

131072 Bit Serial Read Only Memory

FEATURES

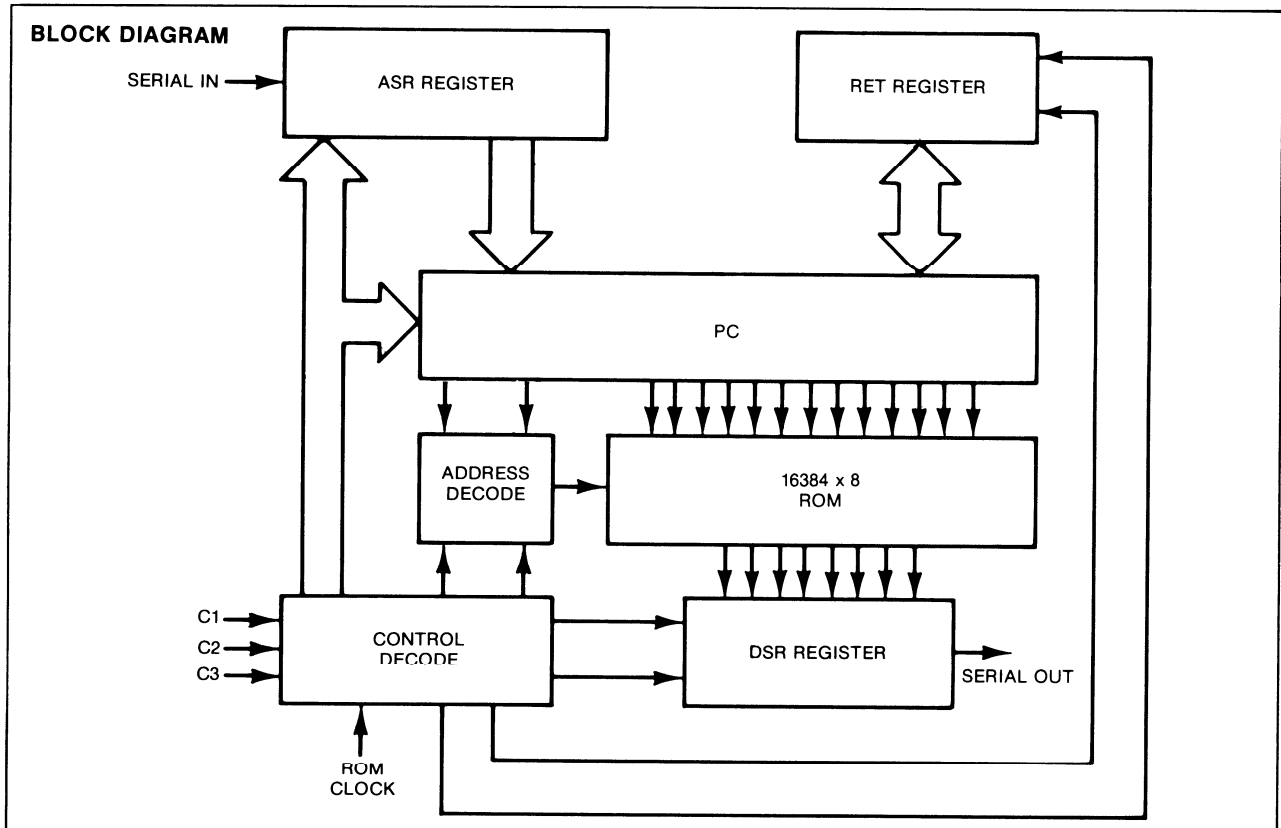
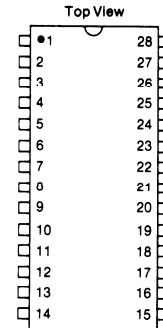
- 16K x 8 Organization
- Single +5 Volt Supply
- Tri-State Serial Output
- Totally Automated Custom Programming
- Zener Protected Inputs
- Glass Passivation Protection

DESCRIPTION

The General Instrument SPR-128 is a 131,072 Bit Serial Read Only Memory organized as 16,384 eight-bit words and is ideally suited for interfacing with the SP-0256 Speech Processor. Fabricated in General Instrument's advanced N-Channel Ion-Implant process to enable operation from a single +5 Volt power supply, up to 4 SPR-128s can be interfaced to the SP-0256 without buffering.

PIN CONFIGURATION

28 LEAD DUAL IN LINE
To be determined



PIN ASSIGNMENTS

Pin Number	Name	Function
	ROM ENABLE	Active low chip select used in system to eliminate bus conflict at system start-up. When brought high, ROM ENABLE Tri-States Serial Out.
	SERIAL IN	Serial Input used to load 16 bit address into device.
	SERIAL OUT	Output pin used to shift out data byte.
	CS1	Active high chip select. Will Tri-State Serial output when low.
	CS2	Active low chip select. Will Tri-State Serial output when high.
	ROM CLOCK	1.56MHz clock input from SP-0256 speech processor.
	V _{SS}	Ground pin.
	C3 } C2 } C1 }	Control pins decoded to determine device function.
	V _{DD}	Positive supply pin (+4.6V to +7.0V)

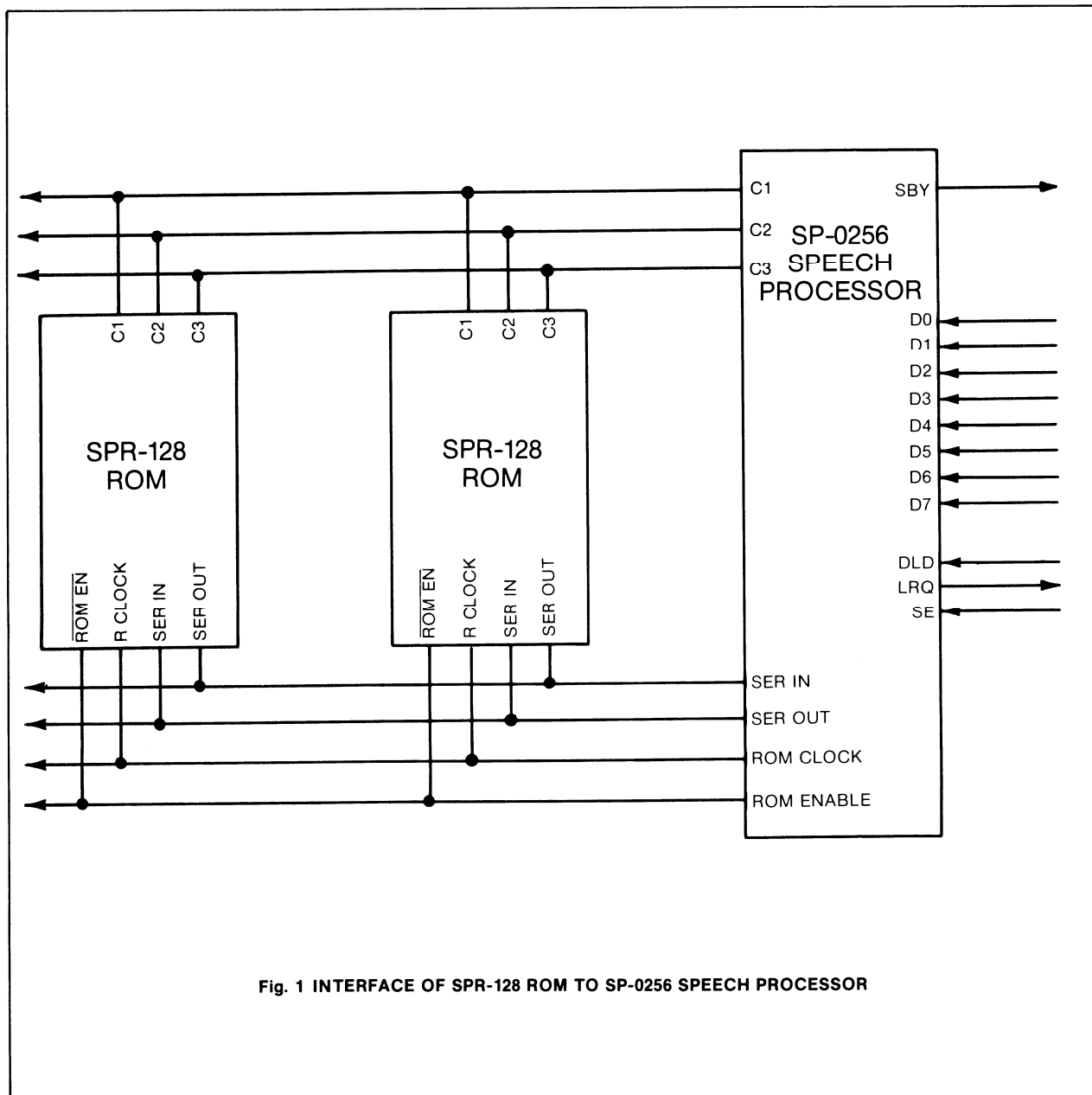


Fig. 1 INTERFACE OF SPR-128 ROM TO SP-0256 SPEECH PROCESSOR

TABLE I SPR-128 CONTROL STATES

C1	C2	C3	Function	
0	0	0	NOP	No action taken.
0	0	1	ASR Load	Accepts data from the serial input, synchronous to the externally supplied ROM clock. This data is shifted into the ASR holding register in preparation for loading into the PC. Although ASR is 16 bits long, it is not necessary to load all 16 bits of address sequentially in one ASR load.
0	1	0	PC Load	Loads the contents of the ASR register into the PC.
0	1	1	DSR Load	Loads the 8 bits of data pointed to by the present value of the least significant 14 bits of the PC into the data output shift register (DSR). At the completion of the DSR load the PC is incremented.
1	0	0	DSR Shift-Out	Shifts out the contents of DSR to the serial out pin, synchronous to the ROM clock.
1	0	1	RET Register Load	Loads the return register (RET) with the current value of the PC.
1	1	0	Return	Loads the PC with the contents of the RET register.
1	1	1	NOP	No action taken.

ELECTRICAL CHARACTERISTICS

Maximum Ratings

V_{DD} -3 to +12V
 Storage Temperature -25° to +125° C
 Lead Temperature (soldering) 10 Sec +333° C

Standard Conditions (unless otherwise stated)

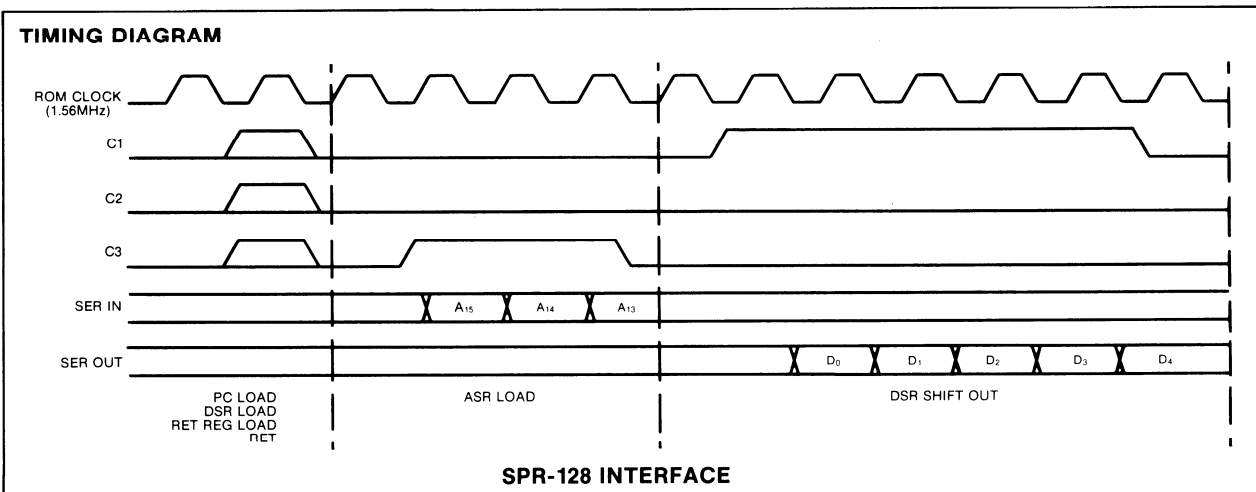
V_{DD} = +4.6V to +7.0V
 Operating Temperature = 0° C to +55° C

Supply Current

I_{DD} 25mA V_{DD} = 7.0V ROM clock frequency typically 1.56MHz
 V_{SS} = 0.0V

DC CHARACTERISTICS

Characteristic	Min	Max	Units	Conditions
Inputs				
ROM ENABLE, SERIAL IN, CS1, CS2, C1, C2, C3, ROM Clock				
Logic 0	0.0	.4	V	—
Logic 1	2.2	V _{DD}	V	—
Capacitance	—	10	pF	—
Leakage	—	10	μA	—
Outputs				
SERIAL OUT				
Logic 0	0.0	6	V	1.6mA
Logic 1	2.4	V _{DD}	V	50μA



SPR-128 INTERFACE

Microelectronics Division/Worldwide Sales Offices

NORTH AMERICA

UNITED STATES:

**GENERAL INSTRUMENT
MICROELECTRONICS DIVISION**
NORTHEAST—600 West John Street,
Hicksville, New York 11802
Tel: 516-733-3107, TWX: 510-221-1866

SOUTHEAST—7901 Fourth Street North, Suite 208
St. Petersburg, Florida 33702
Tel: 813-577-4024, TWX: 810-863-0308

American City Bldg, Suite 602
Columbia, Maryland 21044
Tel: 301-730-8992, Telex: 87775 W HLTHSYSCOLB

EAST CENTRAL—4524 S. Michigan Street,
South Bend, Indiana 46614
Tel: 219-291-0585, TWX: 810-299-2518

CENTRAL—2355 S. Arlington Heights Rd., Suite 210
Arlington Heights, Illinois 60005
Tel: 312-981-0040, TWX: 910-222-0431

SOUTHWEST—201 Standard Street,
El Segundo, California 90245
Tel: 213-322-7745, TWX: 910-348-6296

WESTERN—3080 Olcott Street, Suite 235D,
Santa Clara, California 95051
Tel: 408-496-0844, TWX: 910-379-0010

ASIA

HONG KONG:

GENERAL INSTRUMENT HONG KONG LTD.
139 Connaught Road Central, 14/F, San-Toi Building
Tel: (5) 434360, Telex: 84606

JAPAN:

GENERAL INSTRUMENT INTERNATIONAL CORP.
Fukide Bldg, 8th Floor, 1-13 Toranomon 4-Chome
Minato-ku, Tokyo 105
Tel: (03) 437-0261, Telex: 26579

TAIWAN:

**GENERAL INSTRUMENT
MICROELECTRONICS TAIWAN**
B2-11 Kaohsiung Export Processing Zone, Kaohsiung
Tel: 07-821-2171, Telex: 785-81901

EUROPE

EUROPEAN SALES HEADQUARTERS:

GENERAL INSTRUMENT MICROELECTRONICS LTD.
Regency House, 1-4 Warwick Street, London W1R 5WB
Tel: 01-439-1891, Telex: 23272

CENTRAL EUROPEAN SALES OFFICE:

GENERAL INSTRUMENT DEUTSCHLAND GmbH
(MOS Produktgruppe)
Nordendstrasse 3, 8000 Munchen 40
Tel: (089)26-40.31, Telex: 326004

SOUTHERN EUROPEAN SALES OFFICE:

Via Jacopo Palma, 20146 Milano
Tel: (02) 408 41 01, Telex: 332423

GENERAL INSTRUMENT