



FM4406 104BITS TELEPHONE CARD CHIP

Specification

May. 2008

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Product Overview

Description

The 4406 is security ICs for telecom providing 88 bits of serial electrically erasable and programmable read-only memory (EEPROM) for counter with security. The device is optimized for use in many applications of contact telecom card.

Features

- 100% functional compatibility to SLE4406
- 88 bits EEPROM and 16 bits ROM
- Supply voltage: 4.5V~5.5V
- Supply current < 3mA
- EEPROM programming time 5 ms
- Transport Code protection for delivery
- Counter with up to 20,480 count units
- High-reliability
 - Endurance: 100,000 Write Cycles
 - Data Retention: 10 Years
- Contact configuration and Answer-to-Reset (synchronous transmission) in accordance to standard ISO/IEC 7816

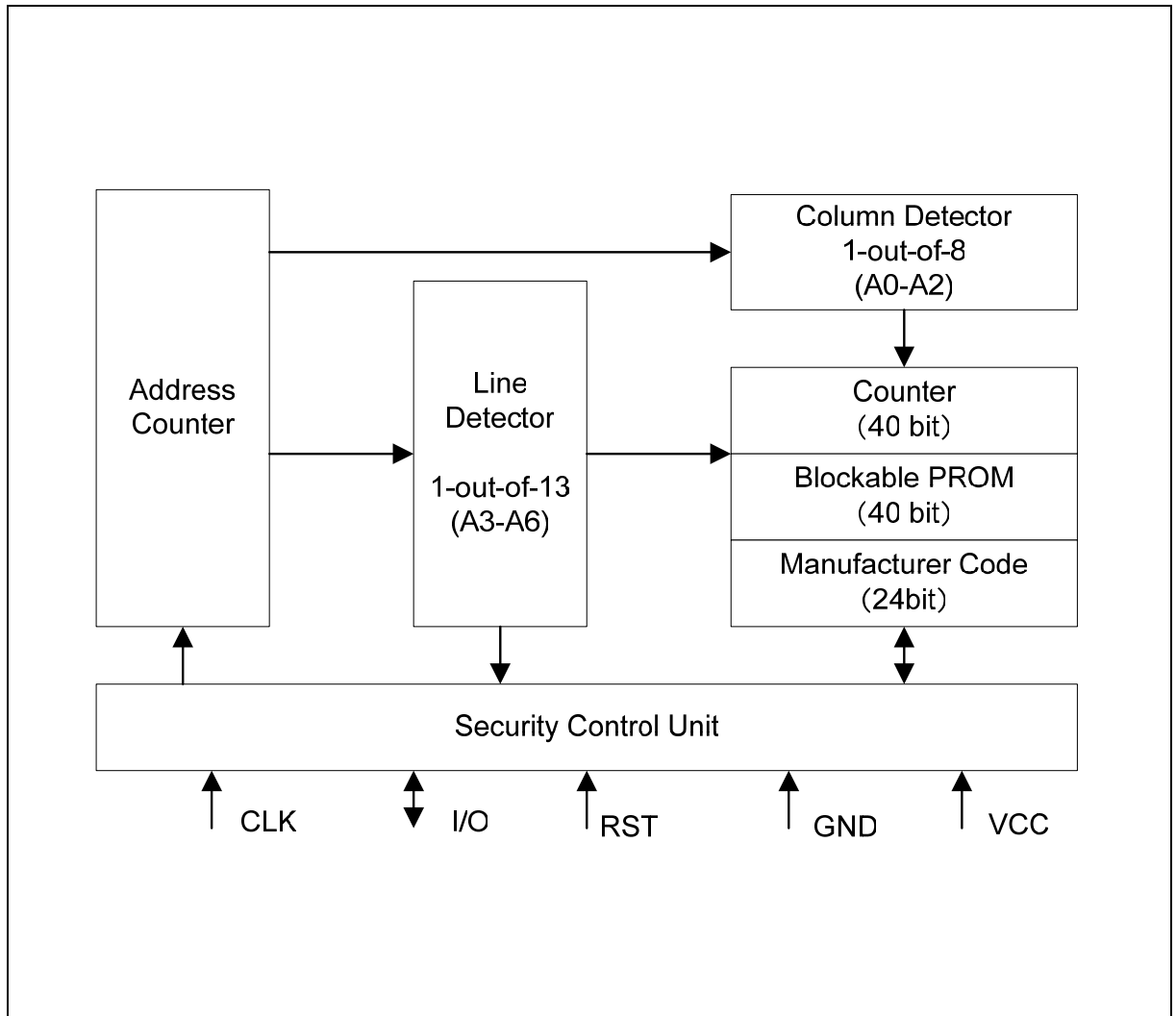
Pin Configuration

VCC	C1		C5	GND
RST	C2		C6	NC
CLK	C3		C7	I/O

Pin Description

Card Contact NO.	Symbol	Description
C1	VCC	Supply voltage
C2	RST	Control input (Reset Signal)
C3	CLK	Clock input
C5	GND	Ground
C6	N.C.	Not connected
C7	I/O	Bidirectional data line (open drain)

Block Diagram



Electrical Characteristics

Absolute Maximum Ratings

Symbol	Parameter	Min	Typ	Max	Units
V_{CC}	Supply voltage	-0.3		6	V
V_I	Input voltage	-0.3		6	V
T_{sto}	Storage temperature	-40		125	°C
P_{tot}	Pin dissipation			60	mW

DC Characteristics

Symbol	Parameter	Min	Typ	Max	Units
V_{CC}	Supply Voltage	4.5	5	5.5	V
I_{CC}	Supply Current		1.5	3	mA
V_{IH}	Input High Level (I/O, CLK, RST)	3.5		V_{CC}	V
V_{IL}	Input Low Level (I/O, CLK, RST)	0		0.8	V
I_H	High Level Input Current (CLK)		3.9	10	μA
I_L	Low Level Input Current (RST)		3.9	10	μA
I_{OL}	Low level output current ($V_I = 0.4V$, open drain)	0.5			mA
I_{OH}	High level output current ($V_I = V_{CC}$, open drain)			10	μA
T	Test Pin	Open or on GND			

AC Characteristics

Symbol	Parameter	Min	Typ	Max	Units
t_R	Address rest time	50	--	--	μs
t_S	Reset Time	10	--	--	μs
t_H	CLK high time	10	--	--	μs
t_L	CLK low time	10	--	--	μs
t_{HW}	Write time	5	--	--	Ms
t_{HE}	Erase time	5	--	--	Ms

Ordering Information

Ordering Code	Package	Operation Range
FM4406-M3	Module Package (6Pin)	Industry Temperature -40°C ~ +85°C
FM4406-BK	BK	

Revision History

Version	Publication date	Pages	Paragraph or Illustration	Revise Description
1.0	Oct. 2007	8		Initial Release.
1.1	May. 2008	8	Sales and service	Updated the address of HK office.

Sales and Service

Shanghai Fudan Microelectronics Co., Ltd.

Address: Bldg No. 4, 127 Guotai Rd,
Shanghai City China.

Postcode: 200433

Tel: (86-21) 6565 5050

Fax: (86-21) 6565 9115

Shanghai Fudan Microelectronics (HK) Co., Ltd.

Address: Unit 506, 5/F., East Ocean Centre, 98 Granville Road,
Tsimshatsui East, Kowloon, Hong Kong

Tel: (852) 2116 3288 2116 3338

Fax: (852) 2116 0882

Beijing Office

Address: Room.1208, Bldg C,
Zhongguancun Science and Technology Development Edifice,
34 zhongguancun Street (South),
Hai Dian District, Beijing City, China.

Tel: (86-10) 6212 0682 6213 9558

Fax: (86-10) 6212 0681

Shenzhen Office

Address: Room.1301, Century Bldg, Shengtingyuan Hotel, Huaqiang Rd (North),
Shenzhen City, China.

Tel: (86-755) 8335 1011 8335 0911

Fax: (86-755) 8335 9011

Web Site: <http://www.fmsh.com/>