

## 512Kx32 FLASH

### FEATURES

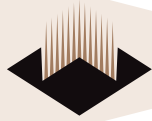
- 512Kx32, 2x512Kx32 and 4x512Kx32 Densities
- Based on AMDs - AM29LV004T Flash Device
- Fast Read Access Time - 80ns
- 3V Only Reprogramming
- Flexible, Sector Architecture
  - One 16Kbyte, two 8Kbyte, one 32Kbyte and seven 64Kbyte sectors
  - Any combination of sectors can be erased
  - Supports full chip erase
- Embedded Erase Algorithms
  - Automatically preprograms and erases the chip or specified sector
- Embedded Program Algorithms
  - Automatically writes and verifies data at specified address
- Data Polling and Toggle Bit feature for detection of program or erase cycle completion
- Low Power Dissipation
  - 20mA per Device Active Current
  - 10μA per Device CMOS Standby Current
- Typical Endurance >100,000 Cycles
- Single 3.3V ± 10% Supply
- CMOS and TTL Compatible Inputs and Outputs
- Commercial and Industrial Temperature Range
- Package
  - 80 Pin SIMM (JEDEC)

### DESCRIPTION

The EDI7F33512, EDI7F233512 and EDI7F433512 are organized as 512Kx32 and 2x512Kx32 and 4x512Kx32 respectively. The modules are based on AMD's AM29LV004T - 512Kx8 Flash Device in TSOP packages which are mounted on an FR4 substrate.

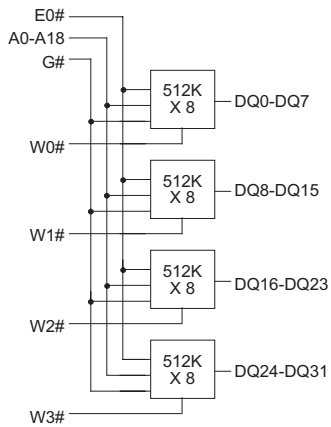
The modules offer access times between 80 and 120ns allowing for operation of high-speed microprocessors without wait states.

\*This product is subject to change without notice.

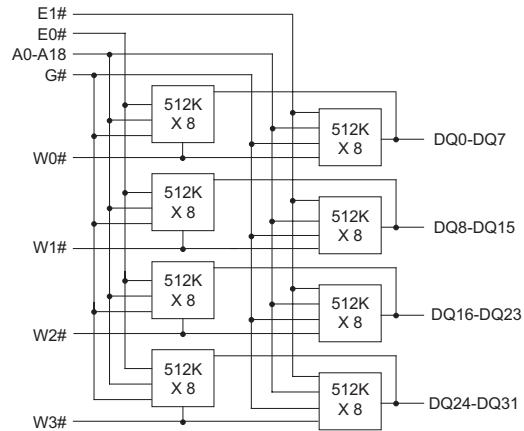


**FIG. 1 BLOCK DIAGRAMS**

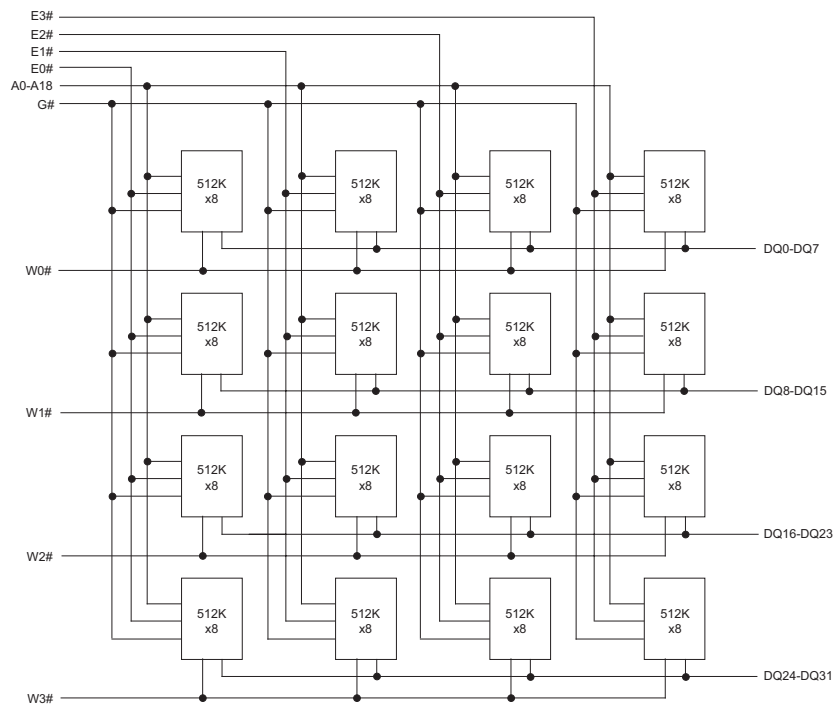
**EDI7F33512V-BNC: 512Kx32 80 PIN SIMM**

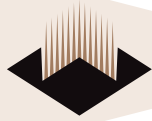


**EDI7F233512V-BNC: 2x512Kx32 80 PIN SIMM**



**EDI7F433512V-BNC: 4x512Kx32 80 PIN SIMM**





### CAPACITANCE

(f=1.0MHz,  $V_{IN} = V_{CC}$  or  $V_{SS}$ )

|                           |     | 512K | 2x512K | 4x512K |      |
|---------------------------|-----|------|--------|--------|------|
| Parameter                 | Sym | Max  | Max    | Max    | Unit |
| Address Lines             | CA  | 35   | 70     | 140    | pF   |
| Data lines                | CDQ | 15   | 30     | 60     | pF   |
| Chip & Write Enable Lines | CC  | 15   | 30     | 60     | pF   |
| Output Enable lines       | CG  | 35   | 70     | 140    | pF   |

### PIN CONFIGURATIONS

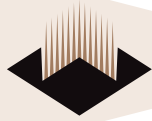
| Pin | Name            | Pin | Name            | Pin | Name            | Pin | Name            |
|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|
| 1   | V <sub>SS</sub> | 21  | *               | 41  | A11             | 61  | DQ9             |
| 2   | V <sub>CC</sub> | 22  | *               | 42  | A10             | 62  | DQ8             |
| 3   | NC              | 23  | *               | 43  | A9              | 63  | DQ7             |
| 4   | G#              | 24  | *               | 44  | A8              | 64  | DQ6             |
| 5   | W0#             | 25  | V <sub>SS</sub> | 45  | A7              | 65  | DQ5             |
| 6   | W1#             | 26  | DQ29            | 46  | A6              | 66  | DQ4             |
| 7   | NC              | 27  | DQ30            | 47  | A5              | 67  | DQ3             |
| 8   | DQ16            | 28  | DQ31            | 48  | A4              | 68  | DQ2             |
| 9   | DQ17            | 29  | W2#             | 49  | A3              | 69  | DQ1             |
| 10  | DQ18            | 30  | NC              | 50  | A2              | 70  | DQ0             |
| 11  | DQ19            | 31  | NC              | 51  | A1              | 71  | NC              |
| 12  | DQ20            | 32  | NC              | 52  | AO              | 72  | V <sub>CC</sub> |
| 13  | DQ21            | 33  | NC              | 53  | W3#             | 73  | PD1             |
| 14  | DQ22            | 34  | A18             | 54  | V <sub>SS</sub> | 74  | PD2             |
| 15  | DQ23            | 35  | A17             | 55  | DQ15            | 75  | PD3             |
| 16  | DQ24            | 36  | A16             | 56  | DQ14            | 76  | PD4             |
| 17  | DQ25            | 37  | A15             | 57  | DQ13            | 77  | PD5             |
| 18  | DQ26            | 38  | A14             | 58  | DQ12            | 78  | PD6             |
| 19  | DQ27            | 39  | A13             | 59  | DQ11            | 79  | PD7             |
| 20  | DQ28            | 40  | A12             | 60  | DQ10            | 80  | V <sub>SS</sub> |

\*TBD

| SIMM DENSITY |     |     |     |
|--------------|-----|-----|-----|
| Pin          | 2MB | 4MB | 8MB |
| 21           | NC  | NC  | E3# |
| 22           | NC  | NC  | E2# |
| 23           | NC  | E1# | E1# |
| 24           | E0# | E0# | E0# |

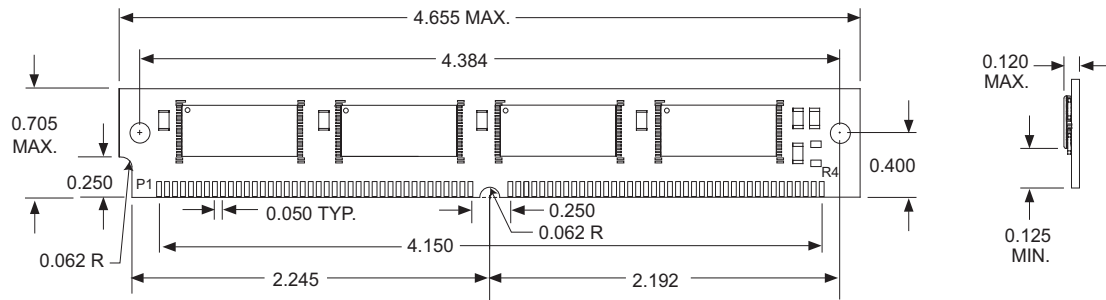
| PRESENCE DETECT PIN OUT |                 |                 |                 |
|-------------------------|-----------------|-----------------|-----------------|
| Pin                     | 512K            | 2x512K          | 4x512K          |
| PD1                     | V <sub>SS</sub> | NC              | V <sub>SS</sub> |
| PD2                     | V <sub>SS</sub> | NC              | NC              |
| PD3                     | V <sub>SS</sub> | NC              | Nc              |
| PD4                     | NC              | V <sub>SS</sub> | V <sub>SS</sub> |

|                 |                   |
|-----------------|-------------------|
| A0-A18          | Address Input     |
| E0#-E3#         | Chip Enable       |
| W0#-W3#         | Write Enable      |
| G#              | Output Enable     |
| DQ0-DQ31        | Data Input/Output |
| P <sub>D</sub>  | Presence Detect   |
| V <sub>CC</sub> | Power 3.3V±10%    |
| V <sub>SS</sub> | Ground            |
| NC              | No Connect        |



### ORDERING INFORMATION

| Part Number       | Speed (ns) | Package |
|-------------------|------------|---------|
| EDI7F33512V80BNC  | 80         | 366     |
| EDI7F33512V90BNC  | 90         | 366     |
| EDI7F33512V100BNC | 100        | 366     |
| EDI7F33512V120BNC | 120        | 366     |

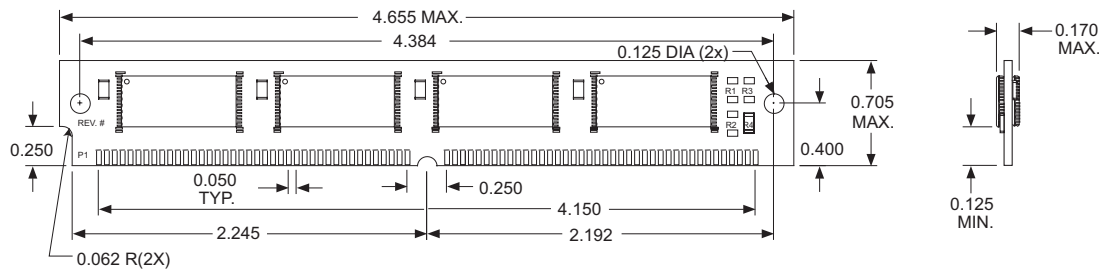


ALL DIMENSIONS ARE IN INCHES



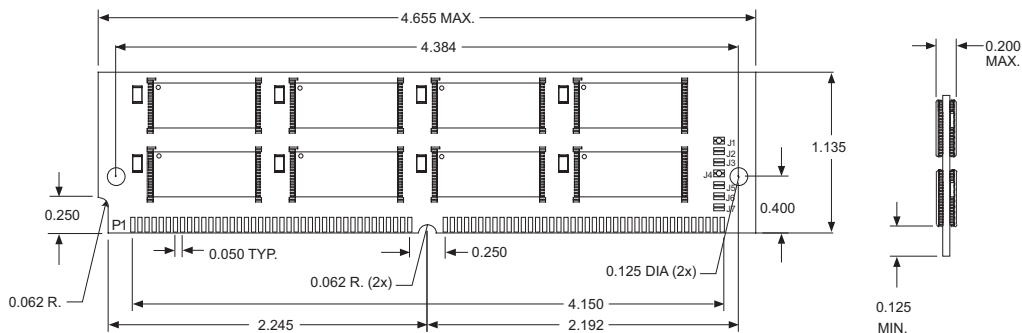
### ORDERING INFORMATION

| Part Number        | Speed (ns) | Package |
|--------------------|------------|---------|
| EDI7F233512V80BNC  | 80         | 367     |
| EDI7F233512V90BNC  | 90         | 367     |
| EDI7F233512V100BNC | 100        | 367     |
| EDI7F233512V120BNC | 120        | 367     |



ALL DIMENSIONS ARE IN INCHES

| Part Number        | Speed (ns) | Package |
|--------------------|------------|---------|
| EDI7F433512V80BNC  | 80         | 368     |
| EDI7F433512V90BNC  | 90         | 368     |
| EDI7F433512V100BNC | 100        | 368     |
| EDI7F433512V120BNC | 120        | 368     |



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