

COMPACTFLASH™

MTCF004A, MTCF008A, MTCF010A,
MTCF015A

COMPACTFLASH ATA/ATA (IDE)

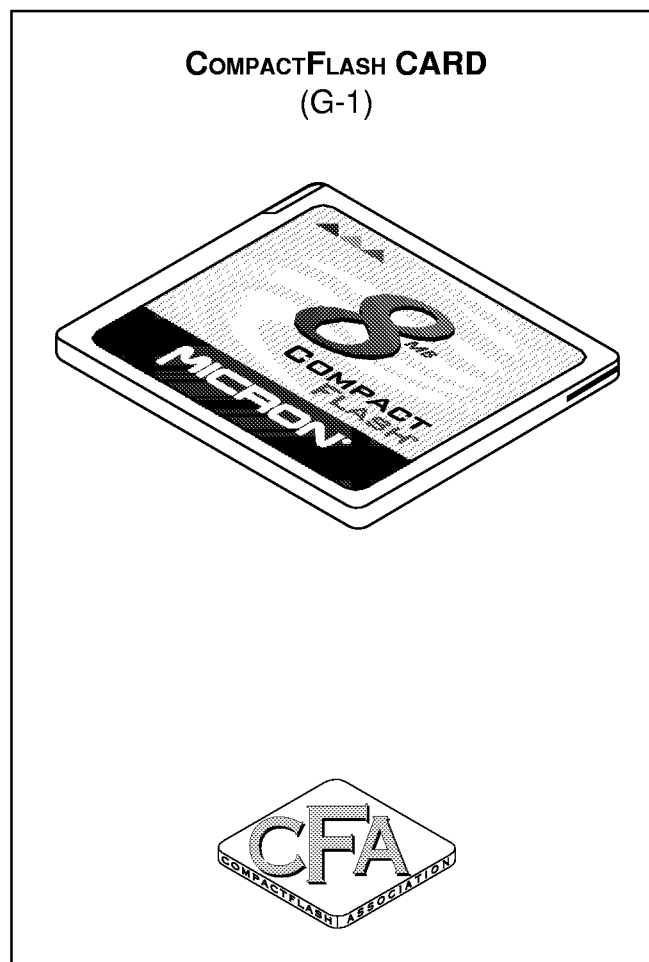
FEATURES

- Implements 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
 - 500,000 hours MTBF
 - 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
 - Multiple mode supported for fast data transfers (two sectors/block)
- Available densities:
 - 4MB, 8MB, 10MB, 15MB
- 3.3V or 5V supply voltage (no 12V required)

GENERAL DESCRIPTION

The Micron® CompactFlash Card is a small form factor, 50-pin connector, solid-state disk card with densities ranging from 4MB to 15MB. Maximum compatibility across various platforms is ensured since 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. Micron's 40 megabit flash memory is implemented 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. Though



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. With no moving parts, silent operation and durable enclosure, the Micron CompactFlash Card provides a superior memory solution for any application requiring rugged, compact, low-power (battery-powered) and reliable mass storage.

Please refer to Micron's Web site (www.micron.com/flash/htmls/datasheets.html) for the latest data sheet revision.

SPECIFICATION SUMMARY

PERFORMANCE

($0^{\circ}\text{C} \leq T_A \leq +60^{\circ}\text{C}$; $V_{CC} = 3.3\text{V} \pm 0.3\text{V}$ or $5\text{V} \pm 10\%$)

PARAMETER	TYP	UNITS	NOTES
Initial access	1	ms	
Initial WRITE to buffer	400	ns	
Sustained rate (READ)	1	MB/s	1
Sustained rate (WRITE)	400	KB/s	2
Burst rate	6	MB/s	3
Data path	x8 or x16	Bits	
Buffer/burst size	512	Bytes	4
Power-up time	2	ms	

CURRENT DRAIN

($0^{\circ}\text{C} \leq T_A \leq +60^{\circ}\text{C}$; $V_{CC} = 3.3\text{V} \pm 0.3\text{V}$ or $5\text{V} \pm 10\%$)

PARAMETER	MAX	UNITS	NOTES
READ current	75	mA	5
WRITE current	100	mA	5
Sleep mode current	<0.5	mA	

- NOTE:**
1. Parameter depends on software overhead.
 2. Faster transfer rates are possible based on parameter selection.
 3. Parameter is specified for a READ or WRITE.
 4. Buffer/burst size is 1,024 bytes in multiple mode.
 5. Typical current draw is selectable based on power and performance requirements.

SPECIFICATION SUMMARY (continued)

RELIABILITY

($0^{\circ}\text{C} \leq T_A \leq +60^{\circ}\text{C}$; $V_{CC} = 3.3\text{V} \pm 0.3\text{V}$ or $5\text{V} \pm 10\%$)

PARAMETER	TYP	UNITS	NOTES
WRITE/ERASE cycle endurance	400,000	Per Sector	
MTBF	>500,000	Hours	
Start/stop cycles	NA	–	

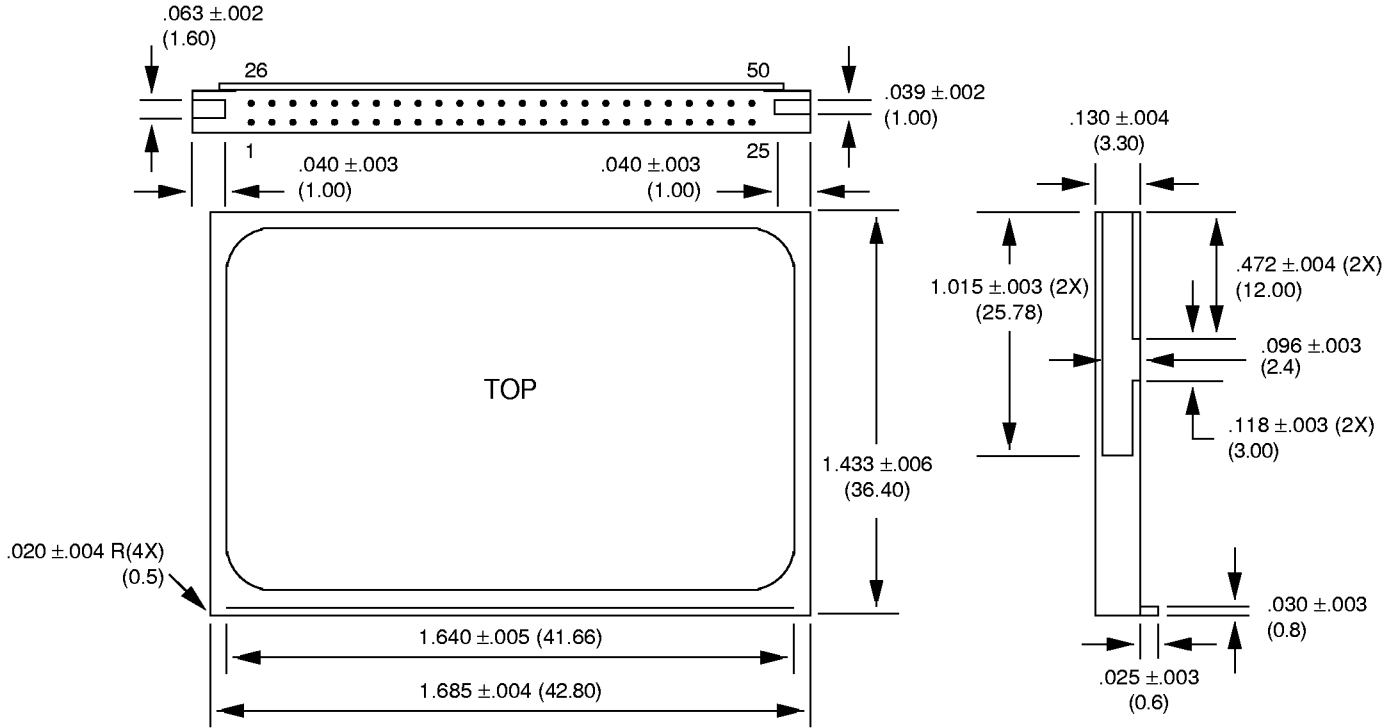
ENVIRONMENTAL CONDITIONS

PARAMETER	MIN	MAX	UNITS	NOTES
Temperature (operating)	0	+60	$^{\circ}\text{C}$	
Temperature (nonoperating)	-20	+85	$^{\circ}\text{C}$	
Shock (operating)	–	1,000	G	1
Shock (nonoperating)	–	1,000	G	1
Vibration (operating)	–	15	G	2
Vibration (nonoperating)	–	15	G	2
Humidity (operating)	8%	95%	–	3
Humidity (nonoperating)	8%	95%	–	3
Humidity (maximum wet bulb)	–	+30	$^{\circ}\text{C}$	
Altitude (operating)	-200	+80,000	Feet	
Noise	–	0	db	

- NOTE:**
1. Parameter is specified for any axis or direction. A ruggedized version of the CompactFlash Card is expected in the future.
 2. Measured peak to peak.
 3. Noncondensing.

COMPACTFLASH CARD

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