

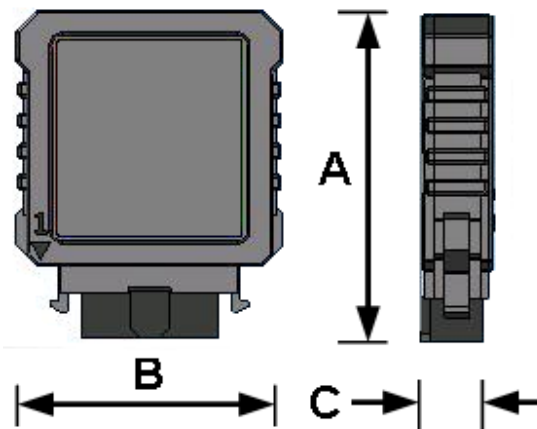
TS512M~4GUFM-V

512M~4GB USB Flash Module(Vertical)

Description

Transcend USB Flash Module, available in memory capacities from 512MB – 4GB. A USB Flash Module is ideal for use in the harsh environments where Industrial PCs, Set-Top Boxes and other systems are used.

Outline



Features

- RoHS compliant products
- Hi-Speed USB 2.0 compliant; backward compatible with USB 1.1
- True Plug and Play functionality
- Fully compatible with devices and Operating Systems (OS) that support the USB standard
- Integrated 80C51 compatible 8-bit microprocessor with enhanced feature
- Leading 0.16um CMOS technology, 1.8 Volt low power core operation
- Operates on a single power supply (Vdd = 5.0V)
- Support dual channel for Flash memory with enhanced performance
- Lower Power Consumption
- Fully compliant with open industry standards
- Write protection switch

System Requirement

- Hardware: An available 10-pin USB port (pitch = 2.54mm) on motherboard
- Operating System: Windows® 98SE, Windows® Me, Windows® 2000, Windows® XP, and Linux™ Kernel 2.4 or later

Dimensions

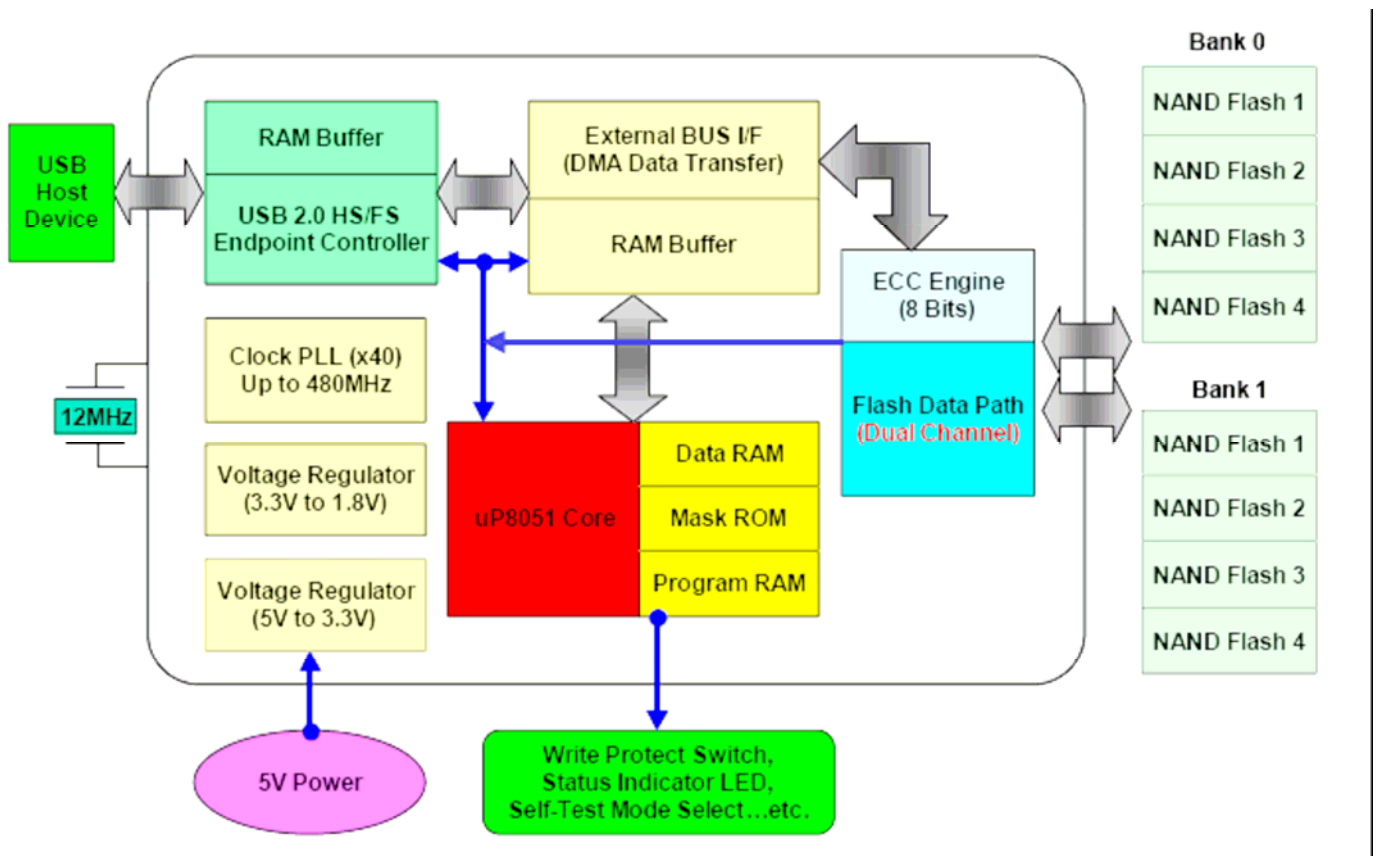
| Side | Millimeters | Inches |
|------|--------------|-------------|
| A | 31.80 ± 1.00 | 1.25 ± 0.04 |
| B | 26.00 ± 1.00 | 1.02 ± 0.04 |
| C | 7.00 ± 1.00 | 0.28 ± 0.04 |

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Block Diagram

USB Flash Drive controller



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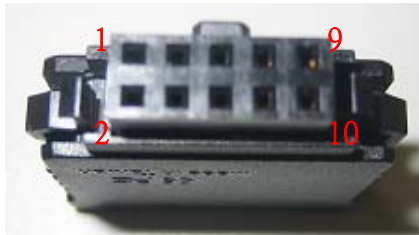
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Pin Outs

| Pin No. | Pin Name |
|---------|----------|
| 01 | VCC |
| 02 | NC |
| 03 | USB(-) |
| 04 | NC |
| 05 | USB(+) |
| 06 | NC |
| 07 | VSS |
| 08 | NC |
| 09 | NC |
| 10 | NC |

Pin Identification

| Symbol | Function |
|--------|--|
| USB(-) | USB differential signal: The pairs are used to transmit Data/Address/Command |
| USB(+) | |
| VSS | Ground |
| VCC | USB power input |
| NC | No connection |



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Specifications

| Environment | | |
|----------------------|--------------------|------------------|
| Capacity | | 512MB~4GB |
| Temperature | Operating | 0 °C to 70 °C |
| | Non-Operating | -40 °C to 85 °C |
| System Performance | Dual-Channel Read | 33 MB/sec (Max.) |
| | Dual-Channel Write | 20 MB/sec (Max.) |
| Power Requirement | Voltage | DC 5V ± 10% |
| Data Retention | | 10 years |
| Connector Durability | | 10,000 times |
| Erase Cycles | | >100,000 times |

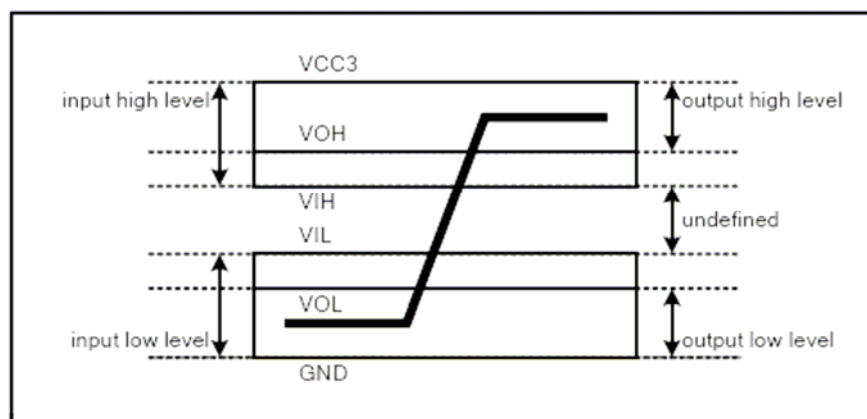
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AD/DC Characteristics

| Parameter | Symbol | Min. | Max. | Unit | Remark |
|----------------------------|--------|------|------|------|--------------------|
| Peak voltage on all lines | | -0.5 | 3.6 | V | Except VCC5V input |
| All input leakage current | | -10 | 10 | uA | |
| All output leakage current | | -10 | 10 | uA | |
| Supply voltage | VCC3 | 2.7 | 3.6 | V | |

Bus Signal Level



| Parameter | Symbol | Min. | Max. | Unit | Remark |
|---------------------|----------|------|------|------|--------|
| Output High voltage | V_{OH} | 2.4 | | V | |
| Output Low voltage | V_{OL} | | 0.4 | V | |
| Input High voltage | V_{IH} | 2.0 | | V | |
| Input Low voltage | V_{IL} | | 0.8 | V | |

Bus Signal Line Loading

| Parameter | Symbol | Min. | Max. | Unit | Remark |
|----------------------|--------|------|------|------|--------|
| Bus line capacitance | C_L | | 20 | pF | |

Above technical information is based on industry standard data and tested to be reliable. However, Transcend makes no warranty, either expressed or implied, as to its accuracy and assumes no liability in connection with the use of this product. Transcend reserves the right to make changes in specifications at any time without prior notice.