

DiskOnModule

Standard DJ & DJ ^{Wide Temp} Series



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Revision History

| Revision | Date | History | Remark |
|-----------------|-------------|--------------------------|---------------|
| A.0 | 01/26 '05 | First document announced | |
| A.1 | 08/30 '05 | Correct Spec data | |
| A.2 | 12/15 '05 | Modify MTBF data | |
| A.3 | 01/06 '06 | Add flash capacity | |
| A.4 | 07/05 '06 | Modify the format | |

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1. Description

PQI's **DiskOnModule DJ series** based on NAND flash memory controller technology. This product complies with 40 PIN IDE (ATA) standard interface and is suitable for data storage memory medium for portable system. By using **DiskOnModule** it is possible to operate good performance for the portable system, which have IDE interface slots.

2. Features

- High Performance
- Non-volatile Flash Memory
The DOM is implemented by using NAND type flash memory, which is a high density, non-volatile read/write device. Flash data retention is guaranteed for at least 10 years, with no battery or other power source required.
- 100% True Mode IDE HDD Compatible
- Broad Operating System and Processors Supports
- Capacities 32MB~2GB
- Low Power Consumption
- Robust Error Correction
- High Reliability

3. Introduction

1. About This Manual

This manual provides instructions for the installation and specification of PQI's *DiskOnModule*; *DiskOnModule* is designed for use in PCs, and their respective compatible computers.

2. What is DiskOnModule?

PQI's DiskOnModule is a storage device based on flash memory technology, which emulates an ordinary magnetic hard disk. The DiskOnModule series products provide an all in one module solution for solid-state flash disk. The DiskOnModule is suitable for use in portable and embedded systems which have limited space and power consumption.

Unlike standard IDE drives, no signal cable and extra, special space is required. The DiskOnModule is a solid-state solution for IDE Hard Disk drive, which has no moving parts. That provides a good stability in a moving system. The DiskOnModule products are also free from extra and special algorithm or some firmware driver. Just plug the DiskOnModule into the IDE slot and play it, users can play the DiskOnModule as same as the Hard Disk Drives.

The DiskOnModule family provides the capacities ranging from 32MB up to 4GB. In the future, the capacity will be increased up to 8GB.

4. Specification

| Environment Specifications | | |
|-------------------------------|---------------|---|
| Temperature(Industrial) | Operating | 0°C to +70°C |
| | Non-Operating | -40°C to +85°C |
| Temperature(Wide Temp) | Operating | -40°C to +85°C |
| | Non-Operating | -55°C to +95°C |
| Relative Humidity | | 8% to 95% (with no condensation) |
| Vibration | Operating | 15G |
| | Non-operating | 15G |
| Shock | Operating | 1000G |
| | Non-operating | 1000G |
| Configuration | | |
| Capacity | | 32Mbytes to 2Gbytes |
| Sector size | | 512Bytes |
| System Performance | | |
| Media transfer rate *note 1 | Read | 4.3 MB/sec |
| | Write | 3.3 MB/sec |
| Interface burst transfer rate | | |
| PIO mode 2 | | 8.3 MB/sec (max) |
| Reliability | | |
| MTBF | | 2,000,000 hours |
| ECC | | 1bit random correction 2bits detection per each 256bytes |
| Power Requirement | | |
| Voltage | | DC+3.3V±5% |
| | | DC +5.0V±10% |
| Power Consumption | | |
| Read | | 30mA (typ.) |
| Write | | 28mA (typ.) |
| Stand by | | 3mA (typ.) |
| Dimensions | | |
| Height | | 27.2mm ± 0.1mm |
| Width | | 59.2mm ± 0.1mm |
| Thickness | | 6.2mm± 0.1mm |

Note1: There will be different figures shown in different platforms

Capacity Specifications

| Capacity | Cylinder | Head | Sector | Total sectors |
|----------|----------|------|--------|---------------|
| 32MB | 500 | 8 | 16 | 64000 |
| 64MB | 500 | 8 | 32 | 128000 |
| 128MB | 500 | 16 | 32 | 256000 |
| 256MB | 1000 | 16 | 32 | 512000 |
| 512MB | 1015 | 16 | 63 | 1023120 |
| 1024MB | 2031 | 16 | 63 | 2047248 |
| 1536MB | 3047 | 16 | 63 | 3071376 |
| 2048MB | 4063 | 16 | 63 | 4095504 |

5. Physical Outline
DJ0XXXX44XX0 (40 PIN)

