160K Cartridge ROM

FEATURES

- Mask Programable Storage Providing 16,384 x 10 Bit Words
- 16 Bit On-Chip Address Latch
- Control Decoder
- Programable Memory Map Circuitry to Place 16K ROM Page Within 65K Word Memory Space Located on Four Independent 4K Boundaries

REQUIREMENTS

The RO9160 operates as the program memory for systems using a CP1600 series microprocessor.

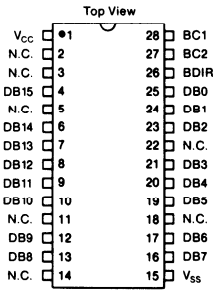
It is configured as 16K x 10 bit words and contains several features which reduce the device count in a practical microprocessor application.

DESCRIPTION

The RO9160 contains a programable memory map location for its own 16K page and if a valid address is detected, the particular addressed location will transfer its contents to the chip output buffers. If the control code following the address cycle was a Read, the RO9160 will output the 10 bits of addressed data and also drive a logic zero on the top 6 bits of the bus.

PIN CONFIGURATION

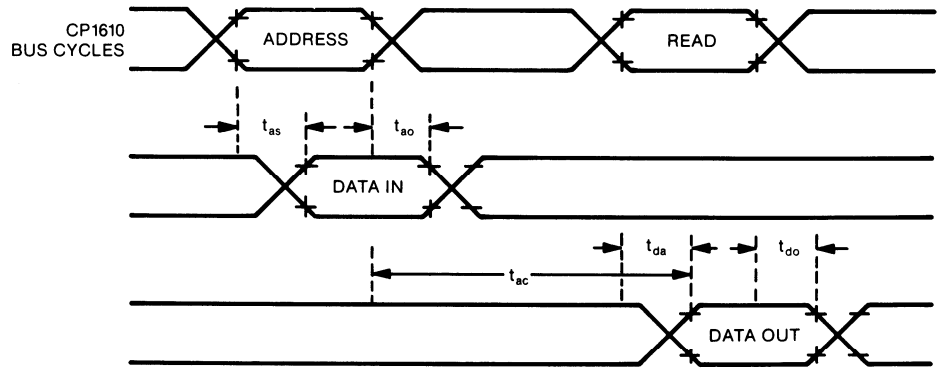
28 LEAD DUAL IN LINE



BUS CONTROL SIGNALS

BDIR	BC2	BC1	Signal	Decoded Function
0	0	0	NACT	No ACTion, D0-D15 = High Impedance
0	0	1	ADAR	Address Data to Address Register, D0-D15 = High Impedance
0	1	0	IAB	No Action
0	1	1	DTB	Data To Bus, D0-D15 = Input
1	0	0	BAR	Bus to Address Register
1	0	1	DW	No Action
1	1	0	DWS	No Action
1	1	1	INTAK	INTerrupt AcKnowledge

TIMING DIAGRAM



ELECTRICAL CHARACTERISTICS

Maximum Ratings*

Temperature Under Bias ..... 0°C to +100°C
Storage Temperature ..... −55°C to +150°C
All Input or Output Voltages with Respect to V_{SS} ..... −0.2V to +12V
V_{CC} with Respect to V_{SS} ..... −0.2V to +12V

*Exceeding these ratings could cause permanent damage to the device. This is a stress rating only and functional operation of this device at these conditions is not implied—operating ranges are specified in Standard Conditions. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Standard Conditions (unless otherwise noted):

Ambient Temperature: −40°C to +85°C
V_{CC} = +4.50V to +5.50V
V_{SS} = 0V

Data labeled "typical" is presented for design guidance only and is not guaranteed.

DC CHARACTERISTICS

Characteristics	Sym	Min	Typ	Max	Units	Conditions
Inputs						
Input Logic Low	V_{IL}	0	—	0.8	V	
Input Logic High	V_{IH}	2	—	V_{CC}	V	
Input Leakage	V_{IL}	—	—	5	μA	V_{IN} = 0V to V_{CC}
CPU Bus Outputs						
Output Logic Low	V_{OL}	0	—	0.4	V	I_{OL} = 1.6mA
Output Logic High	V_{OH}	2.4	—	V_{CC}	V	I_{OH} = 100μA
Supply Current						
V_{CC} Supply	I_{CC}	—	—	75	mA	

AC CHARACTERISTICS

Characteristics	Sym	Min	Typ	Max	Units	Conditions
Inputs						
Address Set Up	t_{AS}	300	—	—	ns	
Address Overlap	t_{AO}	50	—	65	ns	
CPU Bus Outputs						
Turn ON Delay	t_{DA}	—	—	300	ns	
Turn OFF Delay	t_{DO}	80	—	250	ns	
Access Time	t_{AC}	—	—	1.5	μs	