# COMPACTFLASH™ CARD

## MTCF004A, MTCF008A, MTCF010A, MTCF016A, MTCF032A, MTCF064A

**CompactFlash ATA/ATA (IDE)**

## FEATURES

- Implements a highly integrated memory controller
  - Fully compatible with CompactFlash™ specification
  - ATA (IDE) compatible
  - 16-bit PC Card ATA standard with optional adapter
  - Also PCMCIA 2.1 compatible with optional adapter
- Smallest ATA-compatible form factor
  - 36.4mm x 42.8mm x 3.3mm
- Uses standard ATA software drivers; no additional software drivers required
- High reliability
  - No moving parts
  - Noiseless
  - 10,000 card insertions/removals
  - High shock and vibration tolerance
- Powerful Reed-Solomon error detection and correction
- Optimized power consumption
  - Selectable based on performance and power requirements
  - Automatic sleep mode with fast wake-up
- Supports standard power-management commands
  - POWER-DOWN command
  - SLEEP command
- High performance
  - 6 MB/s burst rate
- Available densities
  - 4MB, 8MB, 10MB, 16MB, 32MB, 64MB
- 3.3V or 5V supply voltage
- Customer-specific labeling; contact factory for details


## GENERAL DESCRIPTION

The Micron® CompactFlash card is a small form factor, 50-pin connector, solid-state disk card with densities ranging from 4MB to 64MB. Maximum compatibility across various platforms is ensured because the CompactFlash card implements an industry-standard PCMCIA ATA- and IDE-compatible electrical interface. Additionally, the card is mechanically and electrically compliant with the CompactFlash Association (CFA) CompactFlash specification, version 1.3. (For details on this specification, refer to *www.compactflash.org*.)

Micron's MediaFlash memory components are used on the card, which is specifically designed for high-performance, low-cost, mass-storage applications.

Micron's CompactFlash card can be used in any application designed for the CompactFlash specification. Although it maintains compatibility with the electrical interface of a standard PCMCIA card, CompactFlash has a 66 percent smaller form factor that makes it an ideal choice for space-constrained, portable applications. With a 50-pin to 68-pin PCMCIA adapter, the CompactFlash card can be used in any Type II or Type III PCMCIA slot. Micron's CompactFlash card provides a superior memory solution for any application requiring rugged, compact, low-power (battery-powered) and reliable mass storage.

Please refer to the Micron Web site (www.micron.com/flash) for the latest data sheet.

## SPECIFICATION SUMMARY

## CAPACITY

| MODEL NUMBER | FORMATTED CAPACITY | SECTORS PER CARD | HEADS | SECTORS/ TRACK | CYLINDERS |
|---|---|---|---|---|---|
| MTCF004A | 4,030,464 | 7,872 | 2 | 32 | 123 |
| MTCF008A | 8,028,160 | 15,680 | 2 | 32 | 245 |
| MTCF010A | 10,485,760 | 20,480 | 2 | 32 | 320 |
| MTCF016A | 16,056,320 | 31,360 | 2 | 32 | 490 |
| MTCF032A | 32,112,640 | 62,720 | 4 | 32 | 490 |
| MTCF064A | 64,225,280 | 125,440 | 8 | 32 | 490 |

## PERFORMANCE

(0°C ≤ $T_A$ ≤ +60°C; Vcc = 3.3V ±5% or 5V ±10%)

| PARAMETER | TYP | MAX | UNITS | NOTES |
|---|---|---|---|---|
| Reset to ready | – | 50 | ms | |
| Sustained rate (READ) | 1.5 | – | MB/s | 1 |
| Sustained rate (WRITE) | 400 | – | KB/s | 1 |
| Burst rate | – | 6 | MB/s | 2 |
| Data path | x8 or x16 | – | bits | |
| Buffer/burst size | 512 | – | bytes | |
| Command to DRQ (READ) | – | 2 | ms | |
| Command to DRQ (WRITE) | – | 1 | ms | |

## CURRENT DRAIN

(0°C ≤ $T_A$ ≤ +60°C; Vcc = 3.3V ±5% or 5V ±10%)

| PARAMETER | MAX | UNITS | NOTES |
|---|---|---|---|
| Operating current (3.3V ±5%) | 75 | mA | 3 |
| Operating current (5V ±10%) | 100 | mA | 3 |
| Sleep mode current (3.3V ±5%) | 0.6 | mA | |
| Sleep mode current (5V ±10%) | 1.0 | mA | |

**NOTE:** 1. Parameter depends on application and host overhead.
2. Parameter is specified for a READ or WRITE.
3. Maximum average RMS current.

## SPECIFICATION SUMMARY (continued)

## ENVIRONMENTAL CONDITIONS

| PARAMETER | MIN | MAX | UNITS | NOTES |
|---|---|---|---|---|
| Temperature (operating) | 0 | +60 | ºC | |
| Temperature (nonoperating) | -25 | +85 | ºC | |
| Shock (operating/nonoperating) | – | 2,000 | G | 1 |
| Vibration (operating/nonoperating) | – | 15 | G | 2 |
| Humidity (operating/nonoperating) | 8% | 95% | – | 3 |
| Noise | – | 0 | db | |

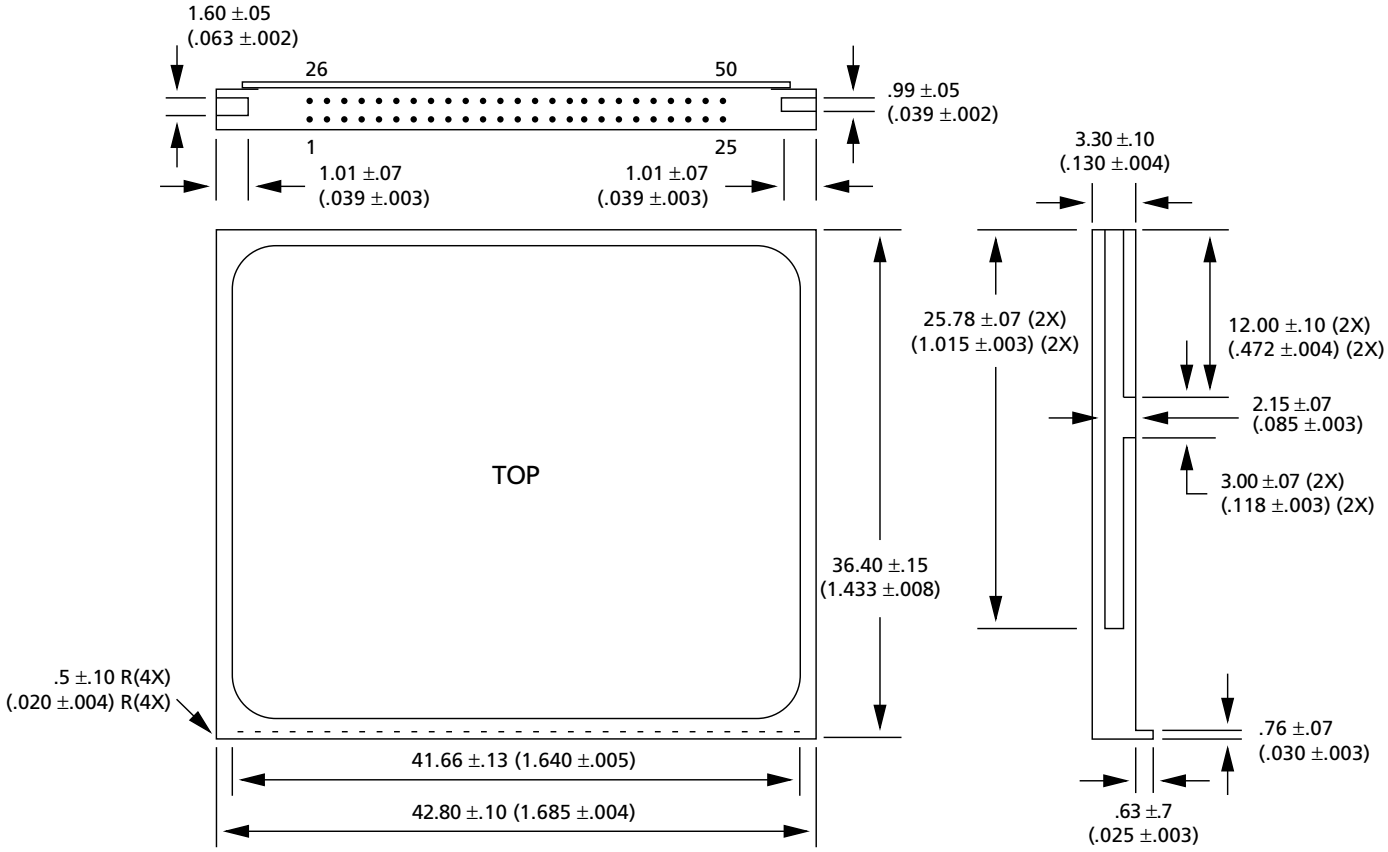
**NOTE:** 1. Parameter is specified for any axis or direction.
2. Measured peak to peak.
3. Noncondensing.

## ORDERING INFORMATION

| PART NUMBER | DENSITY |
|---|---|
| MTCF004A-____ | 4MB |
| MTCF008A-____ | 8MB |
| MTCF010A-____ | 10MB |
| MTCF016A-____ | 16MB |
| MTCF032A-____ | 32MB |
| MTCF064A-____ | 64MB |

**NOTE:** All part numbers end with a three-place code (not shown), designating ASIC, flash component and PCB revision. Consult factory for current revision codes. Example: MTCF004A-CAB

## COMPACTFLASH CARD




**NOTE:** 1. All dimensions in millimeters (inches) $\frac{\text{MAX}}{\text{MIN}}$ or typical where noted.

## DATA SHEET DESIGNATION

No Marking This data sheet contains minimum and maximum limits specified over the complete power supply and temperature range for production devices. Although considered final, these specifications are subject to change, as further product development and data characterization sometimes occur.

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## REVISION HISTORY

Rev. 3 ..... 7/01
Added 64MB density

Rev. 2 ..... 12/00

Original document, Rev. 1 ..... 8/99