Datasheet

CF Evaluation Module

16GB 3D pSLC CF Card

Description

The CF Evaluation Module CF02-F9-ILAT06-M01 is a fully assembled CompactFlash drive based on the Hyperstone F9 flash memory controller. Its hyReliability™ flash management includes superior wear leveling, read disturb management, and power fail management ensuring highest reliability and durability. With a flexible error correction (ECC) and the state-of-the-art hyMap® flash translation layer, the F9 enables reaching the highest data retention and endurance, thus enabling the most reliable and safe storage systems.

Configuration

Component	Product
Interface Type	CompactFlash 4.0 and 5.0 compliant, compatible to 6.1
NAND Flash Controller	Hyperstone F9
DRAM	None
NAND Flash	Kioxia 3D TLC
Flash Mode	Pseudo-SLC Mode
Capacity	16GB, 31277232 LBAs
Transfer Modes	Up to PIO6, up to MDMA4, up to UDMA6
Firmware Version	F9 firmware 181019 1.02
Revision	C1_rev1
Product Code	CF02-F9-ILAT06-M01

Operation

The CF Evaluation Module is only intended as an exemplary configuration of a storage system based on the Hyperstone F9 controller. It is to be used only for evaluation of the NAND flash controller.

F9 NAND Flash Memory Controller

Note: Not all of the controller features are enabled or offered by the evaluation module

- Designed to fully satisfy industrial reliability, endurance, and feature requirements
- hyReliability™ Flash Management including superior wear leveling, read disturb management, and power fail management ensuring highest reliability and durability
- hyMap® Flash Translation Layer (FTL) offering second to none random write performance, minimal write amplification,
  and consequently highest endurance for random access heavy usage profiles
- Flexible up to 96-Bit/1K BCH ECC engine supporting all Flash Memory requirements
- Optimized 32-Bit RISC core, extended instruction set for Flash Memory handling
- Continuously updated Flash Memory chip support and long term availability
- High performance on-the-fly AES 128 and 256 encryption engine
- Custom features can be implemented with simple firmware upgrades
- Turnkey solution including firmware, manufacturing kit, test and development hardware, as well as reference schematics
- 12 GPIOs for customer specific applications supporting SPI, I²C and ISO7816 or additional flash CE
- Application Programming Interface (API) and Software Development Kit (SDK) to develop own Custom Firmware Extensions (CFE)

Targeted Applications

- High reliability & industrial Compact Flash™ Cards (CFC)
- IDE Disk-on-Module (DoM)
- Multi-Chip-Package (MCP)
- PCMCIA or ATA PC cards Embedded Flash – Disk-on-Board

Compliance & Performance

- Fully compliant with CompactFlash™ 4.1, 5.0 and compatible to 6.1 specifications
- Sequential read up to 120 MB/s Sequential write up to 120 MB/s
- Secure Erase and Sanitize support
- S.M.A.R.T. and health monitoring
- -40 to +85 °C industrial grade version

F9 NAND Flash Memory Controller

Contact

If you have any questions regarding the controller evaluation module, feel free to contact us either at us.sales@hyperstone.com or us.techsupport@hyperstone.com.

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