

3.5" SCSI Flash Drive

--- MFD35C-xxxxS Series ---

OUTLINE

The drive in this series is a 3.5" SCSI flash drive. The interface that links the drive in this series and the host system conforms to the SCSI-2 standard (X3.131-1986: Small Computer System Interface) and the ANSI SCSI-3 FAST-20 standard (X3T10/1071D).

FEATURES

CAPACITY

128MB, 256MB, 512MB, 1GB, 2GB, 4GB, 8GB

Form Factor

3.5inch type(HDD compatible)

SCSI interface

- Single-Ended Narrow SCSI
- SCSI CCS compliant
 - This series provides the SCSI basic specifications and the following functions.
 - (1) Command sets that comply with SCSI CCS (Rev 4.B) logic
 - (2) Data bus parity function
 - (3) Bus arbitration function
 - (4) Disconnect/reconnect function
- Supported SCSI Modes
 - Asynchronous mode 5MB/sec MAX.
 - Synchronous mode 5MB/sec MAX.
 - 10MB/sec MAX. (FAST)
 - 20MB/sec MAX. (FAST-20)

The drive in this series is equipped with a specific IC for conversion between SCSI and ATA, and enables separate control of SCSI and ATA bus cycles by hardware, and accordingly achieves high-speed transfer by SCSI and ATA buses without inserting useless weight or idle.

Remarks

The maximum data transfer rate in the asynchronous transfer mode may be restrained by the response rate of an initiator and the length of a SCSI bus cable; the maximum obtainable data transfer rate in the synchronous transfer mode on the Single-Ended SCSI bus is limited by the length of a SCSI bus cable, the transmission characteristics of a cable, the number of linked SCSI systems, and other factors.

· All efforts have been made to improve the quality and reliability of these products, but semiconductor devices in general are prone to malfunction and failure. Purchasers of these products are responsible for designing safe systems that will not endanger human life or cause bodily injury or property damage because of malfunctions or failures of these semiconductor products. Designers are requested to check the latest specifications and use these products within their guaranteed ranges.

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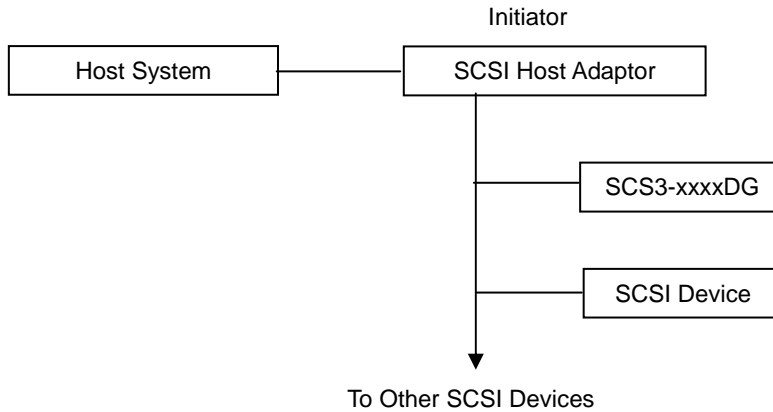
· The information described herein is subject to change without notice due to technological advances and other factors.

Product Models

Product No.	Unformatted[MB]	Capacity[byte]	Max LBA	Cylinder	Head	Sector
MFD35C-128MS(A00AI)	122	128,188,416	250,368	978	8	32
MFD35C-256MS(A00AI)	242	254,279,680	496,640	970	16	32
MFD35C-512MS(A00AJ)	482	506,290,176	988,848	981	16	63
MFD35C-A01GS(A00AJ)	957	1,004,322,816	1,961,568	1,946	16	63
MFD35C-A02GS(A00AJ)	1907	2,000,388,096	3,907,008	3,876	16	63
MFD35C-004GS(A00AA)	3671	3,850,076,160	7,519,680	7,460	16	63
MFD35C-008GS(A00AA)	7343	7,700,688,416	15,040,368	14,921	16	63

System Configuration

The drive in this series performs input and output operations designated from the SCSI host adaptor that behaves as an initiator. An example of the system configuration will be shown below.



(1) Structure of SCSI bus

A SCSI bus can link up to eight SCSI devices. A SCSI device behaving as an initiator and a SCSI device behaving as a target device can be combined arbitrarily.

(2) Addressing of input/output devices

A specific device number (SCSI-ID) is assigned to each of SCSI devices. A device for input and output operations, which is on a SCSI device operating as a target or linked to the device, is accessed in units referred to as logical units, and each has its specific device number (LUN: logical unit number) assigned. An initiator designates SCSI-ID to select a single SCSI device operating as a target device, then designates LUN to select a device on the target device or linked thereto for an input and output operation. SCSI-ID and LUN are selectable within the following ranges.

- SCSI-ID: selectable within the range of #0 to #7 (select by the DIP switch on the conversion adaptor)
- LUN: #0 fixed

Product Specifications**Capacity:**

122MB, 242MB, 482MB, 957MB, 1907MB, 3671MB, 7343MB(unformatted)

Performance:

Asynchronous mode	5.0MB/sec Max.
5MB/S Synchronous mode	5.0MB/sec Max.
10MB/S Synchronous mode(FAST)	10.0MB/sec Max.
20MB/S Synchronous mode(FAST-20)	20.0MB/sec Max.

Operating Voltage:

5V +/- 10%

Power Consumption:

Ready	100 mA Max.
Read/Write	200 mA Max.

Environmental Specification:

Operating temperature	0 to 60
Storage temperature	-20 to 80
Humidity	85% Max. [non-condensing]
Shock resistance	1100G Max. (three axis directions) [non-operating mode]
Vibration resistance	16.5G Max. (20Hz - 2000Hz) [operating mode]

* The interface connector should be mechanically secured if it will be subject to vibrations and physical shock.

Functional Specification

Electrical Requirement	Single-Ended type	
	Internal Terminator (Active Terminator)	
	TERMPWR Signal Supply	
Connector	Non-sealed type (2.54mm pitch)	
Data Bus Parity		
Bus Arbitration		
Disconnect / Re-connect		
Addressing	SCSI-ID	# 0 - #7
	LUN	# 0 fixed
Data Transfer	SCSI (FAST-20)	20.0 MB/sec Max.
Data Buffer		512 Byte FIFO
Data Block		512 Byte

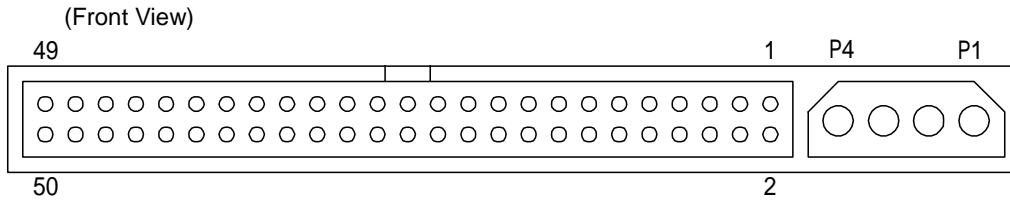
Installation Requirements

1. Environmental conditions
 Installation environmental conditions have to meet the requirements of environmental specifications.

2. Connection conditions

(1) Connector pin configuration

SCSI interface + power supply connector (CN1)



Power supply part

Pin No.	Signal name
P1	OPEN
P2	GND
P3	GND
P4	+5V

SCSI interface part

Pin No.	Signal name	Pin No.	Signal name
1	GND	2	-DB0
3	GND	4	-DB1
5	GND	6	-DB2
7	GND	8	-DB3
9	GND	10	-DB4
11	GND	12	-DB5
13	GND	14	-DB6
15	GND	16	-DB7
17	GND	18	-DBP
19	GND	20	GND
21	GND	22	GND
23	(OPEN)	24	(OPEN)
25	(OPEN)	26	TERMPWR
27	(OPEN)	28	(OPEN)
29	GND	30	GND
31	GND	32	-ATN
33	GND	34	GND
35	GND	36	-BSY
37	GND	38	-ACK
39	GND	40	-RST
41	GND	42	-MSG
43	GND	44	-SEL
45	GND	46	-C/D
47	GND	48	-REQ
49	GND	50	-I/O

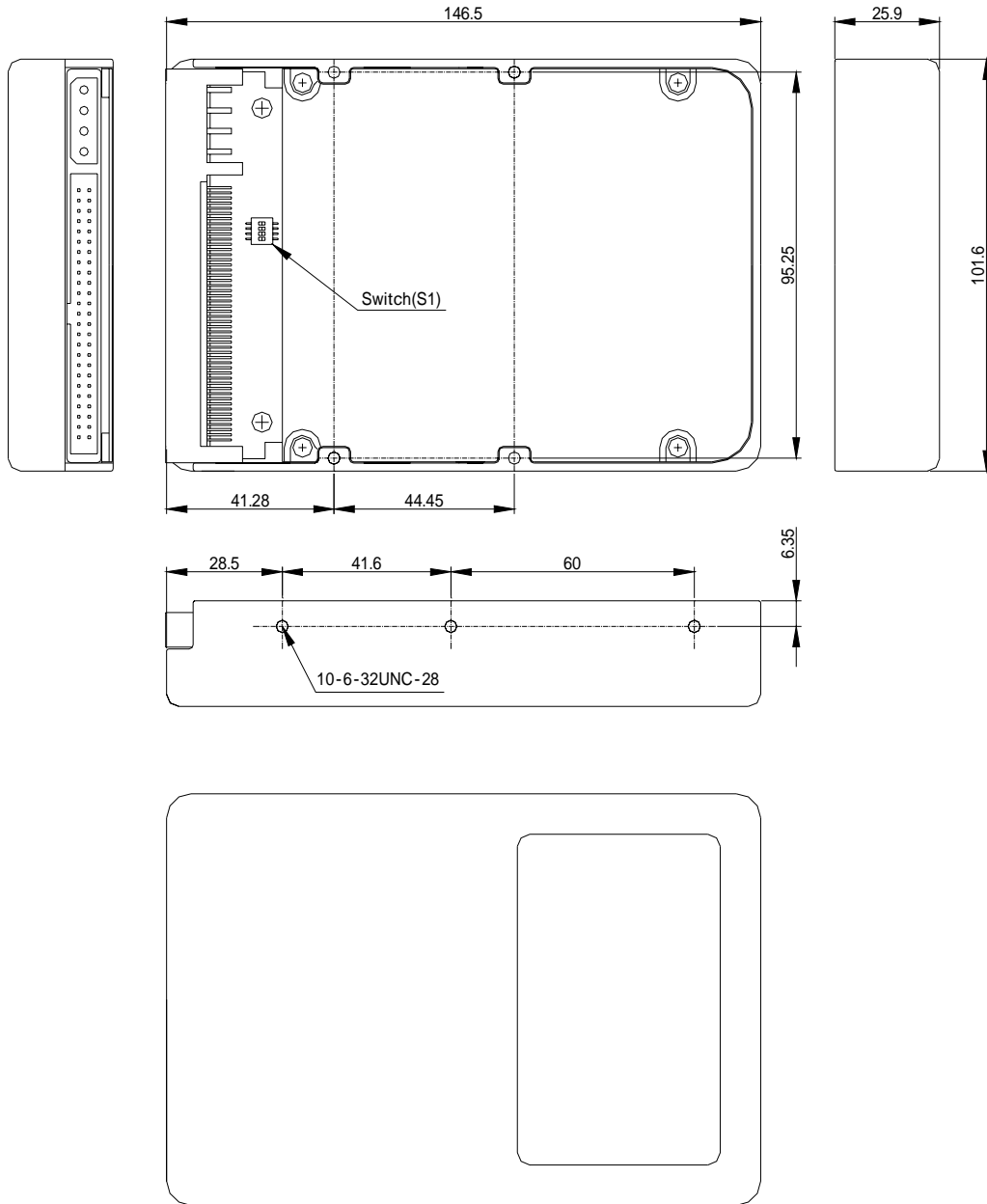
(2) Setting switch (S1)

Use the DIP switch to designate the SCSI-ID and terminator of a connected drive.
In each designation, a value '0' indicates OFF and '1' indicates ON.

■ in the following table shows settings at the time of shipping.

1	2	3	4	Designation	
0	0	0	■	SCSI-ID	SCSI-ID 0
1	0	0			SCSI-ID 1
0	1	0			SCSI-ID 2
1	1	0			SCSI-ID 3
0	0	1			SCSI-ID 4
1	0	1			SCSI-ID 5
0	1	1			SCSI-ID 6
1	1	1			SCSI-ID 7
			0	Terminator	Terminator ON
			1		Terminator OFF

Mechanical Specification



Dimensions (mm)