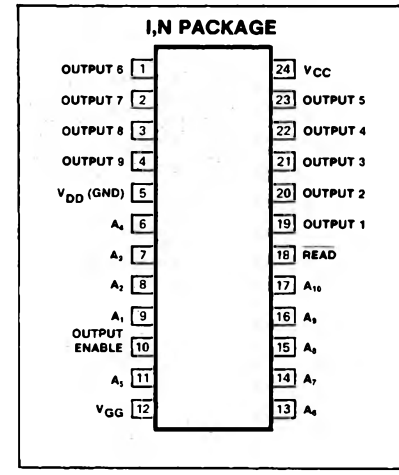
2526-I,N

DESCRIPTION

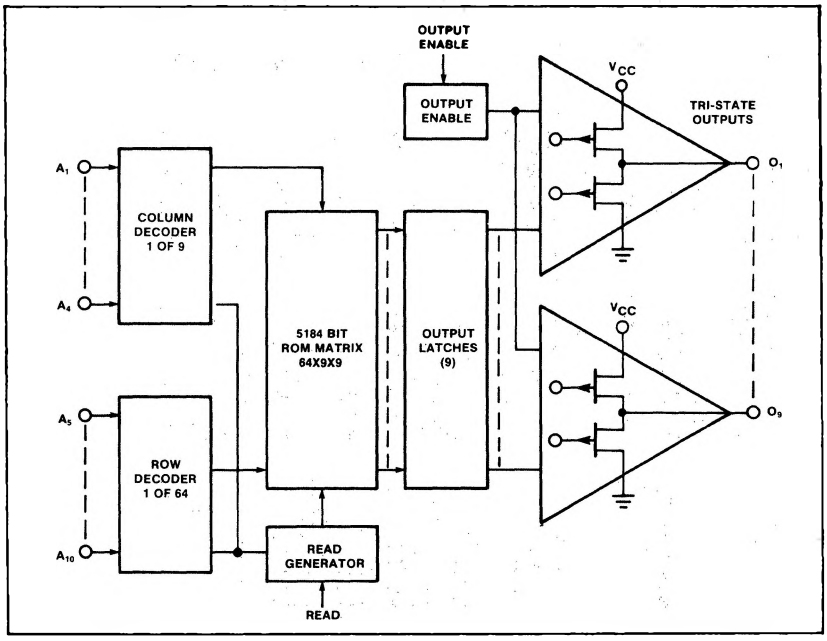
The 2526 high speed ROM may be organized as 64X9X9 for use as a character generator, or as a 512X9 ROM for general purpose use. A read input controls the entry of data from the ROM into output latches. Three-state outputs allow OR-tying for implementing large memories. Output enable controls the 9 output devices without affecting address circuitry.

PIN CONFIGURATION

I,N PACKAGE



BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS[1]

PARAMETER		RATING	UNIT
	Temperature range		°C
T_A	Operating	0 to 70	
T_{STG}	Storage	-65 to 150	
	Power dissipation at 70°C[2]	730	mW
	Input and supply voltages with respect to V_{CC}[3]	0.3 to -20	V

DC ELECTRICAL CHARACTERISTICS

T_A = 0°C to 70°C, V_{CC} = 5V ± 5%, V_{GG} = -12V ± 5%, unless otherwise specified[4,5,6,7]

PARAMETER		TEST CONDITIONS	LIMITS			UNIT
			Min	Typ	Max	
	Input voltage[8]					V
V_{IL}	Low		-5		0.6	
V_{IH}	High		3.4		5.3	
	Output voltage					V
V_{OL}	Low	I_{OL} = 1.6mA			0.5	
V_{OH}	High	I_{OH} = 100μA	3.8			
I_{LI}	Input load current	V_{IN} = -5.5V, T_A = 25°C		10	500	nA
I_{LO}	Output leakage current	V_{OUT} = OV, T_A = 25°C, V_{CE} = V_{CC}		10	1000	nA
	Supply current[9]					mA
I_{CC}	V_{CC}			30	55	
I_{GG}	V_{GG}			30	55	
C_{IN}	Address input capacitance	f = 1MHz, V_{AC} = 25mV p-p, V_{IN} = V_{CC}			10	pF

AC ELECTRICAL CHARACTERISTICS

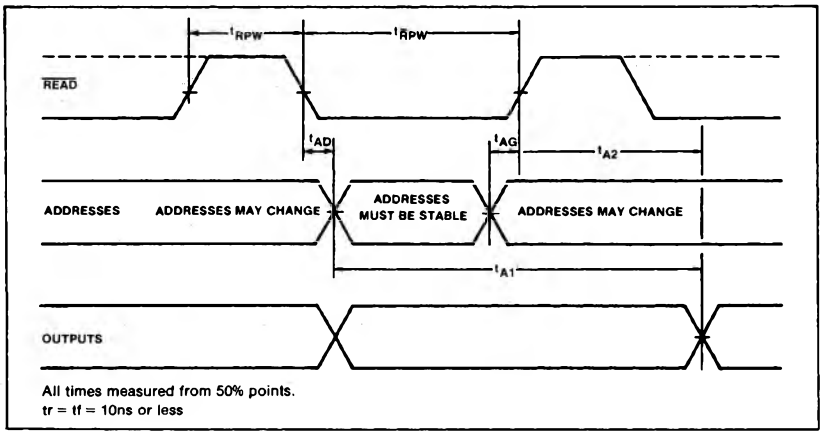
T_A = 0°C to 70°C, V_{CC} = 5V ± 5%, V_{GG} = -12V ± 5% unless otherwise specified.

PARAMETER		TO	FROM	LIMITS			UNIT
				Min	Typ	Max	
	Pulse width						ns
t_{RPW}	Read[10]			250	200		
$t_{\overline{R}PW}$	$\overline{\text{Read}}$[11]			500	400		
	Address time[12]						ns
t_{AD}	Delay	Address	$\overline{\text{Read}}$ low			50	
t_{AG}	Pulse gap	$\overline{\text{Read}}$ high	Address			50	
	Delay time						ns
t_{A1}[13]		Output	Address		625	700	
t_{A2}[13]		Output	End of read pulse		200	250	
t_{OE}		Output	Output enable		100	250	

NOTES

1. Stresses above those listed under Absolute Maximum Ratings may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied.
2. For operating at elevated temperatures the device must be derated based on a +150°C maximum junction temperature and a thermal resistance of 110°C/W junction to ambient.
3. All inputs are protected against static charge.
4. Parameters are valid over operating temperature range unless specified.
5. All voltage measurements are referenced to ground.
6. Manufacturer reserves the right to make design and process changes and improvements.
7. Typical values are at +25°C and typical supply voltages.
8. Guaranteed input levels are stated for worst case conditions including a ±5% variation in V_{CC} and a temperature variation of 0°C to 70°C. Actual input requirements with respect to V_{CC} are V_{IH} = V_{CC} - 1.85V and V_{IL} = V_{CC} - 4.15V.
9. Outputs open, t_{RPW} = 250ns, $t_{\overline{R}PW}$ = 500ns.
10. During t_{RPW1} addresses are decoded and sent to the memory matrix and the stored memory data is moved to the data inputs of the output RS latches. This data is clocked into the output latches at the end (rising edge) of the $\overline{\text{read}}$ pulse. After t_{A2}, data appears at the output terminals.
11. During $t_{\overline{R}PW1}$ data is clocked into the output latches and the address decoders are precharged in preparation for the next cycle.
12. Addresses must be stable within 50ns after the $\overline{\text{read}}$ line falls and must remain stable until at least 50ns before the $\overline{\text{read}}$ line goes high.
13. t_A = 0°C to +70°C.

TIMING DIAGRAM



All times measured from 50% points.
tr = tf = 10ns or less

CUSTOM CODING INFORMATION

Data Card Format

I.D./COMMENT CARDS

Card No. 1

Columns	
1	C
2	Blank
3-17	SIGNETICS 2526N/CM
18-26	Blank
27-71	Customer I.D. (company, project, part no., etc.)
72	Blank
73-80	Date

Card No. 2

Columns	
1	C
2	Blank
3-80	Person responsible for reviewing Signetics truth table

Card No. 3

Columns	
1	C
2	Blank
3-80	Customer street address

Card No. 4

Columns	
1	C
2	Blank
3-80	Customer city, state, zip

Card No. 5

Columns	
1	C
2	Blank
3-80	Name

DATA CARDS

Card No. 1

Columns	
1-9	Binary outputs of rows 9 through 1 (MSB at 9), first column, first character (first character is 000), logic high is high output (3.2V min)
10	Blank
11-19	Binary outputs of second column, first character
20	Blank
21-29	Third column
30	Blank
31-39	Fourth column
40	Blank
41-49	Fifth column
50	Blank
51-59	Sixth column
60	Blank
61-69	Seventh column
70-71	Blank
72	Data card number of first character (1)
73	Blank
74-76	Anything—customer option
77	Blank
78-80	Decimal character number (000)

Card No. 2

Columns	
1-9	Eighth column
10	Blank
11-19	Ninth column
20-70	Anything—customer option
71	Blank
72	Data card number of first character (2)
73	Blank
74-76	Customer option
77	Blank
78-80	Decimal character number (000)

Card No. 3

Columns	
1-9	First column, second character, rows 9 through 1
(etc., as Card 1)	MSB at (9). Second character is 001.

Card No. 4

Columns	
(etc., as Card 2)	

Card No. 128

Columns	
78-80	Decimal character number (063)

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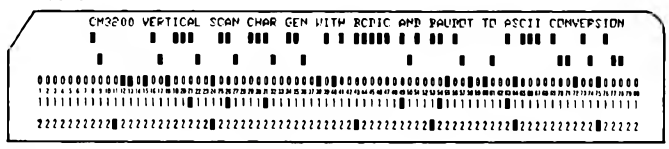
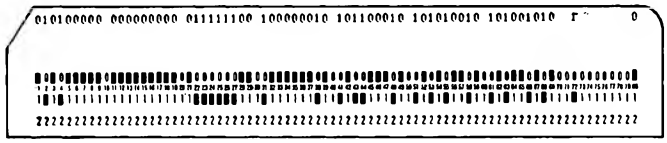
EXAMPLES

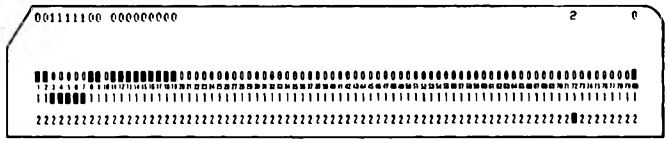
I.D. Card



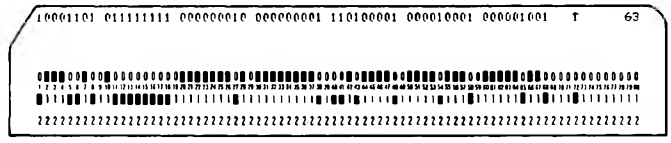
First Data Card—First Character



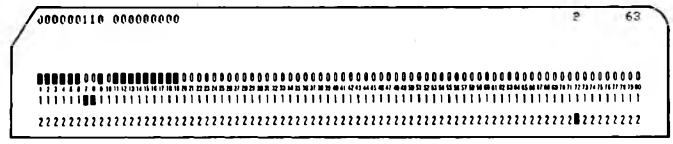
Second Data Card—First Character



First Data Card—Last Character



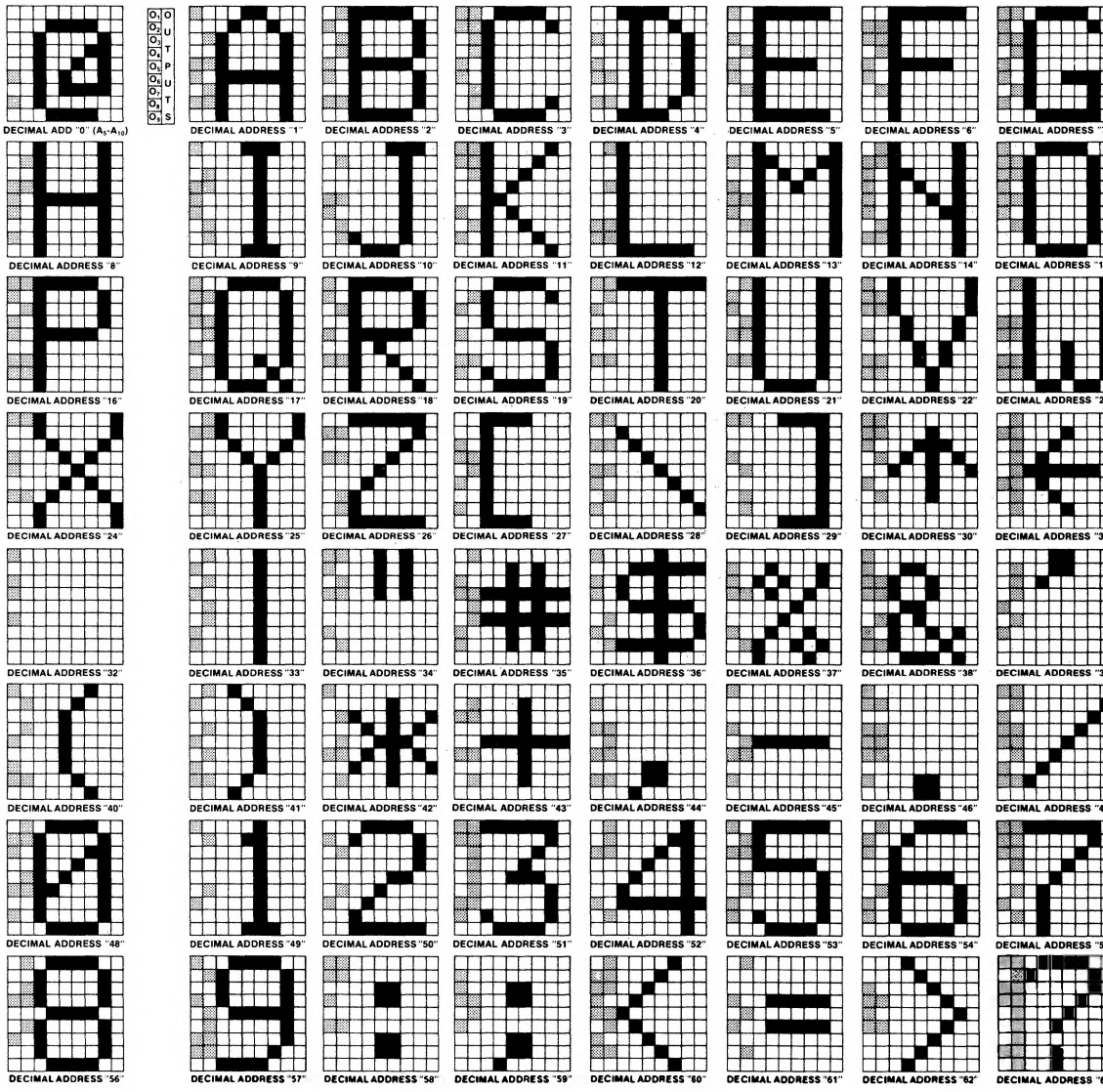
Second Data Card—Last Character



STANDARD CHARACTER FONTS

CM 3400
ASCII SET, VERTICAL SCAN 7X9 WITH CODE CONVERSION

COLUMN ADDRESSES	
A_1	0 1 0 1 0 1 0 1 0
A_2	0 0 1 1 0 0 1 1 0
A_3	0 0 0 0 1 1 1 1 0
A_4	0 0 0 0 0 0 0 0 1

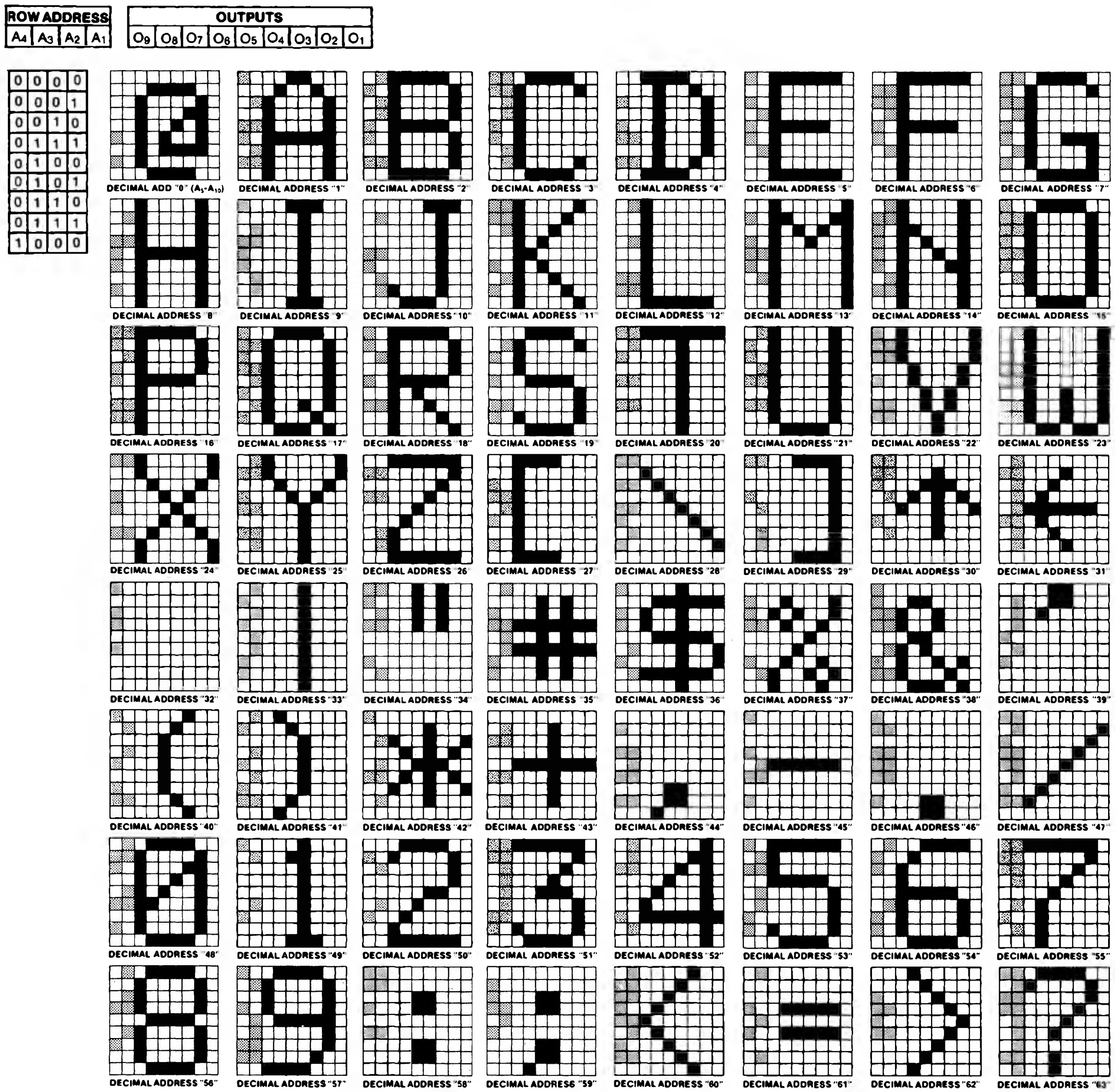


NOTES

A. BCDIC to ASCII in leftmost column, Baudot to ASCII in next column to right.
B. Undefined addresses result in all outputs going low (TTL "0").
C. Black squares in character font are high (TTL "1").

STANDARD CHARACTER FONTS (Cont'd)

CM 3941
ASCII SET, RASTER SCAN 7X9 WITH CODE CONVERSION



NOTES

A. BCDIC to ASCII in leftmost column, Baudot to ASCII in next column to right.
B. Undefined addresses result in all outputs going low (TTL "0").
C. Black squares in characer font are high (TTL "1").