

CodeMeter ASIC



Article-No:

1504-03-xxx

Description

CodeMeter ASIC represents the heart of the CodeMeter Digital Rights Management system. It contains a smart card chip with a secure memory of about 328 kByte available for storing thousands of licenses. The basic idea of the revolutionary CodeMeter concept is that licenses can be stored for many products at the same time, with full multivendor capabilities.

License Options include: Text (description of an entry), Unit Counter (number of runs or actually run time of a license), Activation Time (time the license is valid from), Expiration Time (time the license is valid until), Usage Period (starts at first use), Maintenance Period (according to release date), Feature Map (up to 32 modules or versions), License Quantity (concurrent use / floating network licenses), Protected Data / Extended Protected Data (128x256 bytes read-only data), Hidden Data (128x256 bytes only readable with password; usable as secret/private key), Secret Data (128x256 bytes non-readable, only usable as secret/private key), User Data (256 bytes, unsecured), Customer Owned License Information (256 bytes).

Encryption algorithms used in firmware 4.40 with serial number 3-3440000 or higher: 128 and 256-bit AES, SHA-256, 1024, 2048 and 4096-bit RSA, 224-bit ECC.

The integrated smart card chip fulfills the evaluation level EAL 5+ (Common Criteria certified) and contains a random number generator.

Technical Specifications

The CodeMeter technology is covered by US 7.145.297 and other patents.

- Interface: USB and SPI.
- Full CodeMeter functionality.
- CodeMeter license memory:
 - Data retention: 10 years at room temperature.
 - Data Endurance:
 - Unit Counter: up to 500 million decrements.
 - Other license parameter: up to 10 million updates to each license
- Power supply: 3.3V VCC, 10 mA @die / 21mA max.
- Operating and storage temperature:
 - -40° C ... +105° C, non-condensing
- MTBF (Mean Time Between Failures): > 3 Million hours
- Dimensions: VQFN-32 package, 5 mm x 5mm x 0.9 mm
- Warranty: 36 months

RoHS compliant
WEEE-Reg-No:
DE 90465365



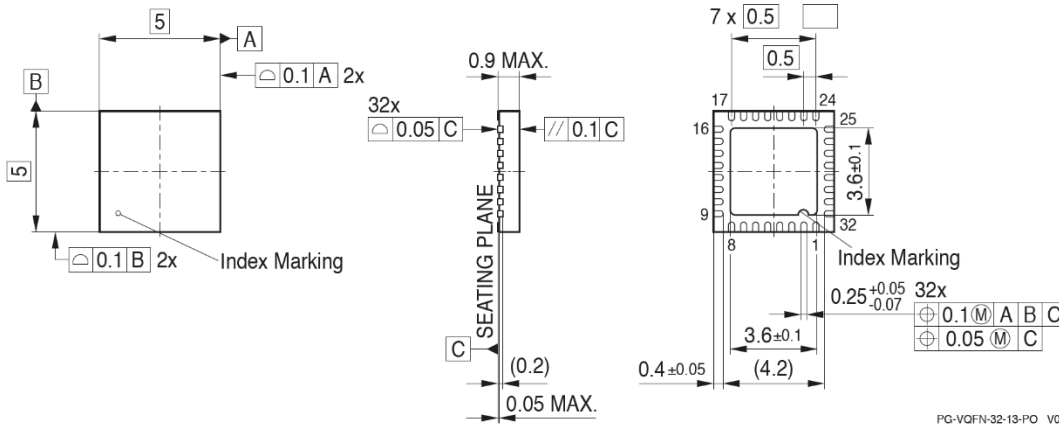
PIN Definition and Function

PIN Definition and Function	Package VQFN-32
VSS (GND)	17
MS Mode Select (GND = SPI, VCC = USB)	19
DM (USB-, leave open if not used)	20
DP (USB+, leave open if not used)	5
Reserved (PIN must be left open)	6
RST (control input, reset signal, active low)	7
VCC (supply voltage)	8
GPIO 0, SPI_MOSI (input, slave receive)	10
GPIO 1, SPI_MISO (output, slave transmit)	11
GPIO 2, SPI_SCK (serial clock, idle high)	12
GPIO 3, SPI_CS (chip select, active low)	13

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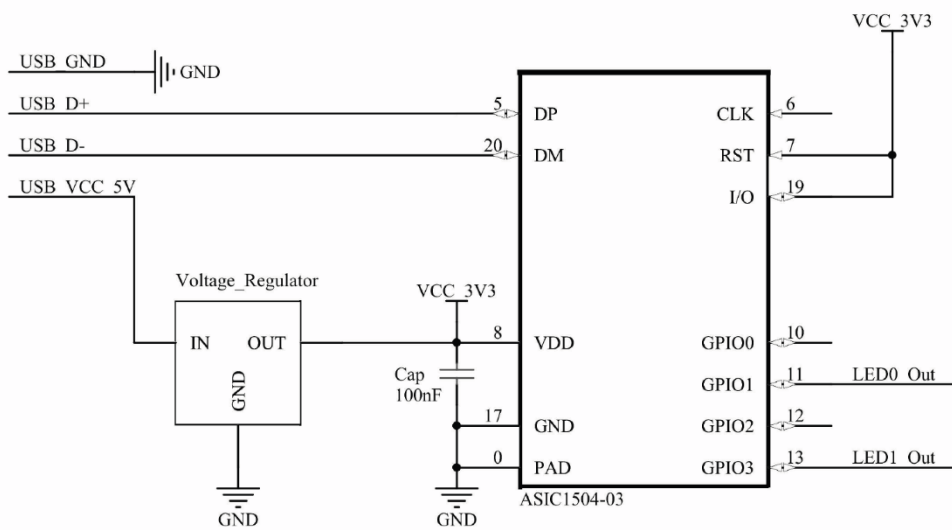
Technical Drawing



Schematic

Only for reference and evaluation with USB interface. All other PINs (including CLK and RST) must be left open.

GPIO1/GPIO3 are used for LEDs (push-pull, total driver-strength max. 4mA, eg. 2mA per LED). Leave open if not used.



All dimensions in millimeters.

Subject to change without notice.

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