

**MICRODIA®**

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**52XTRA™**  
**Compact Flash Card**

**Specification**

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Date: Nov 2006

**Features:**

- High-Speed CF Card Type I
- Highest Compatibility
- Ultra Fast Read and Write Speeds of 7.8MB/sec
- Advanced IC packaging technology
- PRIME Grade Flash ICs
- Waterproof, dust proof, ESD proof and extreme temperature resistant
- Durable, reliable and thoroughly tested – temperature tested (heat and cold); shock and vibration tested
- Compatible with all digital cameras, digital music players, PDAs, and other devices featuring CF slots
- Tested internally by MICRODIA under HD BENCH
- MICRODIA's Exclusive Lifetime Limited Warranty

## Pin Configuration

PC Card Memory Mode				PC and I/O Mode				TureIDE Mode			
Pin	Signal Name	Pin Type	In/Out	Pin	Signal Name	Pin Type	In/Out	Pin	Signal Name	Pin Type	In/Out
1	GND		Ground	1	GND		Ground	1	GND		Ground
2	D03	I/O	I4Z,OZ1	2	D03	I/O	I4Z,OZ1	2	D03	I/O	I4Z,OZ1
3	D04	I/O	I4Z,OZ1	3	D04	I/O	I4Z,OZ1	3	D04	I/O	I4Z,OZ1
4	D05	I/O	I4Z,OZ1	4	D05	I/O	I4Z,OZ1	4	D05	I/O	I4Z,OZ1
5	D06	I/O	I4Z,OZ1	5	D06	I/O	I4Z,OZ1	5	D06	I/O	I4Z,OZ1
6	D07	I/O	I4Z,OZ1	6	D07	I/O	I4Z,OZ1	6	D07	I/O	I4Z,OZ1
7	-CE1	I	I3U	7	-CE1	I	I3U	7	-CE1	I	I3U
8	A10	I	I3Z	8	A10	I	I3Z	8	A10	I	I3Z
9	-OE	I	I4U	9	-OE	I	I4U	9	-OE	I	I4U
10	A09	I	I3Z	10	A09	I	I3Z	10	A09	I	I3Z
11	A08	I	I3Z	11	A08	I	I3Z	11	A08	I	I3Z
12	A07	I	I3Z	12	A07	I	I3Z	12	A07	I	I3Z
13	VCC		Power	13	VCC		Power	13	VCC		Power
14	A06	I	I3Z	14	A06	I	I3Z	14	A06	I	I3Z
15	A05	I	I3Z	15	A05	I	I3Z	15	A05	I	I3Z
16	A04	I	I3Z	16	A04	I	I3Z	16	A04	I	I3Z
17	A03	I	I3Z	17	A03	I	I3Z	17	A03	I	I3Z
18	A02	I	I3Z	18	A02	I	I3Z	18	A02	I	I3Z
19	A01	I	I3Z	19	A01	I	I3Z	19	A01	I	I3Z
20	A00	I	I3Z	20	A00	I	I3Z	20	A00	I	I3Z
21	D00	I/O	I4Z,OZ1	21	D00	I/O	I4Z,OZ1	21	D00	I/O	I4Z,OZ1
22	D01	I/O	I4Z,OZ1	22	D01	I/O	I4Z,OZ1	22	D01	I/O	I4Z,OZ1
23	D02	I/O	I4Z,OZ1	23	D02	I/O	I4Z,OZ1	23	D02	I/O	I4Z,OZ1
24	WP	O	OT1	24	WP	O	OT1	24	WP	O	OT1
25	-CD2	O	Ground	25	-CD2	O	Ground	25	-CD2	O	Ground
26	-CD1	O	Ground	26	-CD1	O	Ground	26	-CD1	O	Ground
27	D11	I/O	I4Z,OZ1	27	D11	I/O	I4Z,OZ1	27	D11	I/O	I4Z,OZ1
28	D12	I/O	I4Z,OZ1	28	D12	I/O	I4Z,OZ1	28	D12	I/O	I4Z,OZ1
29	D13	I/O	I4Z,OZ1	29	D13	I/O	I4Z,OZ1	29	D13	I/O	I4Z,OZ1
30	D14	I/O	I4Z,OZ1	30	D14	I/O	I4Z,OZ1	30	D14	I/O	I4Z,OZ1
31	D15	I/O	I4Z,OZ1	31	D15	I/O	I4Z,OZ1	31	D15	I/O	I4Z,OZ1
32	-CE2	I	I3U	32	-CE2	I	I3U	32	-CE2	I	I3U
33	-VS1	O	Ground	33	-VS1	O	Ground	33	-VS1	O	Ground
34	-IORD	I	I4U	34	-IORD	I	I4U	34	-IORD	I	I4U
35	-IOWR	I	I4U	35	-IOWR	I	I4U	35	-IOWR	I	I4U
36	-WE	I	I4U	36	-WE	I	I4U	36	-WE	I	I4U
37	RDY/-BSY	O	OT1	37	RDY/-BSY	O	OT1	37	RDY/-BSY	O	OT1
38	VCC		Power	38	VCC		Power	38	VCC		Power
39	-CSEL	I	I1U	39	-CSEL	I	I1U	39	-CSEL	I	I1U
40	-VS2	O	OPEN	40	-VS2	O	OPEN	40	-VS2	O	OPEN
41	RESET	I	I3U	41	RESET	I	I3U	41	RESET	I	I3U
42	-WAIT	O	OT1	42	-WAIT	O	OT1	42	-WAIT	O	OT1
43	-INPACK	O	OT1	43	-INPACK	O	OT1	43	-INPACK	O	OT1
44	-REG	I	I3U	44	-REG	I	I3U	44	-REG	I	I3U
45	BVD2	I/O	I4U,OZ1	45	BVD2	I/O	I4U,OZ1	45	BVD2	I/O	I4U,OZ1
46	BVD1	I/O	I4U,OZ1	46	BVD1	I/O	I4U,OZ1	46	BVD1	I/O	I4U,OZ1
47	D08	I/O	I4Z,OZ1	47	D08	I/O	I4Z,OZ1	47	D08	I/O	I4Z,OZ1
48	D09	I/O	I4Z,OZ1	48	D09	I/O	I4Z,OZ1	48	D09	I/O	I4Z,OZ1

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PC Card Memory Mode				PC and I/O Mode				TureIDE Mode			
Pin	Signal Name	Pin Type	In/Out	Pin	Signal Name	Pin Type	In/Out	Pin	Signal Name	Pin Type	In/Out
49	D10	I/O	I4Z,OZ1	49	D10	I/O	I4Z,OZ1	49	D10	I/O	I4Z,OZ1
50	GND		Ground	50	GND		Ground	50	GND		Ground

### Electrical Characteristics

Symbol	Parameter	Min.	Typ.	Max.	Unit
$V_{IN}, V_{OUT}$	All input/output voltage	-0.3	-	$V_{CC} + 0.3$	V
VCC	Power supply voltage (absolute maximum ratings)	-0.6	-	6.0	V
VCC	Power supply	4.5	5.0	5.5	V
		3.0	3.3	6.0	V

### Environment Specifications

Type		Standard
Temperature	Operating	0°C to - 70°C
	Non-operating	-40°C to +85°C
Humidity	Operating	8% to 95%, non-condensing
	Non-operating	8% to 95%, non-condensing
Vibration	Operating	15G peak-to-peak Max.
	Non-operating	15G peak-to-peak Max.
Mechanical Shock	Operating	2,000G Max
	Non-operating	2,000G Max
Thermal Shock	Operating	-55°C to +85°C

### Speed Performance

Type	Measurement
High Speed Card Support	52X
Data Transfer Rate	Up to 7.8MB/s

### System Reliability and Maintenance

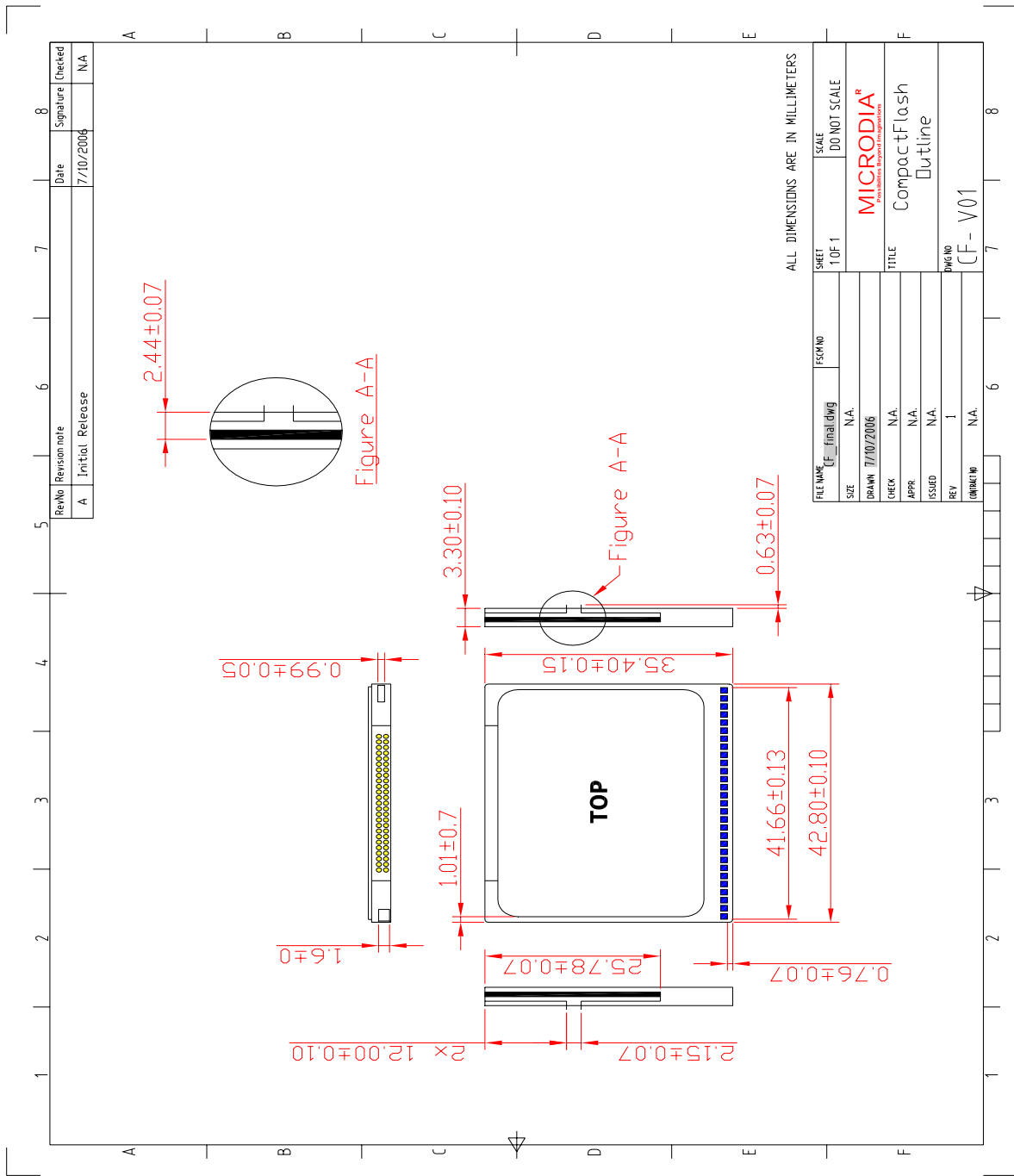
MTBG:	> 1,000,000 hours
Data Reliability:	< 1 non-recoverable error in $10^{14}$ bits read
Endurance:	>100,000 cycles (read/write and erase)

### Physical Dimension Specifications

Type	Measurement
Length	36.00mm $\pm$ 0.15mm
Width	42.80mm $\pm$ 0.10mm
Thickness	3.30mm $\pm$ 0.10mm
Weight	Approx. 11.4 g

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# Mechanical Form Factor



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