Key Features

NAND Defect Management
– Advanced wear leveling
– Bad-block management
– Corrects up to 24 random bit errors per 1-KByte sector

Industry-Standard Interfaces
– ATA-4, ATA-6 and CFA 3.0
– Up to PIO-6, MWDMA-4 and UDMA-6

Flexibility
– Supports SLC and MLC NAND technology
– Supports direct access of up to 16 NAND flash devices for each MIB (Media Interface Block)
– Supports up to 64 NAND flash devices with external decoder (ATA interface only)
– Dual 8-bit channel and dual plane
– 2 KByte, 4 KByte and 8 KByte program page size

Low Power Consumption
– Supports 3.3V and 5V operation

High Performance
– Up to 109 MByte/sec sustained Write
– Up to 109 MByte/sec sustained Read

Small Package
– 12mm x 12mm x 1.17mm, 145-ball TFBGA
– 14mm x 14mm x 1.20mm, 100-pin TQFP

Applications
— Set-top box / Net-top box
— GPS and telematics
— In-vehicle infotainment
— Video conferencing
— Tablet PC / Smartbook / Netbook
— Multi-function printer
— Point of Sale terminal
— VoIP system / PBX
— Wireless base station
— Router / Gateway / Switch
— Server / Network-attached storage
— Industrial PC / Single-board computer
— Ultrasound and medical imaging
— Industrial automation & control
— Test & measurement instrumentation
— Video surveillance / ID terminal

Product Description
Derived from more than 20 years of NAND flash memory controller design expertise, the 55 Series NAND controllers are the key components for building high-performance data storage systems based on NAND flash technology. They are also the foundation for the 85 Series NANDrive™ embedded solid state drive (SSD) family, offering long product life, high reliability and low power consumption. Greenliant NAND flash memory controllers use advanced NAND management technology, which increases performance, improves data integrity and optimizes product endurance.

The 55 Series NAND controllers come with a factory pre-programmed embedded Flash File System (FFS) that allows the devices to automatically recognize any attached NAND devices at power up. Through dual-channel and multitasking features, these controllers achieve high-performance Read and Write operations. They can support up to 16 NAND flash devices directly. For high capacity SSDs, Greenliant NAND controllers can support up to 64 NAND flash devices with external decoding logic and drivers.

Embedded reconfigurable firmware enables easy field updates at any stage of the product life cycle. Further flexibility is achieved by the advanced Error Checking and Correction (ECC) engine that ensures support of current and future NAND flash ECC requirements. With these advanced features, Greenliant NAND controllers help system designers manage the complexities of using NAND flash memory.
### 55 Series: NAND Flash Controller (ATA / IDE Interface)*

<table>
<thead>
<tr>
<th>Device</th>
<th>Voltage</th>
<th>NAND Type</th>
<th>ECC</th>
<th>Supported ATA Modes</th>
<th>Sustained Write/Read Performance</th>
<th>NAND Programming Page</th>
<th>NAND Chip Selection</th>
<th>Package Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLS55LD040M</td>
<td>3.3V</td>
<td>SLC or MLC</td>
<td>24 bits/1-Kbyte</td>
<td>6</td>
<td>Up to 109 MByte/sec</td>
<td>2KB/4KB/8KB</td>
<td>16</td>
<td>TFBGA-145</td>
</tr>
<tr>
<td>GLS55GD020</td>
<td>3.3V</td>
<td>SLC or MLC</td>
<td>8 bits/512-Byte</td>
<td>4</td>
<td>Up to 30 MByte/sec</td>
<td>2KB/4KB</td>
<td>8</td>
<td>TQFP-100</td>
</tr>
</tbody>
</table>

* Minimum volume requirements apply. Contact your local Greenliant sales representative for more information.

### 55 Series: NAND Flash Controller (CompactFlash Interface)*

<table>
<thead>
<tr>
<th>Device</th>
<th>Voltage</th>
<th>NAND Type</th>
<th>ECC</th>
<th>Supported ATA Modes</th>
<th>Sustained Write/Read Performance</th>
<th>NAND Programming Page</th>
<th>NAND Chip Selection</th>
<th>Package Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLS55LC200</td>
<td>3.3V or 5V</td>
<td>SLC or MLC</td>
<td>8 bits/512-Byte</td>
<td>4</td>
<td>Up to 30 MByte/sec</td>
<td>2KB/4KB</td>
<td>8</td>
<td>TQFP-100</td>
</tr>
</tbody>
</table>

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For more information please contact your local Greenliant sales representative. See the “Sales” page of www.Greenliant.com for complete listings.

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