



# M35101

## 13.56 MHz, ISO 14443, Contactless Memory Chip 2048-bit EEPROM

### DATA BRIEFING

- ISO 14443-2 Type-B Standard Compliant
- 13.56 MHz Carrier Frequency
- 847 kHz Subcarrier Frequency
- 106 Kbit/second Data Transfer
- Internal Tuning Capacitor
- Data Transfer:
  - ASK Modulation from Reader to M35101
  - BPSK Coding from M35101 to Reader
- 2048-bit EEPROM with Write Protect Feature
- BYTE and PAGE READ (up to 16 Bytes)
- BYTE and PAGE WRITE (up to 16 Bytes)
- Self-Timed Programming Cycle with Auto-Erase
- 5 ms Programming Time (typical)
- More than 100,000 Erase/Write Cycles
- More than 40 Year Data Retention

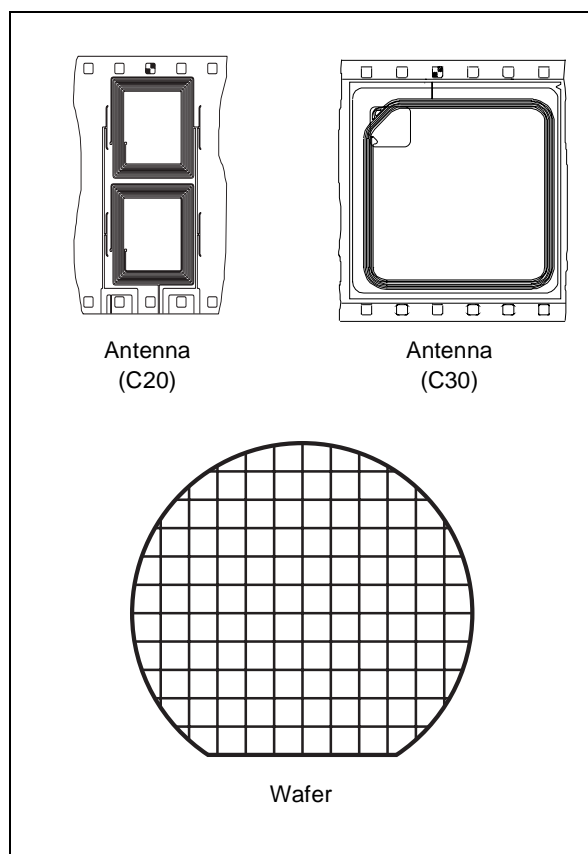
### DESCRIPTION

The M35101 is a contactless memory, powered by the received carrier electromagnetic wave. It is a 2048-bit EEPROM, organised as 16 pages of 16 x 8 bits.

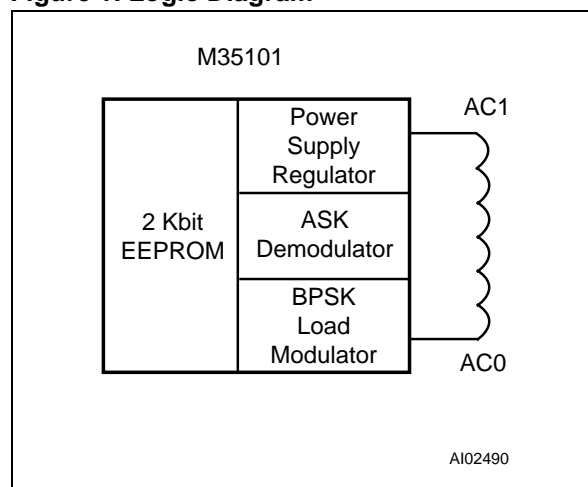
The M35101 conforms to the ISO 14443-2 Type-B recommendation for the transfer of power and signals via radio transmission. The card reader circuitry amplitude modulates (10% modulation) the data on the carrier using amplitude shift keying (ASK). The card replies by load modulating the data on the carrier using bit phase shift keying (BPSK) of the subcarrier. The data transfer rate in each direction is 106 Kbit/second.

**Table 1. Signal Names**

AC1	Antenna Coil
AC0	Antenna Coil



**Figure 1. Logic Diagram**



**Table 2. Ordering Information Scheme**

Example: M35101 - W4 / xxx

Delivery Form	Transfer Code
W4 180 $\mu\text{m}$ $\pm$ 15 $\mu\text{m}$ unsawn wafer	Given by ST
S4 180 $\mu\text{m}$ $\pm$ 15 $\mu\text{m}$ sawn wafer	
C20 Antenna on Super 35 mm tape	
C30 Antenna on Super 35 mm tape	

**ORDERING INFORMATION**

Devices are shipped from the factory with the memory content set at all 1s (FFh).

The notation used for the device number is as shown in Table 2. For a list of available options (speed, package, etc.) or for further information on any aspect of this device, please see the current Memory Shortform Catalogue, or contact your nearest ST Sales Office, or email:

*memories.contactless@st.com*