

RoHS Compliant

USB Flash Drive

AH322 Product Specifications

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Version 1.1



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FEATURES:

- **USB3.0 Super Speed compatible, and backward compatible with USB2.0 & interface**
 - USB3.0 max. transfer rate: 5.0 Gbps
 - Backward compatible with 480Mbps & 12 Mbps
- **Capacity**
 - SLC: 256, 512 MB
1, 2, 4, 8, 16, 32 GB
 - MLC: 8, 16, 32, 64 GB
- **Performance***
 - SLC**
 - Sustained read: up to 80 MB/s
 - Sustained write: up to 70 MB/s
 - MLC**
 - Sustained read: up to 195 MB/s
 - Sustained write: up to 95 MB/s
- **Flash Management**
 - Built-in hardware ECC
 - Power saving implemented
- **Temperature Ranges**
 - Operating:
 - Standard: 0°C to 70°C
 - Extended: -40°C to 85°C C
 - Storage: -40°C to 85°C
- **Power Consumption (typical)***
 - Operating voltage: 5V
 - SLC**
 - Active mode: 225 mA
 - Idle mode: 65 mA
 - MLC**
 - Active mode: 275 mA
 - Idle mode: 80 mA
- **RoHS Compliant**
- **USB Bus-Powered Capability**
- **NAND Flash Type: SLC/MLC**
- **Dimension: 59.0 x 18.4 x 9.1, unit: mm**

*Performance and power consumption addressed here vary from configurations and platforms.

Table of Contents

1. General Description.....	3
1.1 Performance-optimized USB Controller	3
1.1.1 Power Saving Implemented.....	3
1.1.2 Program RAM Architect.....	3
1.1.3 Error Correction Code (ECC).....	3
2. General Specifications	4
2.1 SLC.....	4
2.2 MLC	4
3. Absolute Maximum Rating	5
4. Physical Dimensions	6
5. Product Ordering Information	7
5.1 Product Code Designations	7
5.2 Valid Combinations	8

1. General Description

Apacer USB3.0 Handy FLASH Drive EH353 is ultra high-performance flash disk drive designed offering portable storage solutions or external memory expansion. This new generation USB flash drive is compatible with the latest USB specification – USB3.0 Super Speed, with a maximum transfer rate of 5.0 Gbps. The connector is backward employable with USB2.0 and USB1.1 interfaces as well. With compliance with USB3.0 specification, this USB drive can deliver up to 195 MB/s outstanding performance. Reliability wise, the USB comes with built-in hardware ECC to ensure data integrity. This product is well suited for portable flash storage applications while operating at minimal power consumption.

1.1 Performance-optimized USB Controller

1.1.1 Power Saving Implemented

The internal controller of the USB model is designed with power saving implementations, allowing the device to operate at low power consumption.

1.1.2 Program RAM Architect

The internal Program RAM implementation allows the host to upgrade firmware codes anytime when needed.

1.1.3 Error Correction Code (ECC)

The UFD utilizes 1-bit Error Detection Code (EDC) and Error Correction Code (ECC)

2. General Specifications

2.1 SLC

Interface	Super-speed USB3.0 compliant; backward compatible with USB 2.0 and USB 1.1								
Performance* (MB/s)		256MB	512MB	1GB	2GB	4GB	8GB	16GB	32GB
	Read (MB/s)	60	60	65	65	65	80	80	80
	Write (MB/s)	10	21	40	40	50	65	70	70
Temperature	0 to 70°C ;								
Power consumption*	Active: 225 mA Idle: 65 mA								
MTBF	1,000,000 hours								

*Results may vary from flash configurations or host system settings.

2.2 MLC

Interface	Super-speed USB3.0 compliant; backward compatible with USB 2.0 and USB 1.1				
Performance*		8GB	16GB	32GB	64GB
	Read (MB/s)	95	195	190	195
	Write (MB/s)	28	55	49	95
Temperature	0 to 70°C				
Power consumption*		8GB	16GB	32GB	64GB
	Active	165	270	265	275
	Idle	75	85	80	80
MTBF	1,000,000 hours				

*Results may vary from flash configurations or host system settings.

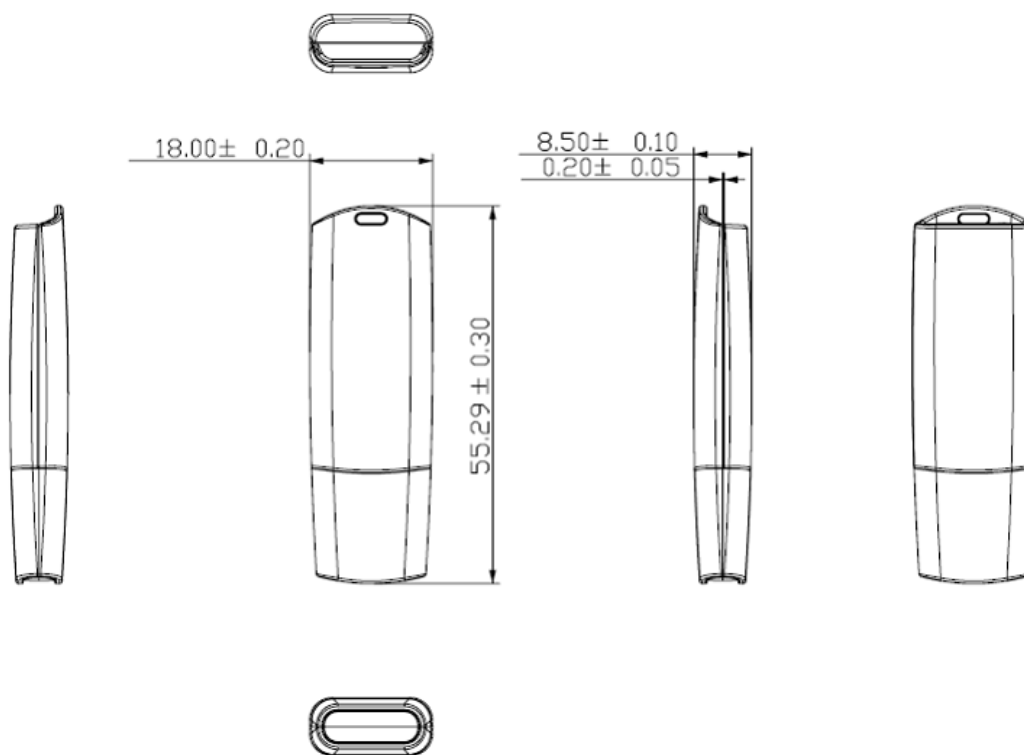
3. Absolute Maximum Rating

Caution: Absolute Maximum Stress Ratings – Applied conditions greater than those listed under “Absolute Maximum Stress Ratings” may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these conditions or conditions greater than those defined in the operational sections of this data sheet is not implied. Exposure to absolute maximum stress rating conditions may affect device reliability.

Table: Absolute Stress Rating

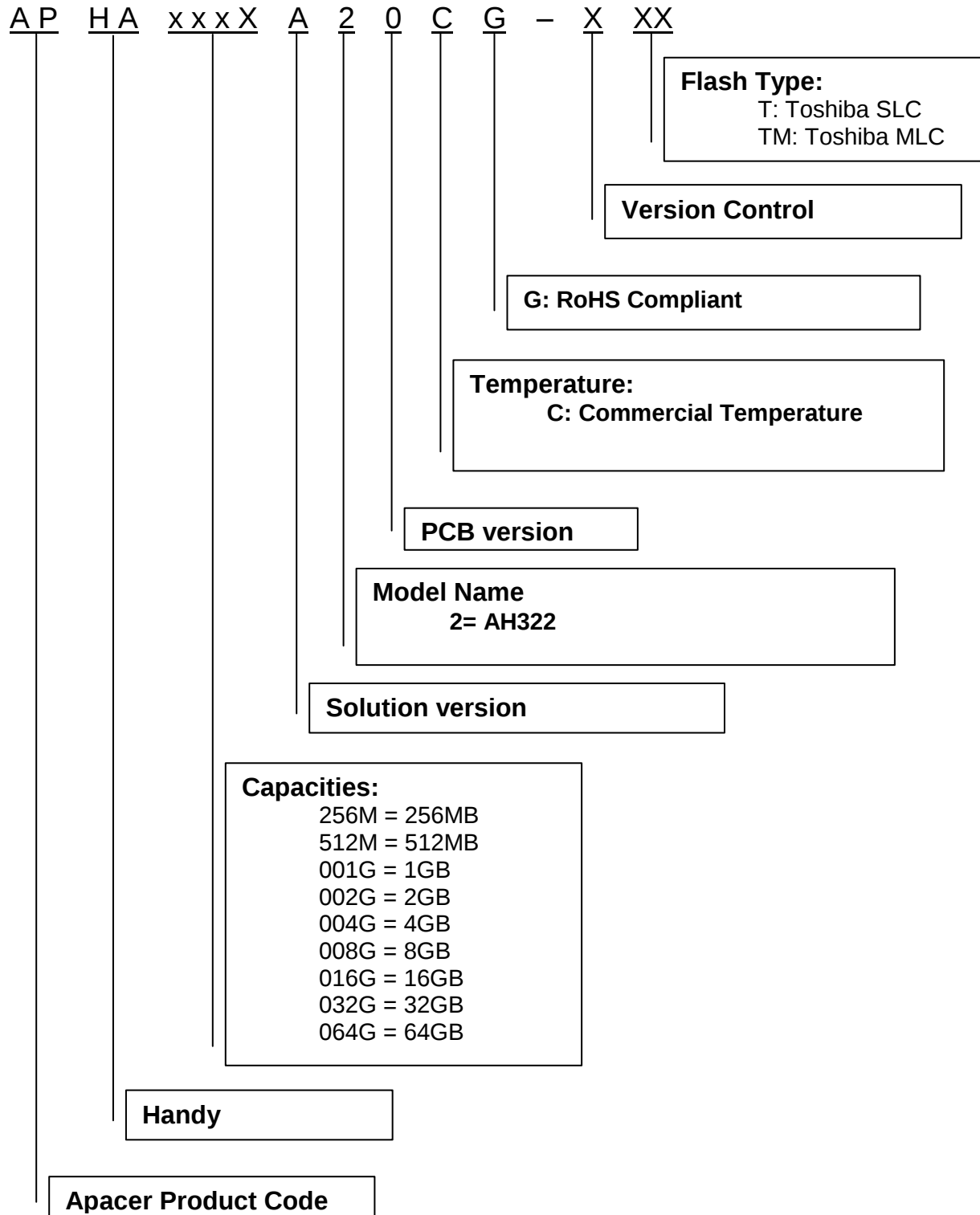
Parameters	Conditions
Required power supply	4.5-5.5V
Operating temperature	0°C to 70°C (standard) -40°C to 85°C (extended)
Storage temperature	-40°C to 85°C

4. Physical Dimensions



5. Product Ordering Information

5.1 Product Code Designations



5.2 Valid Combinations

5.2.1 AH322 (SLC)

Capacity	Standard
256MB	APHA256MA20CG-2T
512MB	APHA512MA20CG-2T
1GB	APHA001GA20CG-2T
2GB	APHA002GA20CG-2T
4GB	APHA004GA20CG-2T
8GB	APHA008GA20CG-2T
16GB	APHA016GA20CG-2T
32GB	APHA032GA20CG-2T

5.2.2 AH322 (MLC)

Capacity	Standard
8GB	APHA008GA20CG-2TM
16GB	APHA016GA20CG-2TM
32GB	APHA032GA20CG-2TM
64GB	APHA064GA20CG-2TM

Revision History

Revision	Description	Date
1.0	First Release	04/20/2015
1.1	- Modified performance and power consumption data for MLC models. - Updated valid combinations for SLC and MLC models.	09/17/2015

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