2607-F,I,N

## FEATURES

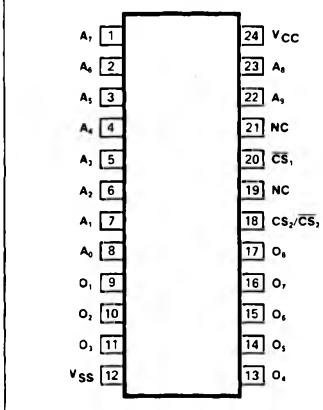
- Static operation—no clocks
- Access time: 450ns max
- Single 5V power supply
- TTL compatible inputs and outputs
- Power dissipation: 525mW
- Tri-state outputs
- Mask programmable chip select for easy word expansion
- N-channel silicon gate technology
- Standard 24-pin package
- Designed for system applications requiring high performance, large bit storage and simple interfacing
- 2 chip selects ($\overline{CS}1$, negative true; CS2/$\overline{CS}2$, either negative true or positive true at mask level)
- Pin for pin compatible with Intel 2708 electrically programmed erasable ROM and Intel 2308/8308 ROM, except only requiring +5V supply
- All inputs capacitive and do not sink or source current

## PIN DESIGNATION

| PIN NO. | FUNCTION |
|---|---|
| $A_0$-$A_9$ | Address inputs |
| $O_1$-$O_8$ | Data outputs |
| $CS_1$, $CS_2$ | Chip select inputs |
| NC | No connect |

## PIN CONFIGURATION

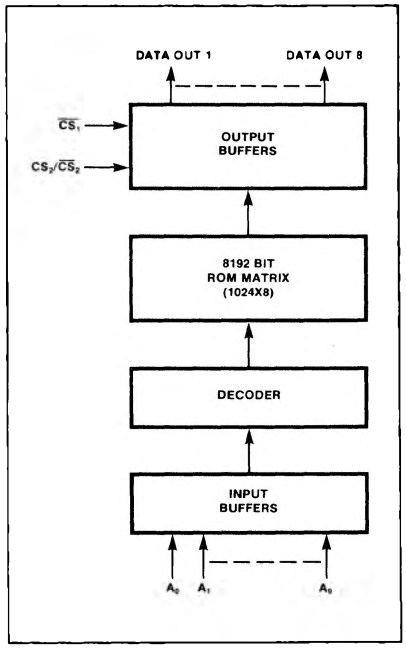
F,I,N PACKAGE




## ABSOLUTE MAXIMUM RATINGS[1]

| PARAMETER | | RATING | UNIT |
|---|---|---|---|
| | Temperature range | | °C |
| $T_A$ | Operating | 0 to 70 | |
| $T_{STG}$ | Storage | -65 to +150 | |
| | All input, output, and supply voltages with respect to ground pin | -0.5 to +7 | V |

## BLOCK DIAGRAM



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## DC ELECTRICAL CHARACTERISTICS

$T_A$ = 0°C to 70°C, $V_{CC}$ = 5V ± 5%, $V_{SS}$ = OV unless otherwise specified.

| PARAMETER | | TEST CONDITIONS | LIMITS | | | UNIT |
|---|---|---|---|---|---|---|
| | | | Min | Typ[2] | Max | |
| | Input voltage | | | | | V |
| $V_{IL}$ | Low | | | | 0.65 | |
| $V_{IH}$ | High | | 2.2 | | $V_{CC}$+1.0 | |
| | Output voltage | | | | | V |
| $V_{OL}$ | Low | $I_{OL}$ = 2mA | | | 0.45 | |
| $V_{OH1}$ | High | $I_{OH}$ = 1mA | 2.4 | | | |
| $I_{LI}$ | Input load current | $V_{IN}$ = 0 to 5.25V | | | 10 | μA |
| $I_{LO}$ | Output leakage current | Chip deselected | | | 10 | μA |
| $I_{CC}$ | Supply current | | | 80 | 100 | mA |
| $P_D$ | Power dissipation | | | 400 | 525 | mW |
| | Capacitance | $T_A$ = 25°C, f = 1MHz, $V_{CC}$ and all other pins tied to $V_{SS}$ | | | | pF |
| $C_{IN}$ | Input | | | | 7.5 | |
| $C_{OUT}$ | Output | | | | 15 | |

## AC ELECTRICAL CHARACTERISTICS

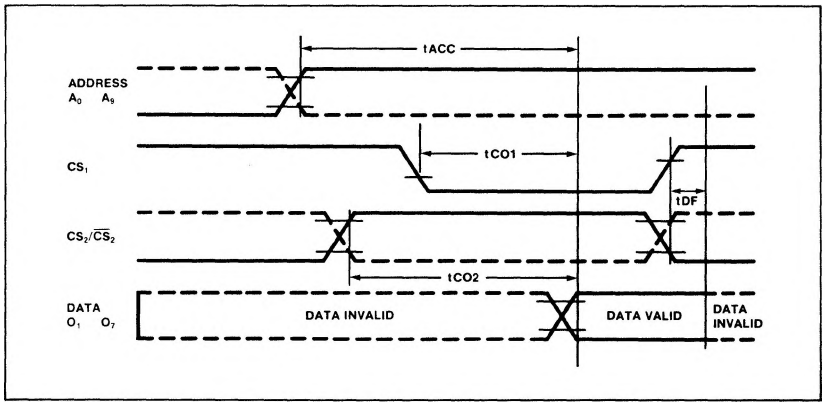
$T_A$ = 0°C to 70°C, $V_{CC}$ = 5V ± 5%, $V_{SS}$ = OV unless otherwise specified, Output load = 1 TTL gate, Input pulse levels = .65V to 2.2V, Input pulse rise and fall times = 20ns, Timing measurement reference level: $V_{IH}$ = 2.0V, $V_{OH}$ = 0.8V, $V_{IL}$ = $V_{OL}$

| PARAMETER | | TO | FROM | LIMITS | | | UNIT |
|---|---|---|---|---|---|---|---|
| | | | | Min | Typ | Max | |
| | Delay time | | | | | | ns |
| $t_{ACC}$ | | Output | Address | | 200 | 450 | |
| $t_{CO1}$ | | Output | Chip select 1 | | 85 | 160 | |
| $t_{CO2}$ | | Output | Chip select 2 | | 85 | 160 | |
| $t_{DF}$ | Float time | Output data | Chip deselect | | 70 | 160 | ns |

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. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.
2. Typical values for $T_A$ = 25°C and typical supply voltages.

## TIMING DIAGRAM



## CARD FORMAT

**IDENTIFICATION CARDS**

Column 8, 9
Custom designation "CN"

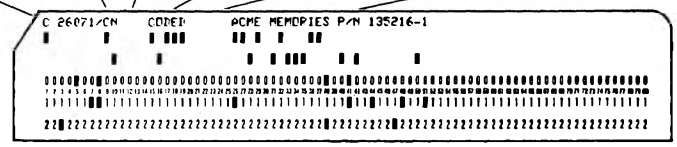
Column 10, 11, 12, 13,
Custom number (assigned
by Signetics)

Column 15, 16, 17, 18, 19
"Coded"

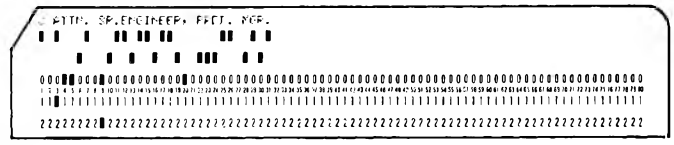
Column 22
Chip select code
(CS2)

Column 26-80
Customer identificaton

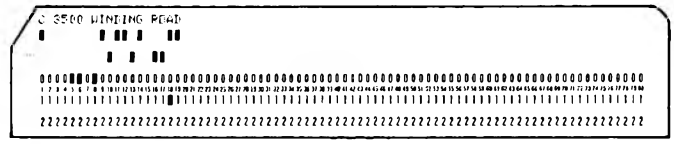
Basic part type



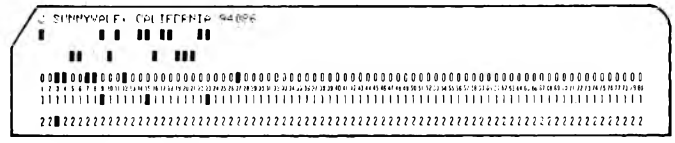

Person responsible for reviewing Signetics computer generated truth table



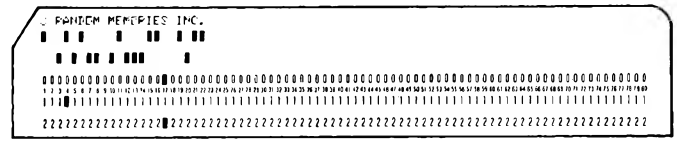

Street address




City State Zip




Company name



## INPUT FORMAT

A. For a N words X 8-bit organization only, cards 2 and the following cards should be punched as shown. Each card specifies the 8-bit output of 8 words.

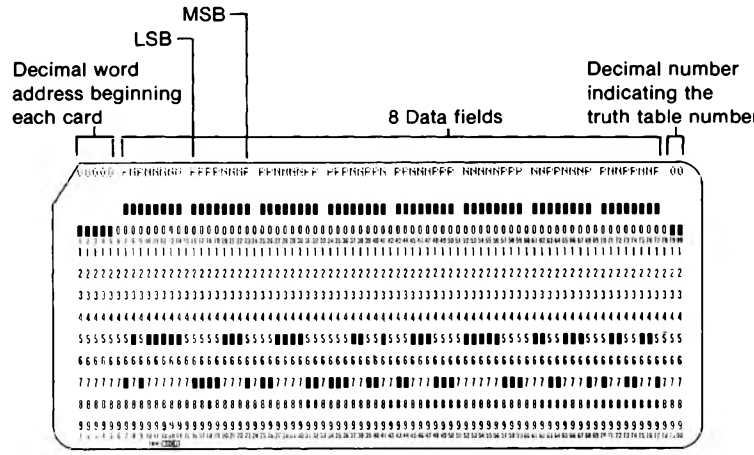
B. Paper Tape Format
The paper tapes which should be used are the:

1. 1" wide paper tape using 7 or 8-bit ASCII code, such as a model 33 ASR teletype produces:

The format requirements are as follows:

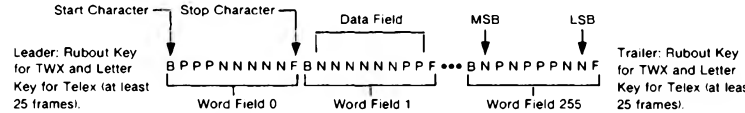
1. All word fields are to be punched in consecutive order, starting with word field 0 (all addresses low). There must be exactly N word fields for the NX8 organization.
2. Each word field must begin with the start character B and end with the stop character F. There must be exactly 8 or 4 data characters between the B and F for the NX8 organization.

   NO OTHER CHARACTERS, SUCH AS RUBOUTS, ARE ALLOWED ANYWHERE IN A WORLD FIELD. If in preparing a tape, an error is made, the entire word field, including the B and F must be rubbed out. Within the word field, a P results in a high level output, and an N results in a low level output.
3. Preceding the first word field and following the last word field, there must be a leader/trailer length of at least 25 characters. This should consist of rubout punches (letter key for Telex tapes).
4. Between word fields, comments not containing B's or F's may be inserted. Carriage return and line feed characters should be inserted (as a "comment") just before each word field (or at least between every 4 word fields). When these carriage returns, etc. are inserted, the tape may be easily listed on the teletype for purposes of error checking. The customer may also find it helpful to insert the word number (as a comment) at least every 4 word fields.
5. Included in the tape before the leader should be the customer's complete Telex or TWX number and if more than one pattern is being transmitted, the ROM pattern number.
6. MSB and LSB are the most and least significant bit of the device outputs. Refer to the data sheet for the pin numbers.




| COLUMN | DATA |
|---|---|
| 1-5 | Punch the 5 digit decimal equivalent of the binary coded location which begins each card. The address is right justified, i.e., 00000, 00008, 00016, etc. |
| 6 | Blank |
| 7-14 | Data field |
| 15 | Blank |
| 16-23 | Data field |
| 24 | Blank |
| 25-32 | Data field |
| 33 | Blank |
| 34-41 | Data field |
| 42 | Blank |
| 43-50 | Data field |
| 51 | Blank |
| 52-59 | Data field |
| 60 | Blank |
| 61-68 | Data field |
| 69 | Blank |
| 70-77 | Data field |
| 78 | Blank |
| 79-80 | Punch same 2 digit decimal number as in title card. |

### EXAMPLE OF 256X8 FORMAT (N = 256)




Example of 1024X4 format (N = 1024):