FDM-SATA

NAND FLASH MODULE

- 4 to 32 GBytes NAND Flash Capacity
- Single Level Cell and Multi Level Cell Design
- High Speed SATA Link
- Commercial and Industrial Temperature
PRODUCT OVERVIEW

These NAND Flash modules are using Greenliant SATA NAND drive flash devices, allowing to store up to 32 Gbytes of data on a small onboard mezzanine form factor, compatible with Kontron Single Board Computer Cards. Single level Cells and Multi Level Cells are proposed in various capacities and operating temperature range. Please refer to ordering information. The power dissipation is limited to 1.5 Watts.

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>ARTICLE</th>
<th>PART.-NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDM-SATA</td>
<td>FDM-SATA-32GB-C0V</td>
<td>32 Gbytes NAND Flash, MLC technology, 0° to +55°C operation, coated</td>
</tr>
<tr>
<td>FDM-SATA</td>
<td>FDM-SATA-8GB-I0V</td>
<td>8 Gbytes NAND Flash, SLC technology, -40° to +85°C operation, coated</td>
</tr>
</tbody>
</table>

For Additional Information, please contact sales.KFR@kontron.com

MICROSWITCHES DESCRIPTION

In addition, switch 2 and 3/4 shall not be all on. The same pin is used on the NAND Flash device for both functions, write protect and early power down notification. The function of this pin can be selected by software and is kept as a non-volatile setting by the NAND Flash device (only need to program it once). The hardware default function (prior any selection by software) is write protect management. The early power down notification increases the robustness against loss of data when the power is removed during write operations to the NAND Flash.

FUNCTION OVERVIEW

<table>
<thead>
<tr>
<th>PIN</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+5V</td>
</tr>
<tr>
<td>2</td>
<td>SATA_TX+</td>
</tr>
<tr>
<td>3</td>
<td>Not Connected</td>
</tr>
<tr>
<td>4</td>
<td>SATA_TX-</td>
</tr>
<tr>
<td>5</td>
<td>Not Connected</td>
</tr>
<tr>
<td>6</td>
<td>GND</td>
</tr>
<tr>
<td>7</td>
<td>GND</td>
</tr>
<tr>
<td>8</td>
<td>SATA_RX+</td>
</tr>
<tr>
<td>9</td>
<td>Not Connected</td>
</tr>
<tr>
<td>10</td>
<td>SATA_RX-</td>
</tr>
</tbody>
</table>

ORDERING INFORMATION

1- The host shall enforce a link speed of 1.5 Gbit/s maximum (Sata I). The device shall not be operated at higher speed although it might accept to negotiate at higher speed.

2- When operating under Linux, it is strongly recommended to disable the file system journaling in order to avoid unnecessary wear of the device due to write cycles issued by the journaling of the file system. This will also help to limit unwanted erase/write cycle throughput which might lead a significative performance limitation. For example, to disable the journal on a ext4 file system, issue the following command:

```
tune2fs -O '^-has_journal' /dev/mapper/vg_lnx9-lv_root
```

Alternatively, to avoid any write access after deployment, an installation of a read-only root file system is recommended (like, for example, Fedora LiveUSB).

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