

Barefoot

Solid State Drive Processor



Product Brief

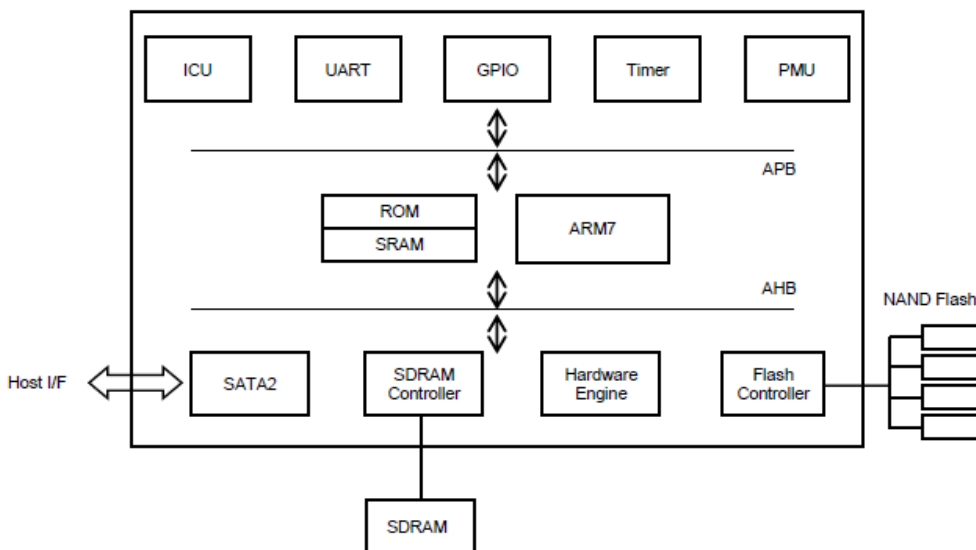
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Since its introduction in 2008, the Indilinx Barefoot SSD processor has set the industry standard for solid state drive performance, stability, and reliability. Barefoot offers SSD manufacturers unsurpassed flexibility in optimizing their designs for performance and cost.

Feature Highlights

- SATA Revision 2.0 – Supports 3Gbps and 1.5Gbps interface speeds
- 512GB maximum capacity
- Wide compatibility with NAND flash memory – both SLC and MLC.
- High reliability - Advanced BCH ECC engine can correct up to 16 bits / 512B
- Efficient NAND flash management – Flash Translation Layer, dynamic and static wear-leveling, and background garbage collection
- Performance consistency - No performance degradation between compressible and incompressible data
- Mobile SDRAM interface for user data cache and system metadata

Block Diagram



Applications

- Workstations
- Desktop PCs
- Notebooks

Max Performance¹

- Sequential Read
230 MB/s
- Sequential Write
230 MB/s
- 4K Random Read
10K IOPS
- 4K Random Write
15K IOPS

¹ Performance measurements using CrystalDiskMark, 128GB capacity using Micron L63B NAND flash
Note: performance results may vary based on system configuration

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Specifications

Processor	ARM7 CPU 128KB program SRAM with zero wait states 64KB Data SRAM with zero wait states
Host Interface	SATA Revision 2.0 compliant; 3Gb/s support Native Command Queuing - Queue Depth of 32
Channels/Interleaving	4 16bit NAND channels, up to 8 way interleaving per channel
Max supported capacity	Up to 512GB
NAND flash support	MLC and SLC NAND
DRAM Cache Support	Up to 128MB of Mobile SDRAM
Performance Optimization	TRIM (requires OS support)
Flash Management	Background garbage collection Dynamic and static wear-leveling Advanced flash defect management
Error Correction Code	BCH ECC corrects up to 16bits/512B
Security	AES-256 Encryption ATA Security Mode Features
Power Management	Supports Host Initiated Power Management (HIPM) Support Device Initiated Power Management (DIPM)
Operating Temperature	0°C ~ 70°C
Package	324-Pin FBGA – 14 x 14mm
Compliance	RoHS
Power(W) Operating/Standby/Slumber	2/0.5/0.1

Ordering Information

Part Number	Description
IDX110M02-LCT	110: Barefoot, MO2: 3rd generation, LCT: FBGA, commercial temp. support, tray packing