SiliconDrive™ CF RoHS 6 of 6 – SSD-Cxxx(I)-3(5/6)00

Overview

SiliconDrive™ CF is an optimal time-to-market replacement for hard drives and flash cards or in host systems that require low power and scalable storage solutions.

SiliconDrive technology is engineered exclusively for the high performance, high reliability and multi-year product lifecycle requirements of the Enterprise System OEM market. Typical end-market applications include broadband data and voice networks, military systems, flight system avionics, medical equipment, industrial control systems, video surveillance, storage networking, VoIP and wireless infrastructure and interactive kiosks.

Every SiliconDrive is integrated with SiliconSystems patented PowerArmor™ and patent-pending SiSMART™ technology to virtually eliminate storage systems failures.

PowerArmor technology prevents data corruption and loss from power disturbances by integrating proprietary voltage detection circuitry and logic into every SiliconDrive.

SiSMART acts as an early warning system to eliminate unscheduled downtime by constantly monitoring and reporting the exact amount of remaining storage system useful life.

Numerous SiliconSystems patented and patent-pending application-specific technology can be integrated into SiliconDrive to safeguard application data and software IP. Application notes detailing these performance-enhancing options are available under NDA.

SILICONDRIVE™
CF

8GB
SSD-C08GI-3500

Features

- RoHS 6 of 6 Compliant

- Integrated PowerArmor™ and SiSMART™ Technology

- Capacity Range: 32MB to 8GB

- Supports Both 8 and 16 Bit Data Register Transfers

- Supports Dual Voltage 3.3V or 5V Interface

- Less than 1 Error in 10^{14} Bits Read

- MTBF > 4,000,000 Hours

- ATA-3 Compliant

- Industry Standard Type I CF Form Factor

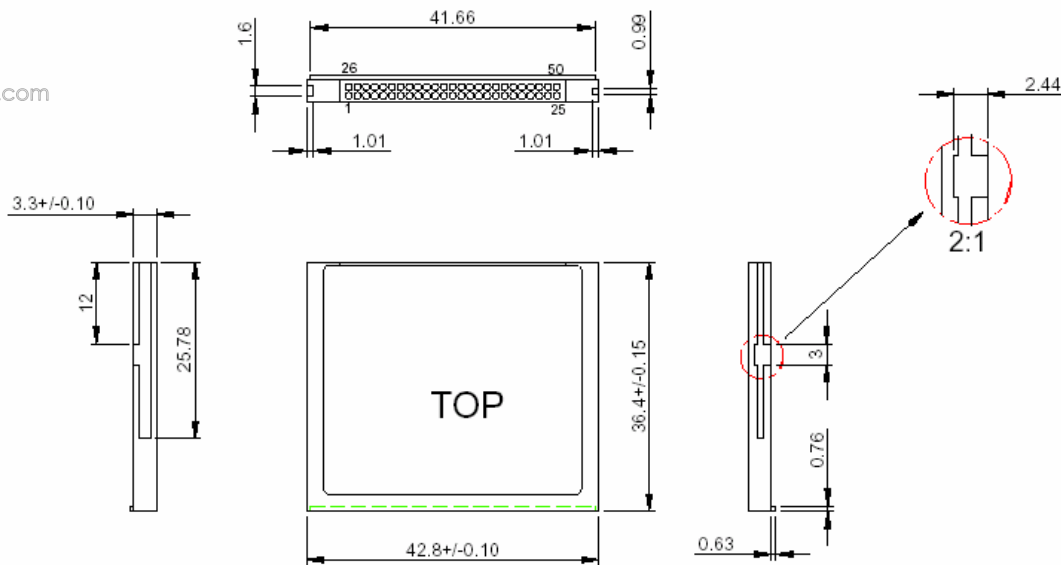- Supports PIO Modes 0-4 and DMA Modes 0-2

1.   PHYSICAL SPECIFICATIONS

SiliconDrive CF products are offered in an industry standard Type I form factor. Refer to Section 10.1 Part Ordering Nomenclature for details regarding CF capacities.

1.1.   Physical Dimensions

The following diagram describes the CF Type I physical dimensions and pin orientation:

2. PRODUCT SPECIFICATIONS[1]

2.1. System Performance

Reset to Ready Startup Time (Typical/Max)	200ms/400ms
Read Transfer Rate (Typical)	8MB/s
Write Transfer Rate (Typical)	6MB/s
Burst Transfer Rate	16.7MB/s
Controller Overhead (Command to DRQ)	2ms (max)

2.2. System Power Requirements

DC Input Voltage	3.3 ± 10%	5.0 ± 10%
Sleep (Standby Current)	<0.5mA	<1.0mA
Read (Typical/Peak)	20mA/75mA	30mA/100mA
Write (Typical/Peak)	30mA/75mA	40mA/100mA

2.3. System Reliability

MTBF (@ 25ºC)	> 4,000,000 Hours
Data Reliability	< 1 Non-Recoverable Error in 10^{14} Bits Read
Endurance	>2,000,000 write/erase cycles
Data Retention	10 Years

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[1] All SiliconDrive CF values quoted are typical at 25°C and nominal supply voltage.

2.4.   Product Capacity Specifications

Product Density	Formatted Capacity (Bytes)	Number of Sectors	Number of Cylinders	Number of Heads	Number of Sectors/Track
32MB	32,702,464	63,872	499	4	32
64MB	65,601,536	128,128	1001	4	32
128MB	130,154,496	254,208	993	8	32
256MB	260,571,136	508,928	994	16	32
512MB	521,773,056	1,019,088	1011	16	63
1GB	1,047,674,880	2,046,240	2030	16	63
2GB	2,098,446,336	4,098,528	4066	16	63
4GB	4,224,761,856	8,251,488	8186	16	63
8GB	8,455,200,768	16,514,064	16383*	16	63

2.5.   Environmental Specifications

Temperature	0ºC to 70ºC (Standard)
	-40ºC to 85ºC (Industrial)
Humidity	8% to 95% non-condensing
Vibration	16.3gRMS, MIL-STD-810F, Method 514.5, Procedure I, Category 24
Shock	1000G, Half-sine, 0.5ms Duration 50g Pk, MIL-STD-810F, Method 516.5, Procedure I
Altitude	80,000ft, MIL-STD-810F, Method 500.4, Procedure II

* All IDE drives 8GB and larger use 16383 cylinders, 16 heads and 63 sectors/track due to interface restrictions.

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10. SALES AND SUPPORT

To order or to obtain information on pricing and delivery, please contact your SiliconSystems Sales Representative.

10.1. Part Numbering Nomenclature

The following table defines the SiliconDrive CF part numbering scheme:

Definition						
SSD-	C	YYY	T	-XXXX		

SiliconSystems Proprietary
Temp. Range: Blank=Commercial, I=Industrial
Capacity: 32M=32MB to 08G=8GB
Form Factor: C=CF
SiliconSystems SiliconDrive

Part Number	Description
SSD-C08G-3(5/6)xx	8GB SiliconDrive CF, RoHS, Commercial Temp
SSD-C04G-3(5/6)xx	4GB SiliconDrive CF, RoHS, Commercial Temp
SSD-C02G-3(5/6)xx	2GB SiliconDrive CF, RoHS, Commercial Temp
SSD-C01G-3(5/6)xx	1GB SiliconDrive CF, RoHS, Commercial Temp
SSD-C51M-3(5/6)xx	512MB SiliconDrive CF, RoHS, Commercial Temp
SSD-C25M-3(5/6)xx	256MB SiliconDrive CF, RoHS, Commercial Temp
SSD-C12M-3(5/6)xx	128MB SiliconDrive CF, RoHS, Commercial Temp
SSD-C64M-3(5/6)xx	64MB SiliconDrive CF, RoHS, Commercial Temp
SSD-C32M-3(5/6)xx	32MB SiliconDrive CF, RoHS, Commercial Temp

10.2. RoHS 6 of 6 Product Labeling

Pb-Free Identification Label -This label indicates the enclosed components/devices and /or assemblies do not contain any lead (i.e., they are lead-free as defined in RoHS directive 2002/95/EC). The above symbol will be on all RoHS 6 of 6 compliant product labels as seen on the example below.

10.3. Sample Label

Front Label	Standard Back Label with Lot Code Information

SiliconSystems' performance tests, ratings and product specifications are measured using specific computer systems and/or components and reflect the approximate performance of SiliconSystems' products as measured by those tests. Any difference in system hardware or software design or configuration, as well as system use, may affect actual test results, ratings and product specifications. SiliconSystems may change its product specifications or its products at any time and without notice.

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