Hardware Specifications

**Processor**
- NEC PD78F0525A 8-bit microprocessor

**Memory**
- 60KB in-system programmable flash
- High-speed RAM 1KB
- Expansion RAM 2KB
- 64KB x 2 external I²C CMOS EEPROM (option: 64KBx3)

**Display Interface**
- Support 8-bit single scan 320 x 240 monochrome STN LCD (edge LED white backlight)
- Built-in JIS Level 1 & 2 Kanji ROM

**RS232 / 422 / 485 Port**
- Support dual serial port, one is three-wired RS232, another is shared in among RS232 / isolated RS422 / isolated RS485 port by option

**Serial Peripheral Interface**
- One two-wired serial interface (I²C) up to 250KHz data transfer speed

**Touch Panel Interface**
- Support four-wired resistive touch panel interface

**Software Utilities**
- Support RS232 / 422 / 485 driver, I²C driver, touch panel driver, and LCM driver for free

**DC Requirement**
- DC3.3V~5.5V

Features

- High performance, Low power NEC 8-bit microprocessor
- Built-in 60KB ISP Flash memory / 3KB RAM
- On board updateable 128KB EEPROM
- One isolated RS485 / 422 / 232, 1 x RS232
- Lower voltage operation to 3.3V
- Built-in 4-wired resistive touch panel
- 320 x 240 monochrome STN LCD
- Built-in JIS Level 1 & 2 Kanji ROM
- On-chip power-on reset (POR) and programmable watchdog reset
- Comprehensive set of development tools and application notes for self programming
- RS485 / 422 / 232 driver, I²C driver, touch panel driver, LCM driver and utility are supported
- Dimension (W x H x D): 160 x 109 x 16.5mm
Packing List

- BEGV643N Embedded System
- User Manual
- Software Utility Disc
- Mini Cube 2 and ISP Cable (option)

BEGV643N BLOCK DIAGRAM

Pin Mapping Table

<table>
<thead>
<tr>
<th>PIN NO.</th>
<th>Signal</th>
<th>PIN NO.</th>
<th>Signal</th>
<th>PIN NO.</th>
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<tr>
<td>1</td>
<td>GND</td>
<td>10</td>
<td>VDD2</td>
<td>19</td>
<td>SDA</td>
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<td>2</td>
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<td>11</td>
<td>TX0</td>
<td>20</td>
<td>IOB</td>
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Order Information

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<th>Parts NO.</th>
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<th>RS232-B</th>
<th>RS422</th>
<th>RS485</th>
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</table>

Display: FSTN/Gray LCD, LED/White Backlight (Default)
BOLYMIN, INC.

**NEC 8bit microprocessor**
MPD78F0525A
60KBytes ISP flash
3KBytes RAM

**BEGV641N & BEGV643N**
Display Embedded System

- **BEGV643N**
  - 320 x 240 STN
  - NEC 8bit microprocessor
  - PD78F0525A
  - 60KBytes ISP flash
  - 3KBytes RAM
  - I²C
  - (Real-time clock)
  - (A/D Converter)
  - RS-485
  - RS-422
  - RS232

- **BEGV641N**
  - 240 x 128 STN
  - Your 60KB program here!!

- **Display Embedded System**
  - BEGV641N & BEGV643N
  - 320 x 240 STN
  - NEC 8bit microprocessor
  - PD78F0525A
  - 60KBytes ISP flash
  - 3KBytes RAM
  - I²C
  - (Real-time clock)
  - (A/D Converter)
  - RS-485
  - RS-422
  - RS232

**Your 60KB program here!!**