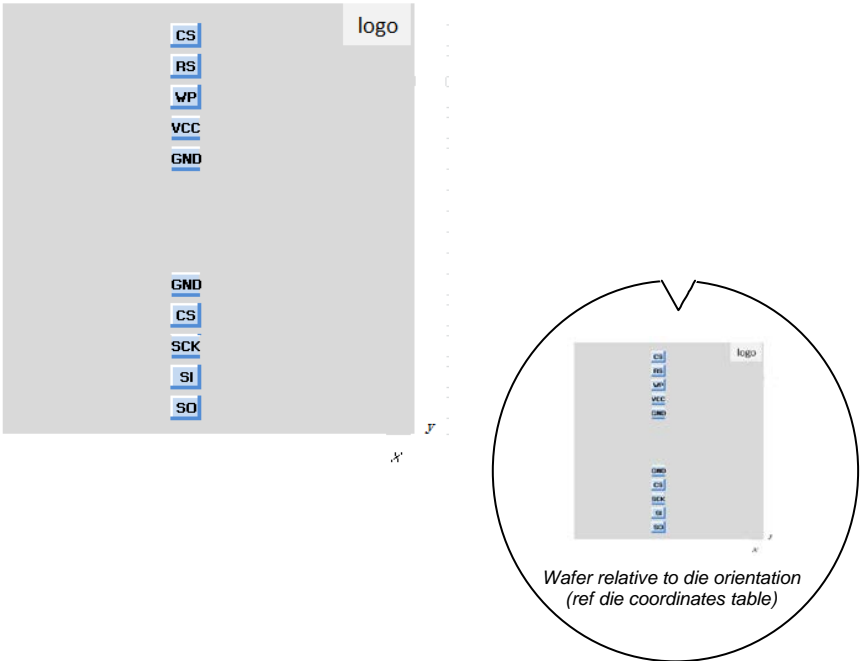


**WAFER PRODUCT DATASHEET (ADDENDUM)**

| Product                               | AT45DB641E-DWF   |          |  |        |        |          |      |      |                   |    |    |          |      |      |             |    |    |    |         |          |     |         |          |     |         |        |     |         |         |     |         |         |     |         |         |     |         |          |     |         |         |    |         |          |     |         |          |
|---------------------------------------|--|----------|--|--------|--------|----------|------|------|-------------------|----|----|----------|------|------|-------------|----|----|----|---------|----------|-----|---------|----------|-----|---------|--------|-----|---------|---------|-----|---------|---------|-----|---------|---------|-----|---------|----------|-----|---------|---------|----|---------|----------|-----|---------|----------|
| <b>Description</b>                    | 64 Mbit, DataFlash, 2.3V – 3.6V VCC  |          |  |        |        |          |      |      |                   |    |    |          |      |      |             |    |    |    |         |          |     |         |          |     |         |        |     |         |         |     |         |         |     |         |         |     |         |          |     |         |         |    |         |          |     |         |          |
| <b>Die Map</b>                        |  <p style="text-align: center;"><i>Wafer relative to die orientation<br/>(ref die coordinates table)</i></p>  |          |  |        |        |          |      |      |                   |    |    |          |      |      |             |    |    |    |         |          |     |         |          |     |         |        |     |         |         |     |         |         |     |         |         |     |         |          |     |         |         |    |         |          |     |         |          |
| <b>Die Size &amp; Pad Coordinates</b> | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">X (μm)</th> <th style="text-align: center;">Y (μm)</th> </tr> </thead> <tbody> <tr> <td>Die Size</td> <td style="text-align: center;">3482</td> <td style="text-align: center;">4176</td> </tr> <tr> <td>Scribe Line Width</td> <td style="text-align: center;">80</td> <td style="text-align: center;">80</td> </tr> <tr> <td>Die Step</td> <td style="text-align: center;">3562</td> <td style="text-align: center;">4256</td> </tr> <tr> <td>Pad Opening</td> <td style="text-align: center;">65</td> <td style="text-align: center;">65</td> </tr> <tr> <td>SI</td> <td style="text-align: center;">-148.02</td> <td style="text-align: center;">-1775.59</td> </tr> <tr> <td>SCK</td> <td style="text-align: center;">-148.02</td> <td style="text-align: center;">-1615.96</td> </tr> <tr> <td>RSB</td> <td style="text-align: center;">-148.02</td> <td style="text-align: center;">1759.8</td> </tr> <tr> <td>CSB</td> <td style="text-align: center;">-148.02</td> <td style="text-align: center;">1906.74</td> </tr> <tr> <td>WPB</td> <td style="text-align: center;">-148.02</td> <td style="text-align: center;">1611.07</td> </tr> <tr> <td>VCC</td> <td style="text-align: center;">-159.41</td> <td style="text-align: center;">1447.82</td> </tr> <tr> <td>GND</td> <td style="text-align: center;">-148.02</td> <td style="text-align: center;">-1410.67</td> </tr> <tr> <td>GND</td> <td style="text-align: center;">-159.41</td> <td style="text-align: center;">1349.84</td> </tr> <tr> <td>SO</td> <td style="text-align: center;">-148.02</td> <td style="text-align: center;">-1920.25</td> </tr> <tr> <td>CSB</td> <td style="text-align: center;">-148.02</td> <td style="text-align: center;">-1509.93</td> </tr> </tbody> </table> |          |  | X (μm) | Y (μm) | Die Size | 3482 | 4176 | Scribe Line Width | 80 | 80 | Die Step | 3562 | 4256 | Pad Opening | 65 | 65 | SI | -148.02 | -1775.59 | SCK | -148.02 | -1615.96 | RSB | -148.02 | 1759.8 | CSB | -148.02 | 1906.74 | WPB | -148.02 | 1611.07 | VCC | -159.41 | 1447.82 | GND | -148.02 | -1410.67 | GND | -159.41 | 1349.84 | SO | -148.02 | -1920.25 | CSB | -148.02 | -1509.93 |
|                                       | X (μm)   | Y (μm)   |  |        |        |          |      |      |                   |    |    |          |      |      |             |    |    |    |         |          |     |         |          |     |         |        |     |         |         |     |         |         |     |         |         |     |         |          |     |         |         |    |         |          |     |         |          |
| Die Size                              | 3482   | 4176     |  |        |        |          |      |      |                   |    |    |          |      |      |             |    |    |    |         |          |     |         |          |     |         |        |     |         |         |     |         |         |     |         |         |     |         |          |     |         |         |    |         |          |     |         |          |
| Scribe Line Width                     | 80   | 80       |  |        |        |          |      |      |                   |    |    |          |      |      |             |    |    |    |         |          |     |         |          |     |         |        |     |         |         |     |         |         |     |         |         |     |         |          |     |         |         |    |         |          |     |         |          |
| Die Step                              | 3562   | 4256     |  |        |        |          |      |      |                   |    |    |          |      |      |             |    |    |    |         |          |     |         |          |     |         |        |     |         |         |     |         |         |     |         |         |     |         |          |     |         |         |    |         |          |     |         |          |
| Pad Opening                           | 65   | 65       |  |        |        |          |      |      |                   |    |    |          |      |      |             |    |    |    |         |          |     |         |          |     |         |        |     |         |         |     |         |         |     |         |         |     |         |          |     |         |         |    |         |          |     |         |          |
| SI                                    | -148.02  | -1775.59 |  |        |        |          |      |      |                   |    |    |          |      |      |             |    |    |    |         |          |     |         |          |     |         |        |     |         |         |     |         |         |     |         |         |     |         |          |     |         |         |    |         |          |     |         |          |
| SCK                                   | -148.02  | -1615.96 |  |        |        |          |      |      |                   |    |    |          |      |      |             |    |    |    |         |          |     |         |          |     |         |        |     |         |         |     |         |         |     |         |         |     |         |          |     |         |         |    |         |          |     |         |          |
| RSB                                   | -148.02  | 1759.8   |  |        |        |          |      |      |                   |    |    |          |      |      |             |    |    |    |         |          |     |         |          |     |         |        |     |         |         |     |         |         |     |         |         |     |         |          |     |         |         |    |         |          |     |         |          |
| CSB                                   | -148.02  | 1906.74  |  |        |        |          |      |      |                   |    |    |          |      |      |             |    |    |    |         |          |     |         |          |     |         |        |     |         |         |     |         |         |     |         |         |     |         |          |     |         |         |    |         |          |     |         |          |
| WPB                                   | -148.02  | 1611.07  |  |        |        |          |      |      |                   |    |    |          |      |      |             |    |    |    |         |          |     |         |          |     |         |        |     |         |         |     |         |         |     |         |         |     |         |          |     |         |         |    |         |          |     |         |          |
| VCC                                   | -159.41  | 1447.82  |  |        |        |          |      |      |                   |    |    |          |      |      |             |    |    |    |         |          |     |         |          |     |         |        |     |         |         |     |         |         |     |         |         |     |         |          |     |         |         |    |         |          |     |         |          |
| GND                                   | -148.02  | -1410.67 |  |        |        |          |      |      |                   |    |    |          |      |      |             |    |    |    |         |          |     |         |          |     |         |        |     |         |         |     |         |         |     |         |         |     |         |          |     |         |         |    |         |          |     |         |          |
| GND                                   | -159.41  | 1349.84  |  |        |        |          |      |      |                   |    |    |          |      |      |             |    |    |    |         |          |     |         |          |     |         |        |     |         |         |     |         |         |     |         |         |     |         |          |     |         |         |    |         |          |     |         |          |
| SO                                    | -148.02  | -1920.25 |  |        |        |          |      |      |                   |    |    |          |      |      |             |    |    |    |         |          |     |         |          |     |         |        |     |         |         |     |         |         |     |         |         |     |         |          |     |         |         |    |         |          |     |         |          |
| CSB                                   | -148.02  | -1509.93 |  |        |        |          |      |      |                   |    |    |          |      |      |             |    |    |    |         |          |     |         |          |     |         |        |     |         |         |     |         |         |     |         |         |     |         |          |     |         |         |    |         |          |     |         |          |

| Technical Details                          |  |
|--|--|
| Adesto Product Family                      | DataFlash  |
| Density                                    | 64 Mbit  |
| Operating Vcc                              | 2.3V - 3.6V  |
| ESD  | >2kV JESD22-A114   |
| Delivery Option                            | Wafer- unsawn  |
| Wafer Size (mm)                            | 200  |
| Process Geometry (nm)                      | 110  |
| Die ID                                     | 637F8  |
| Wafer Map                                  | Electronic- text file  |
| Manufacturing Facility                     | UMC  |
| Wafer Thickness (µm)<br>Maximum            | 725  |
| Back Grind Options                         | None / Contact Adesto  |
| Back Plane Connection                      | Floating / Not Required  |
| Backside preparation /<br>metallization    | None   |
| Bond wire qualified                        | AU <input checked="" type="checkbox"/> CU <input type="checkbox"/> AG <input type="checkbox"/> |
| Passivation Material                       | HDP oxide + SiON   |
| Passivation Thickness (Å)                  | 21000  |
| Bond Pad Material                          | Ti/TiN/AlCu  |
| Bond Pad Thickness (Å)                     | 6000   |
| Good Die per Wafer                         | <a href="#">Contact Adesto</a> <sup>1</sup>  |
| Active Circuits underneath<br>the bond pad | Yes  |

<sup>1</sup> Average value; subject to change without notice.

| Part Number<br>Ordering Code <sup>2</sup> | Operating<br>Temperature Range | Functional Specification  |
|---|--------------------------------|---|
| AT45DB641E-DWF                            | -40°C to 85°C                  | <a href="http://www.adestotech.com/wp-content/uploads/DS-45DB641E-027.pdf">http://www.adestotech.com/wp-content/uploads/DS-45DB641E-027.pdf</a> |

<sup>2</sup> Handle product in accordance with UV and ESD precautions.

**Adesto Technologies Corporation**

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| Revision Level – Release Date | History  |
|-------------------------------|--|
| A – August 2015               | Initial release.   |
| B – November 2015             | Updated wafer orientation in die map image.<br>Added footnote on handling. |
| C – August 2017               | Updated address and contact information.                                   |

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