swissbit®

Product fact sheet

Industrial UDMA CompactFlash Card

C-320 Series
up to UDMA4 / MDMA4 / PIO6

BU: Swissbit Group
Date: 29 April 2010
Revision: 1.00

C-320_fact_sheet_CF-HxB0_Rev100.doc

Swissbit AG
Industriestrasse 4
CH-9552 Bronschhofen
Switzerland

Swissbit reserves the right to change products or specifications without notice.

www.swissbit.com
industrial@swissbit.com

Revision: 1.00

C-320_fact_sheet_CF-HxB0_Rev100
Page 1 of 3

C-320 Series
32GByte Type I – Industrial UDMA CompactFlash™ Card

Main Features

- Fully compliant with
  - CompactFlash™ specification 3.0, compatible with specification 4.1
  - PCMCIA specification & PC Card ATA Interface
  - True IDE mode compatible
    - Up to PIO mode 6 supported
    - Up to MDMA4 supported
    - Up to UDMA4 supported
  - Fix drive (IDE mode) & removable drive (PCMCIA mode) as default in the same card

- Hot swappable in PCMCIA modes

- High performance
  - Up to 66MB/s burst transfer rate in UDMA4
  - Sustained Write performance: up to 35MB/s (UDMA4)
  - Sustained Read Performance: up to 45MB/s (UDMA4)

- Small form factor
  - CFC Type I: 36.4mm x 42.8mm x 3.3mm

- Power Supply (Low-power CMOS technology)
  - 3.3V or 5.0V power supply
  - Power saving mode (with automatic wake-up)

- Patented power-off reliability
  - No data loss of older sectors
  - Max. 32 sectors data loss of last written sectors (old data kept) if power off before the write command is completed

- Wear Leveling
  Equal wear leveling of static and dynamic data. The wear leveling assures that dynamic data as well as static data is balanced evenly across the memory. With that the maximum write endurance of the device is guaranteed.

- High reliability
  - MTBF > 3,000,000 hours
  - Data reliability: < 1 non-recoverable error per 10^{14} bits read
  - Number of connector insertions/removals: >10,000

- Temperature ranges
  - Commercial Temperature range   0 ... +70°C
  - Industrial Temperature range   –40 ... +85°C

- Controlled BOM & PCN process

- FULL S.M.A.R.T. Interface support for life time monitoring

Swissbit AG
Industriestrasse 4
CH-9552 Bronschhofen
Switzerland

Swissbit reserves the right to change products or specifications without notice.

www.swissbit.com
industrial@swissbit.com

Revision: 1.00

C-320_fact_sheet_CF-HxB0_Rev100
Page 2 of 3

System Performance

System Performance		Typ.	Max.	Unit
Sleep to write			5	
Sleep to read			5	
Power up to Ready		<500	1000	ms
Reset to Ready (IDE Master)			500	
Data transfer Rate (UDMA4 burst)			66 (440X)[1]	
Sustained Read (measured)		42 (280X)[1][2]	45 (300X)[1]	MB/s
Sustained Write (measured)		32 (210X)[1][2]	35 (230X)[1]	
Command to DRQ	Read	100	2000	μs
	Write	30	1000	

[1] X are speed grade markings where 1X = 150 kBytes/s. All values refer to Toshiba Flash, CFC in UDMA mode 4, cycle time 30ns, write/read file sequential transfer 256 sectors/command

[2] Sustained Speed depends on flash type and number, file size, and burst speed

Current Consumption[3] @ 5V	Typ.	Max.	Unit
Read (UDMA4)	130	190	
Write (UDMA4)	120	160	mA
Sleep Mode	5	6	

[3] All values are typical at 25° C and nominal supply voltage and refer to 32GByte CFC.

Physical Dimensions

Physical Dimensions	Value	Unit
Width	36.4	
Height	42.8	mm
Thickness	3.3	
Weight (typ.)	10	g

Environmental Specifications

Environmental Specifications	Operating	Non Operating
Temperature (commercial)	0 to 70°C	-40 to 85°C
Temperature (industrial)	-40 to 85°C	-50 to 100°C
Humidity (non-condensing)	85% RH 85°C, 1000 hrs (JEDEC JESD22, method A101-B)	
Vibration (peak -to-peak)	20 G peak, 20-2000Hz, 4 per direction (JEDEC JESD22, method B103), 5.35G RMS, 15 min per plane (IEC 68-2-6)	
Shock	1.5k G peak, 0.5ms 5 times (JEDEC JESD22, method B110) 30 G, 11ms 1 time (IEC 68-2-27)	

Capacity specification

Drive Geometry					
Capacity	cylinders	heads	Sectors/track	Sectors_drive	Total addressable capacity (Byte)
32GB	16,383[4]	16	63	64,028,160	32,782,417,920

[4] The CHS addressing is limited to about 8GB. Larger drives should be used in LBA mode.

System Reliability

System Reliability and Maintenance	
MTBF (at 25°C)	> 3,000,000 hours
Data Reliability	< 1 Non-Recoverable Error per 10^{14} bits Read

Why Swissbit?
Swissbit strives to create innovative technologies for future market opportunities utilizing a highly skilled in-house product research and development team. Swissbit maintains a marketing edge by continuing to manufacture world-class high quality memory products and providing customers with both high value and low cost of ownership achieved through efficient processes and procedures.

Swissbit AG
Industriestrasse 4
CH-9552 Bronschhofen   Swissbit reserves the right to change products or specifications without notice.   Revision: 1.00
www.swissbit.com   C-320_fact_sheet_CF-HxB0_Rev100
Switzerland   industrial@swissbit.com   Page 3 of 3