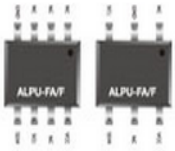
Copy Protection Solution

Product	Package Type	Feature	Interface	Operation Voltage	Application
ALPU-FA/F	 sop-8	4KB EEPROM(Cipher Memory) AES128/SHA256 Authentication AES128 Cipher/Decipher Support MIDR(Monotonic Increas Decreas Register) Support user configuration area	I²C	3.3V	STB / IPC / DVD Navigation / Game machine / Print cartridge / GPS

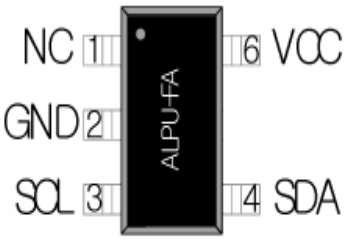
Features

- User programmable copy protection IC
- 32 Kbits EEPROM, Retention(10 years)
- Erase/Write Endurance: 100K
- Standard AES-128 encryption and decryption
- SHA-256/AES-128 Authentication
- User ID, User Serial, MIDR, RVC
- 3.3V Operation Voltage, I2C I/F
- Built- in Power on Reset and 8 MHz OSC.
- Active, Sleep Power Mode

Applications

- Print cartridge, GPS, Navigation
- Mobile Device, IPC, CCTV, DVD
- Set-Top Boxes (STBs), Etc.

Pin Configuration



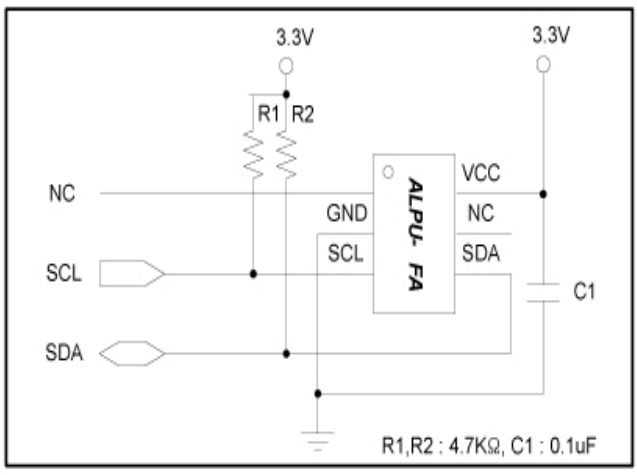
〈SOT-23-6L Package〉

- SOP8, TDFN2x3 packages will be available.

General Description

The ALPU-FA is the high-end IC among the ALPU series.
The ALPU-FA has 32 Kbits EEPROM. A configuration data and user data can be saved at the EEPROM. The data is protected by password and encryption. The ALPU has SHA-256 core. SHA-256 is used for a authentication. ALPU-FA encryption core is based on Rijndeal AES-128 with programmable parameters. It is a slave device that always operates with MCU through the serial bus. The ALPU has internal 8 MHz clock. When MCU does not access the ALPU for a defined time, The ALPU goes to sleep mode. The 8MHz OSC does not oscillate for sleep mode.

Typical Operation Circuit



〈SOT-23-6L Package Type〉

SCL and SDA is open drain. SDA is bi-directional port.

Encryption Flow

- Data Retention : 10 years
- Erase/Write Endurance: 100K@25℃
- Internally Synchronous read and read access time of 250ns.
- Low standby power consumption

Beijing Hongli Kunpeng International Trade Co., Ltd.
Tel: 86-10-57891098 MP:86-13001179378 Mail: info@hlkpint.com or lucyliu0807@163.com