

NFC Forum Type 2 Tag compliant IC with 144 bytes user memory

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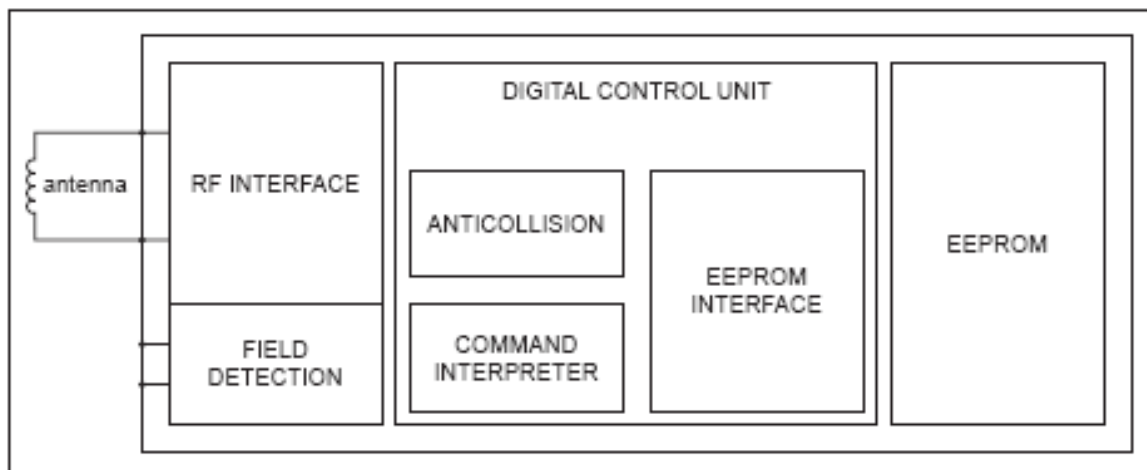
1. Features

- Conform to ISO/IEC14443A standard
- Contactless transmission of data and supply energy
- Up to 100mm operation distance
- 13.56MHz operating frequency
- 106k bit/s data rate
- High data integrity: 16-bit CRC, parity, bit coding, bit counting
- True anticollision
- 7 byte serial number (cascade level 2 according to ISO/IEC 14443-3)
- 168 bytes of total memory, divided in 42 pages (4 bytes each)
- 144 bytes of user r/w memory area, divided in 36 pages (4 bytes each)
- Field programmable read-only locking function per page for first 64 bytes of the memory
- Field programmable read-only locking function per block (2 pages)
- 32-bit user definable One-Time Programmable (OTP) area
- 16-bit counter
- Anti-cloning support by unique 7-byte serial number for each device
- Data retention > 25 years
- Write endurance > 500,000 cycle
- Operation temperature range -25°C to +70°C

2. General Description

GT23SC4499 is NFC Forum Type 2 Tag compliant IC - to be used with NFC enabled devices according to NFC Forum technical specifications, according to NFC Forum recommendations or Proximity Coupling Devices (PCD), according to ISO/IEC 14443A. The communication layer (RF Interface) complies to parts 2 and 3 of the ISO/IEC 14443A standard. The GT23SC4499 is primarily designed for NFC Forum Type 2 Tag applications in electronics (i.e. Smart Advertisement, Connection Handover, Bluetooth simple pairing, Wi-Fi Protected set-up, call request, SMS, goods authentication and others).

3. Block diagram



4. Pinning information

Pin	Symbol	Description
pin1	LA	Antenna connection LA
pin2	LB	Antenna connection LB

5. Memory Organization

Page address		Byte number			
Decimal	Hex	0	1	2	3
0	00h	UID0	UID1	UID2	UID0^UID1^UID2^88h
1	01h	UID3	UID4	UID5	UID6
2	02h	UID3^UID4^UID5^UID6	internal	00h(lock byte 0)	00h(lock byte 1)
3	03h	00h	00h	00h	00h
4 to 39	04h to 27h	user memory, the initial value is 00h			
40	28h	00h	00h	RFU	RFU
41	29h	00h	00h	RFU	RFU

6. Limiting Values

PARAMETER	CONDITIONS	Min	Max	Unit
Input current		-	30	mA
Load current	50 pF version	-	10	μA
Storage temperature	FD pin	-55	+125	°C
Operation temperature		-25	+70	°C
ESD	Measured on pin LA-LB	2	-	kV

7. Electrical Characteristics

PARAMETER	CONDITIONS	Min	Typ	Max
Operating frequency		-	13.56MHz	-
Input capacitance	50 pF version	44 pF	50 pF	56 pF
Output voltage	FD pin	1.2 V	1.8 V	2.0 V
Write EE cycle time			4 ms	
EE retention time	Operation temperature 22°C	25 year	-	-
EE write endurance	Operation temperature 22°C	500000 cycle	-	-

8. Ordering Information

Part Number	Package
GT23SC4499-MH001WBD	Sorted Dies Form with Back Grinding and Die Saw
GT23SC4499-MH001SBD	Bumping Sorted Dies Form with Back Grinding and Die Saw
GT23SC4499-MH001P	COB
GT23SC4499-X20MH001	MOA4

9. Revision History

<i>REV</i>	<i>History</i>	<i>Page</i>	<i>Date</i>
1.0	Initial Version	--	4/20/2014

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