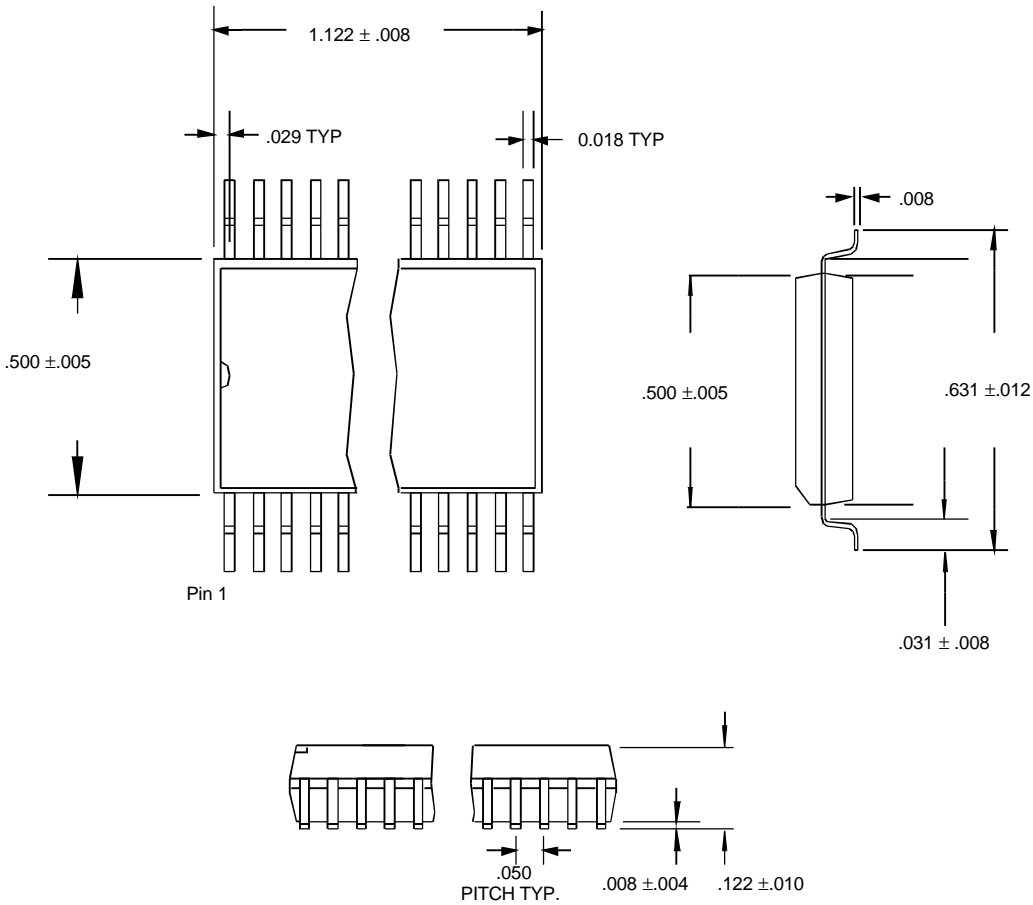


Timing Waveform

BYTE-WIDE READ MODE



Note: $\overline{BYTE} = V_{IL}$



SOP Package

Ordering Information

ICS2121M-001

Example:

ICS XXXX M -PPP

