

## 阅读申明

- 1.本站收集的数据手册和产品资料都来自互联网，版权归原作者所有。如读者和版权方有任何异议请及时告之，我们将妥善解决。
- 2.本站提供的中文数据手册是英文数据手册的中文翻译，其目的是协助用户阅读，该译文无法自动跟随原稿更新，同时也可能存在翻译上的不当。建议读者以英文原稿为参考以便获得更精准的信息。
- 3.本站提供的产品资料，来自厂商的技术支持或者使用者的心得体会等，其内容可能存在描述上的差异，建议读者做出适当判断。
- 4.如需与我们联系，请发邮件到marketing@iczoom.com，主题请标有“数据手册”字样。

## Read Statement

1. The datasheets and other product information on the site are all from network reference or other public materials, and the copyright belongs to the original author and original published source. If readers and copyright owners have any objections, please contact us and we will deal with it in a timely manner.
2. The Chinese datasheets provided on the website is a Chinese translation of the English datasheets. Its purpose is for reader's learning exchange only and do not involve commercial purposes. The translation cannot be automatically updated with the original manuscript, and there may also be improper translations. Readers are advised to use the English manuscript as a reference for more accurate information.
3. All product information provided on the website refer to solutions from manufacturers' technical support or users the contents may have differences in description, and readers are advised to take the original article as the standard.
4. If you have any questions, please contact us at marketing@iczoom.com and mark the subject with "Datasheets" .

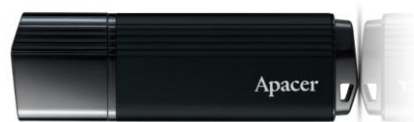
***RoHS Compliant***

# **USB Flash Drive**

***EH353 Product Specifications***

**December 21, 2015**

*Version 1.2*



**Apacer**  
*Access the best*

***Apacer Technology Inc.***

1F, No.32, Zhongcheng Rd., Tucheng Dist., New Taipei City, Taiwan, R.O.C

Tel: +886-2-2267-8000 Fax: +886-2-2267-2261

[www.apacer.com](http://www.apacer.com)

## FEATURES:

- **USB3.0 Super Speed compatible, and backward compatible with USB2.0 & USB1.1 interfaces**
  - 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**
- **Dimensions: 59.0 x 18.4 x 9.1, unit: mm**

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

---

## Table of Contents

|  |          |
|--|----------|
| <b>1. General Description.....</b>             | <b>3</b> |
| 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        |
| <b>2. General Specifications .....</b>         | <b>4</b> |
| 2.1 SLC.....                                   | 4        |
| 2.2 MLC .....                                  | 4        |
| <b>3. Absolute Maximum Rating .....</b>        | <b>5</b> |
| <b>4. Physical Dimensions .....</b>            | <b>6</b> |
| <b>5. Product Ordering Information .....</b>   | <b>7</b> |
| 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

|                            |  |              |              |            |            |            |            |             |             |
|----------------------------|--|--------------|--------------|------------|------------|------------|------------|-------------|-------------|
| <b>Interface</b>           | Super-speed USB3.0 compliant; backward compatible with USB 2.0 and USB 1.1 |              |              |            |            |            |            |             |             |
| <b>Performance* (MB/s)</b> |  | <b>256MB</b> | <b>512MB</b> | <b>1GB</b> | <b>2GB</b> | <b>4GB</b> | <b>8GB</b> | <b>16GB</b> | <b>32GB</b> |
|                            | <b>Read</b>  | 60           | 60           | 65         | 65         | 65         | 80         | 80          | 80          |
|                            | <b>Write</b>   | 10           | 21           | 40         | 40         | 50         | 65         | 70          | 70          |
| <b>Temperature</b>         | -40°C to 85°C  |              |              |            |            |            |            |             |             |
| <b>Power consumption*</b>  | Active: 225 mA<br>Idle: 65 mA  |              |              |            |            |            |            |             |             |
| <b>MTBF</b>                | 1,000,000 hours  |              |              |            |            |            |            |             |             |

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

### 2.2 MLC

|                           |  |            |             |             |             |
|---------------------------|--|------------|-------------|-------------|-------------|
| <b>Interface</b>          | Super-speed USB3.0 compliant; backward compatible with USB 2.0 and USB 1.1 |            |             |             |             |
| <b>Performance*</b>       |  | <b>8GB</b> | <b>16GB</b> | <b>32GB</b> | <b>64GB</b> |
|                           | <b>Read</b>  | 95         | 195         | 190         | 195         |
|                           | <b>Write</b>   | 28         | 55          | 49          | 95          |
| <b>Temperature</b>        | -40°C to 85°C  |            |             |             |             |
| <b>Power consumption*</b> |  | <b>8GB</b> | <b>16GB</b> | <b>32GB</b> | <b>64GB</b> |
|                           | <b>Active</b>  | 165        | 270         | 265         | 275         |
|                           | <b>Idle</b>  | 75         | 85          | 80          | 80          |
| <b>MTBF</b>               | 1,000,000 hours  |            |             |             |             |

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

---

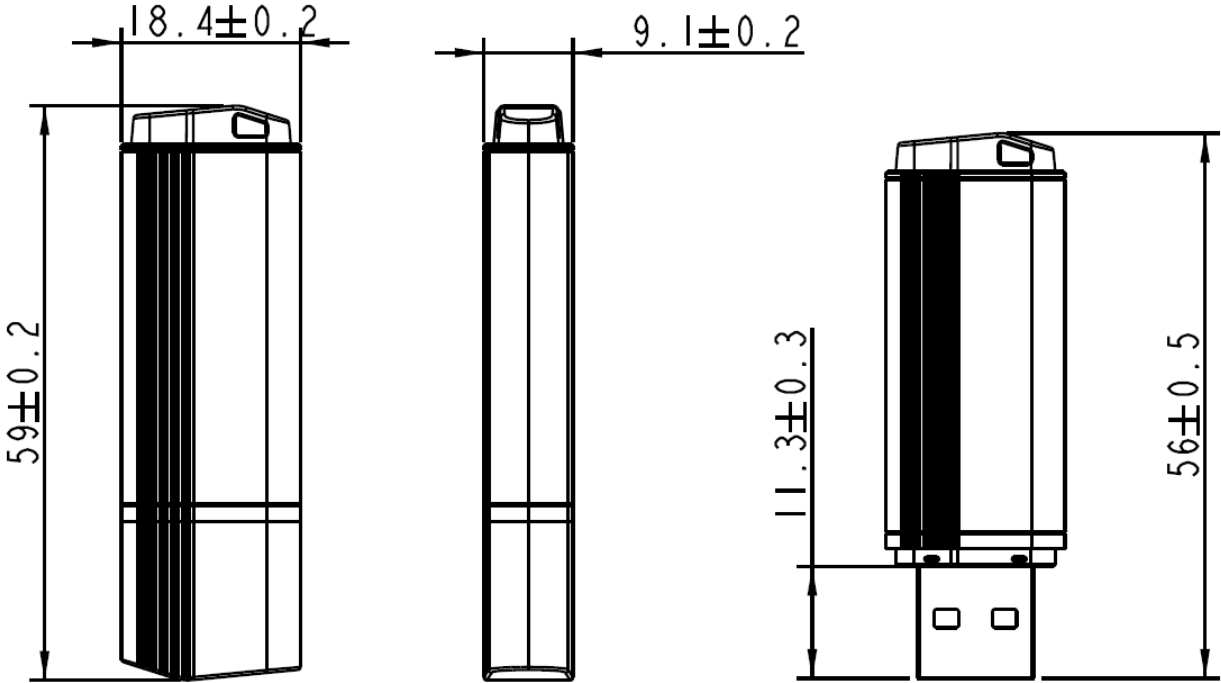
### 3. Absolute Maximum Rating

**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)<br>-40°C to 85°C (extended) |
| Storage temperature   | -40°C to 85°C                                      |

## 4. Physical Dimensions

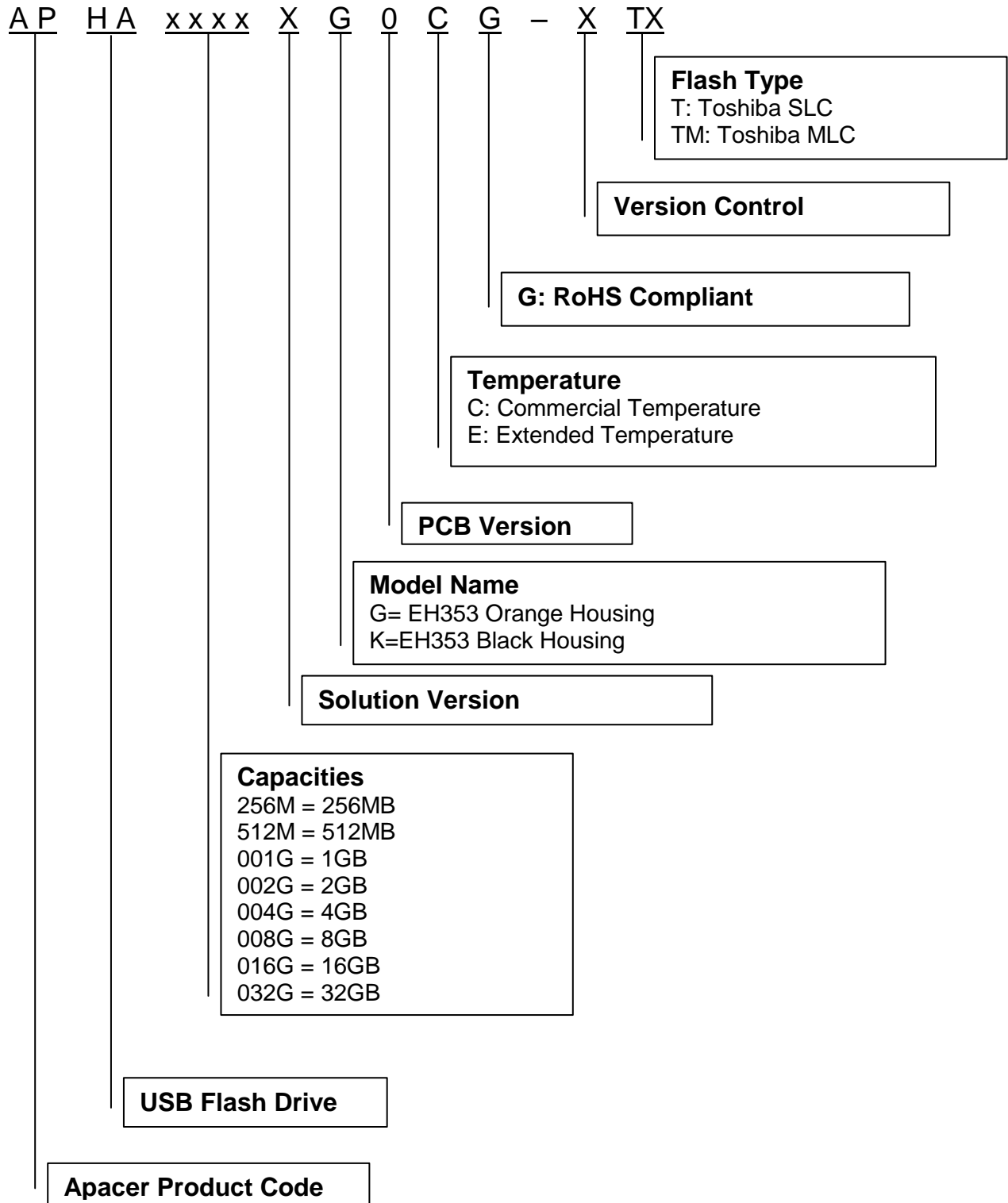


Unit: mm



## 5. Product Ordering Information

### 5.1 Product Code Designations



---

## 5.2 Valid Combinations

---

### 5.2.1 EH353 (SLC)

- Orange Housing

| Capacity | Standard         | Extended         |
|----------|------------------|------------------|
| 256MB    | APHA256MAG0CG-2T | APHA256MAG0EG-2T |
| 512MB    | APHA512MAG0CG-2T | APHA512MAG0EG-2T |
| 1GB      | APHA001GAG0CG-2T | APHA001GAG0EG-2T |
| 2GB      | APHA002GAG0CG-2T | APHA002GAG0EG-2T |
| 4GB      | APHA004GAG0CG-2T | APHA004GAG0EG-2T |
| 8GB      | APHA008GAG0CG-2T | APHA008GAG0EG-2T |
| 16GB     | APHA016GAG0CG-2T | APHA016GAG0EG-2T |
| 32GB     | APHA032GAG0CG-2T | APHA032GAG0EG-2T |

- Black Housing

| Capacity | Standard         | Extended         |
|----------|------------------|------------------|
| 256MB    | APHA256MAK0CG-2T | APHA256MAK0EG-2T |
| 512MB    | APHA512MAK0CG-2T | APHA512MAK0EG-2T |
| 1GB      | APHA001GAK0CG-2T | APHA001GAK0EG-2T |
| 2GB      | APHA002GAK0CG-2T | APHA002GAK0EG-2T |
| 4GB      | APHA004GAK0CG-2T | APHA004GAK0EG-2T |
| 8GB      | APHA008GAK0CG-2T | APHA008GAK0EG-2T |
| 16GB     | APHA016GAK0CG-2T | APHA016GAK0EG-2T |
| 32GB     | APHA032GAK0CG-2T | APHA032GAK0EG-2T |

---

### 5.2.2 EH353 (MLC)

- Orange Housing

| Capacity | Standard          | Extended          |
|----------|-------------------|-------------------|
| 8GB      | APHA008GAG0CG-2TM | APHA008GAG0EG-2TM |
| 16GB     | APHA016GAG0CG-2TM | APHA016GAG0EG-2TM |
| 32GB     | APHA032GAG0CG-2TM | APHA032GAG0EG-2TM |
| 64GB     | APHA064GAG0CG-2TM | APHA064GAG0EG-2TM |

- Black Housing

| Capacity | Standard          | Extended          |
|----------|-------------------|-------------------|
| 8GB      | APHA008GAK0CG-2TM | APHA008GAK0EG-2TM |
| 16GB     | APHA016GAK0CG-2TM | APHA016GAK0EG-2TM |
| 32GB     | APHA032GAK0CG-2TM | APHA032GAK0EG-2TM |
| 64GB     | APHA064GAK0CG-2TM | APHA064GAK0EG-2TM |

---

## Revision History

| Revision | Description  | Date       |
|----------|--|------------|
| 1.0      | Official release   | 07/24/2015 |
| 1.1      | <ul style="list-style-type: none"><li>● Modified performance and power consumption data for MLC models.</li><li>● Updated valid combinations for SLC and MLC models.</li></ul> | 09/17/2015 |
| 1.2      | <ul style="list-style-type: none"><li>● Revised mechanical specifications</li></ul>  | 12/21/2015 |

---

## Global Presence

|                              |   |
|------------------------------|---|
| <b>Taiwan (Headquarters)</b> | <b>Apacer Technology Inc.</b><br>1F., No.32, Zhongcheng Rd., Tucheng Dist.,<br>New Taipei City 236, Taiwan R.O.C.<br>Tel: 886-2-2267-8000<br>Fax: 886-2-2267-2261<br><a href="mailto:amtsales@apacer.com">amtsales@apacer.com</a>   |
| <b>U.S.A.</b>                | <b>Apacer Memory America, Inc.</b><br>46732 Lakeview Blvd., Fremont, CA 94538<br>Tel: 1-408-518-8699<br>Fax: 1-510-249-9568<br><a href="mailto:sa@apacerus.com">sa@apacerus.com</a>   |
| <b>Japan</b>                 | <b>Apacer Technology Corp.</b><br>5F, Matsura Bldg., Shiba, Minato-Ku<br>Tokyo, 105-0014, Japan<br>Tel: 81-3-5419-2668<br>Fax: 81-3-5419-0018<br><a href="mailto:jpservices@apacer.com">jpservices@apacer.com</a>   |
| <b>Europe</b>                | <b>Apacer Technology B.V.</b><br>Science Park Eindhoven 5051 5692 EB Son,<br>The Netherlands<br>Tel: 31-40-267-0000<br>Fax: 31-40-267-0000#6199<br><a href="mailto:sales@apacer.nl">sales@apacer.nl</a>   |
| <b>China</b>                 | <b>Apacer Electronic (Shanghai) Co., Ltd</b><br>Room D, 22/FL, No.2, Lane 600, JieyunPlaza,<br>Tianshan RD, Shanghai, 200051, China<br>Tel: 86-21-6228-9939<br>Fax: 86-21-6228-9936<br><a href="mailto:sales@apacer.com.cn">sales@apacer.com.cn</a>                       |
| <b>India</b>                 | <b>Apacer Technologies Pvt Ltd,</b><br>Unit No.201, "Brigade Corner", 7 <sup>th</sup> Block Jayanagar,<br>Yediyur Circle, Bangalore – 560082, India<br>Tel: 91-80-4152-9061<br>Fax: 91-80-4170-0215<br><a href="mailto:sales_india@apacer.com">sales_india@apacer.com</a> |