HHW Corp. Flash Media Products

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Revision History

Rev. No.	History	Issue Date	Remarks
1.0	Initial Release	June 30, 2017	Preliminary

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Datasheet
Secure Digital Card

PRODUCT DESCRIPTION

SD Memory card (Secure Digital Memory Card) is a memory card that is specifically designed to meet the security, capacity, performance and environment requirements. The SD Memory Card will include a copyright protection mechanism that complies with the security of the SDMI standard and will be faster and capable for higher memory capacity. The SD Memory Card communication is based on an advanced 9-pin interface (Clock, Command, 4x Data and 3x Power lines) designed to operate in at maximum operating frequency of 50 MHz and low voltage range.

HHW's SD33 SD memory card is designed with industry leading edge micro controllers and SLC/MLC flash to achieve high level performance, reliability and endurance. SD33 SD memory card is optimized for OEM applications where device life is the top priority.

FEATURES

- Compliance:
  - SD specification version 2.0 and 3.0 (UHS-I), and eSD 2.1
- Operating voltage range
  - 2.7-3.6 V
- Variable clock Frequency
  - 0-25MHz - Default Speed Timing
  - 0-50MHz - High Speed Timing
- Support
  - CPRM and ASSD 2.0 or Mc-EX can be supported
  - SD (x1 and x4) and SPI mode
  - Write protection using mechanical switch
- Support SD command class:
  - All SD Speed Classes Possible

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1 General Description

2 PRODUCT SPECIFICATION

2.1 Electrical Interface

Table 2 -

2.2 Environmental and Reliability Characteristics

Table 2 -2: Environmental and Reliability Characteristics

2.4 POWER CYCLYING TEST

HHW's power cycling test simulates device stability against data loss/corruption under unstable power supply conditions. The Power Cycling Test contains (3) main test items (In Order):

- **Dynamic Read/Write Test**
  - Write sector-by-sector to Sec X (randomly picked)
  - Power off in the middle of writing
  - 10s later, power on device
  - Verify 1024 sectors prior to (Sec X – 128) sectors

- **Protection for Static Area Test**
  - Write 100 sectors to (5) pre-defined locations
  - Power off in the middle of writing after completed
  - 10s later, power on device
  - Verify data sectors are maintained

- Combination of Dynamic and Protection Test
- Tested with additional test patterns

ach test is performed for 3,500

3 ELECTRICAL SPECIFICATION

3.1 Absolute Maximum Ratings

Table 3 -1: Absolute Max. Ratings

Parameters	Symbol	Min	Max	Unit

NOTE

3.4 AC Characteristics

Figure 3 -4a: Timing diagram (default mode)

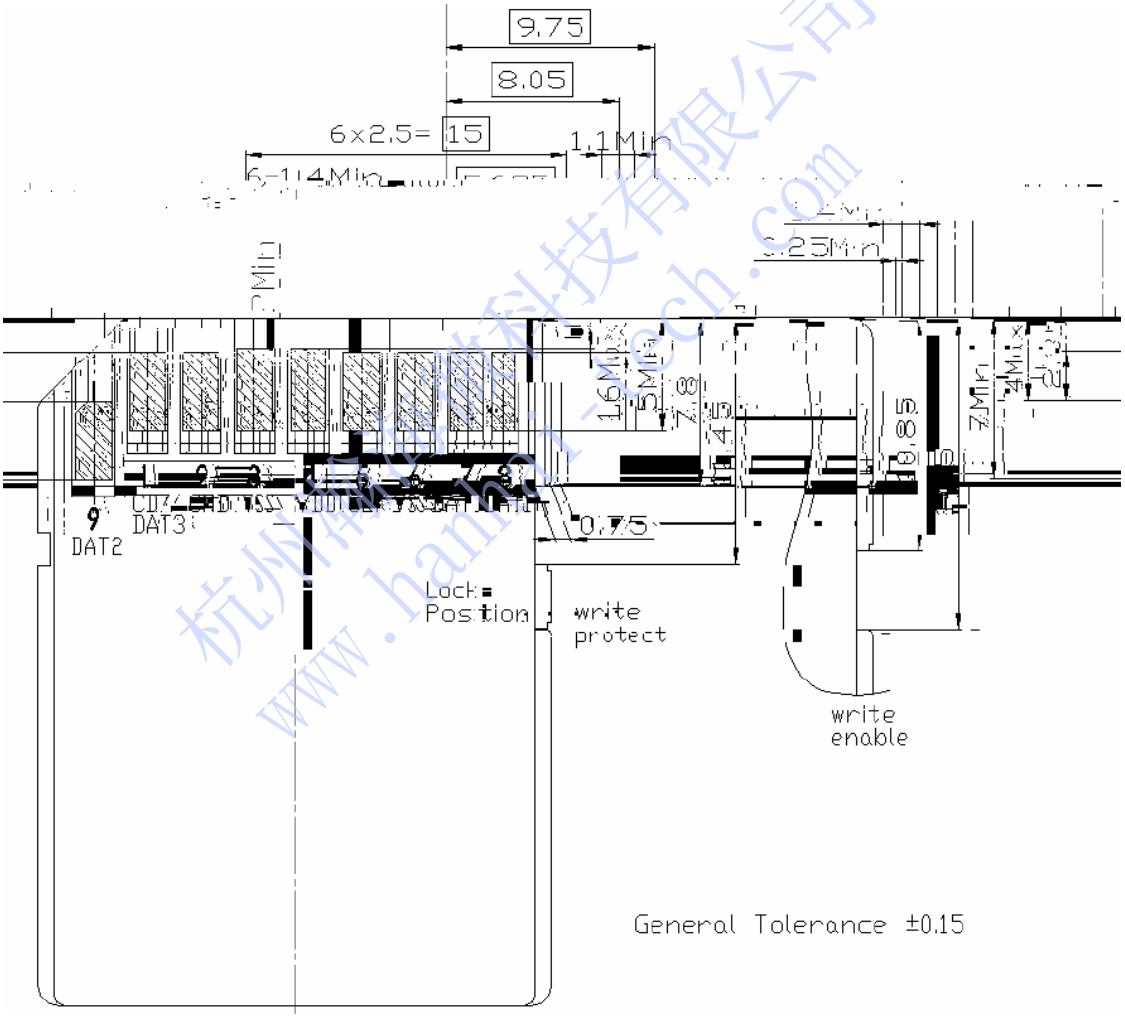
Table 3 -4a: AC Characteristics (Default mode)

Parameter	Symbol	Min	Max	Unit	Remark

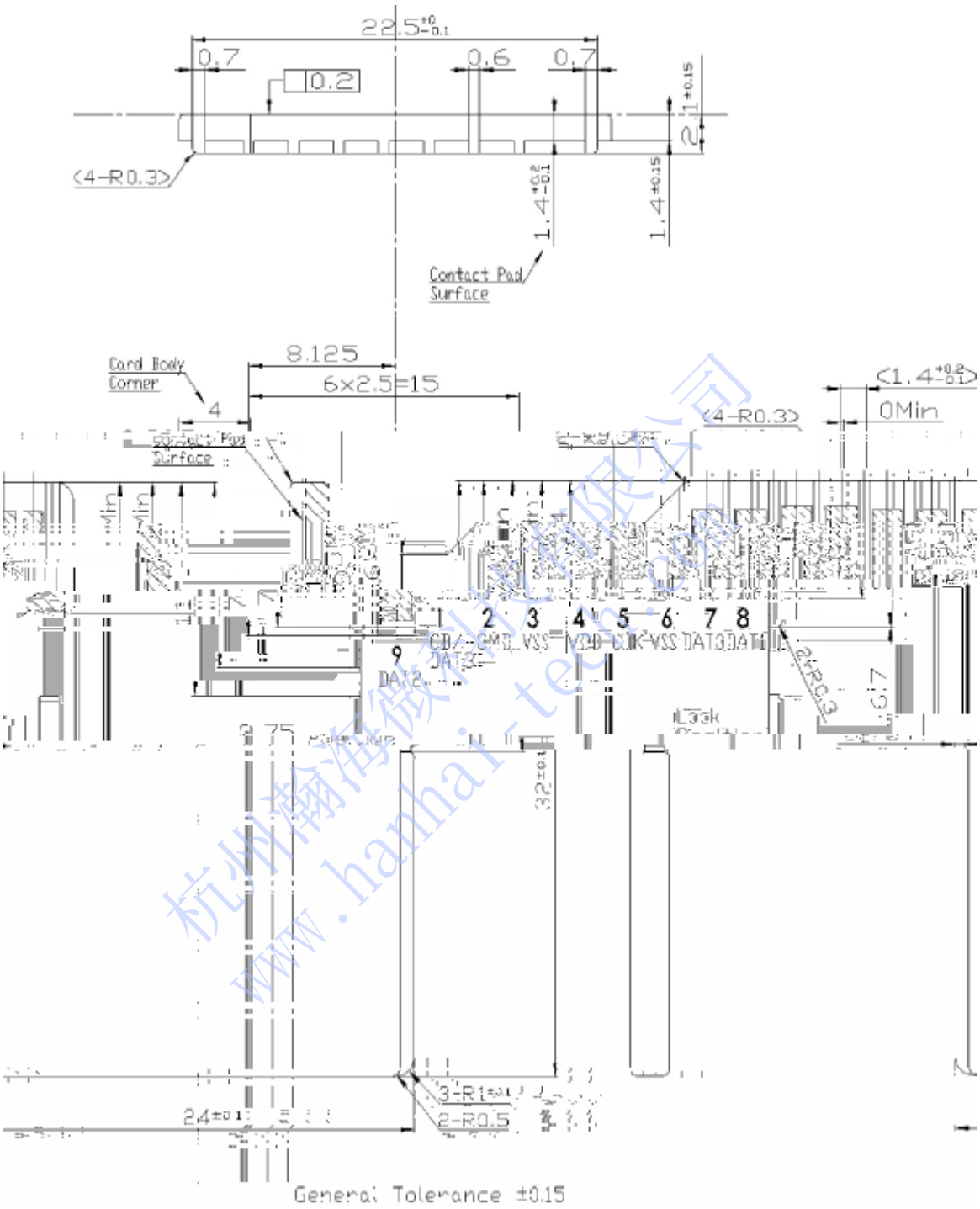
4 PHYSICAL DIMENSIONS

Table 4 -1: Physical Dimensions

4.1 Package Dimensions



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22.5
0.7
0.6
0.7
0.2
2.1±0.15
<4-R0.3>
1.4
1.4±0.15
Contact Pad
Surface
8.125
Card Body
Corner
6x2.5=15
4
<1.4>
0Min
<4-R0.3>
Contact Pad
Surface
1 2 3 4 5 6 7 8
9
DAT3
DAT2
2-R0.3
6.7
9.75
3.2±0.1
3-R1±0.1
2-R0.5
2.4±0.1
General Tolerance ±0.15

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