swissbit®

Product fact sheet

Industrial CompactFlash™ Card

C-300 Series

up to UDMA4 / MDMA4 / PIO6

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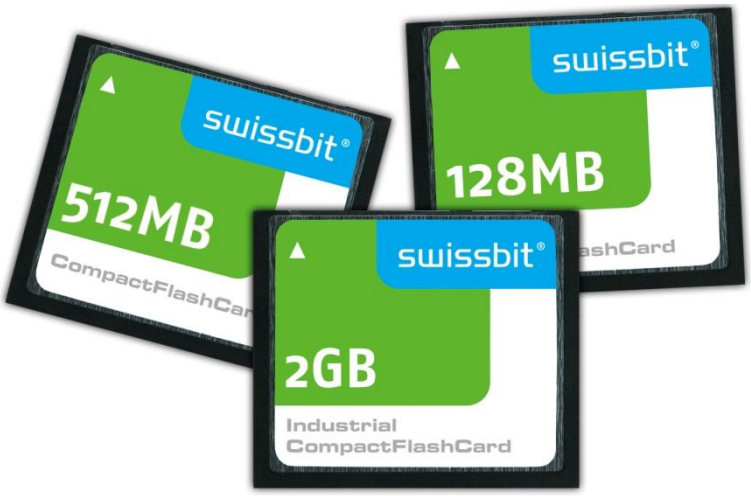
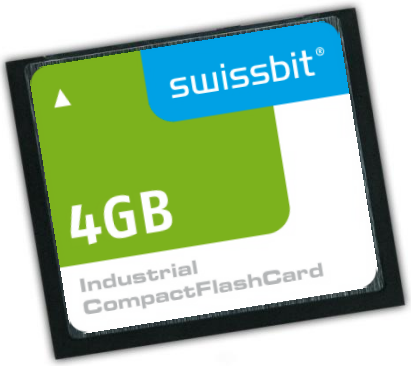


C-300 Series – UDMA CompactFlash™ Card, 64MByte up to 4GByte, 3.3/5V Supply



Main Features

- Highly-integrated memory controller
  - Fully compliant with CompactFlash™ specification 3.0, compatible with specification 4.1
  - Fully compatible with PCMCIA specification
  - PC Card ATA Interface supported
  - True IDE mode compatible
  - Up to PIO mode 6 supported
  - Up to MDMA4 supported
  - Up to UDMA4 supported
  - Hardware RS-code ECC (4 Bytes/528 Bytes correction)
  - Fix drive (IDE mode) & removable drive (PCMCIA mode) as default in the same card
- Small form factor
  - CFC Type I: 36.4mm x 42.8mm x 3.3mm
- Low-power CMOS technology
- 3.3V or 5.0V power supply
- Power saving mode (with automatic wake-up)
- S.M.A.R.T. support by *-SMA product type
- 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.
- Data Retention: 10 year (JESD47)
- Patented power-off reliability
  - No data loss of older sectors
  - Max. 16 sectors data loss (old data kept) for 2k Page flash respectively
  - All data written to the flash if card status is ready after write command
- High reliability
  - Best available SLC NAND Flash technology
  - Designed for embedded market
  - MTBF: > 3,000,000 hours
  - Data reliability: < 1 non-recoverable error per 10^{14} bits read
  - Number of insertions: > 10,000
- Hot swappable in PCMCIA modes
- High random performance
  - Up to 66MB/s burst transfer rate in UDMA4
  - Optimized for random access >150kB/s
  - Sustained Read/Write performance: up to 37/20MB/s (UDMA4)
- Available densities
  - up to 4GBytes (SLC NAND Flash)
- Operating System support
  - Standard Software Drivers operation CompactFlash™
- 2 Temperature ranges
  - Commercial Temperature range 0 ... +70°C
  - Industrial Temperature range -40 ... +85°C
- Controlled BOM

on request

System Performance

Parameter		Typ.	Max.	Unit
Sleep to write			5	ms
Sleep to read			5	
Power up to Ready		<500	1000	
Reset to Ready (IDE Master)			500	
Data transfer Rate (UDMA4 burst)			66 (440X)(1)	MB/s
Sustained Read/Write 64 to 256, (measured)		20/13(1)(2)	24/14(1)	MB/s (IOPS)
Sustained Read/Write 512 to 2048MB (measured)		35/18(1)(2)	37/20 (1)	
4k Random Read/Write 64 to 256MB (measured)		11/0.13 (32)(1)(2)	13/0.20(50)(1)	
4k Random Read/Write 512 to 2048MB (measured)		11/0.065 (16)(1)(2)	13/0.08 (20) (1)	
Command to DRQ	Read	100	2000	µs
	Write	30	1000	

(1) All values refer to Micron Flash, CFC in UDMA mode 4, cycle time 30ns, write/read file sequential transfer 256 sectors/command or random 8 sector/command

(2) Sustained Speed depends on flash type and number, file size, and burst speed

Current Consumption(3) @ 3.3V	Typ.	Max.	Unit
Read (UDMA4)	80	130	mA
Write (UDMA4)	80	130	
Idle Mode	0.5	1.5	

(3) All values are typical at 25° C and nominal supply voltage and refer to 4GByte 2 channel CFC.

Physical Dimensions

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

Environmental Specifications

Parameter	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

Capacity	cylinders	heads	Sectors/track	Sectors_drive	Total addressable capacity (Byte)
64MB	490	8	32	125,440	64,225,280
128MB	937	8	32	239,872	122,814,464
256MB	980	16	32	501,760	256,901,120
512MB	993	16	63	1,000,944	512,483,328
1GB	1,986	16	63	2,001,888	1,024,966,656
2GB	3,970	16	63	4,001,760	2,048,901,120
4GB	7,964	16	63	8,027,712	4,110,188,544

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.

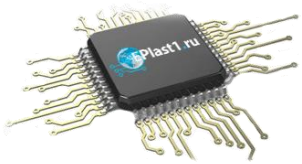
Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits,General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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