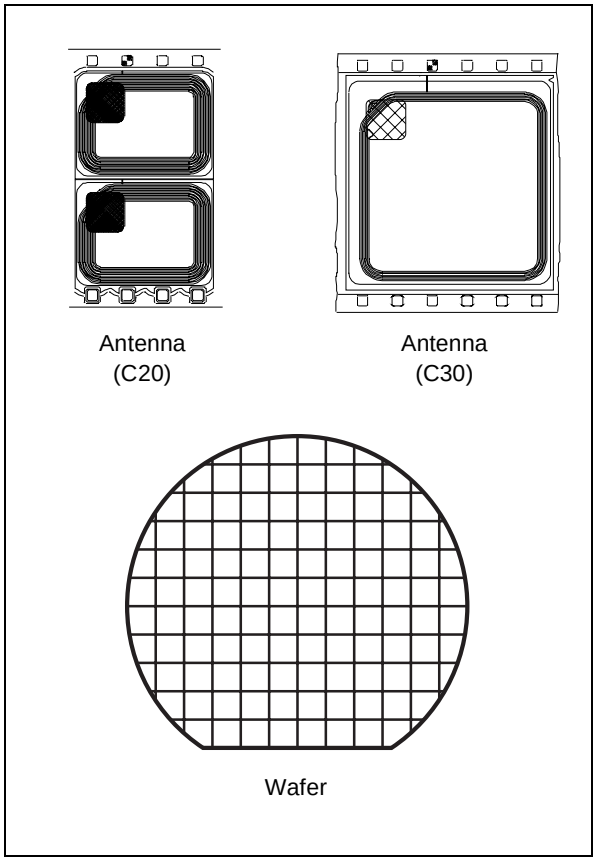
M35102

Contactless Memory Chip with 64-bit Unique Serial ID 13.56 MHz, 2048-bit High Endurance 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 Modulation:
  - ASK from Reader to Card
  - BPSK from Card to Reader
- 1792-bit EEPROM with Write Protect Feature
- 256-bit ROM with 64-bit Unique Serial ID
- BYTE and PAGE READ (up to 16 Bytes)
- BYTE and PAGE WRITE (up to 16 Bytes)
- Self-Timed Programming Cycle with Auto-Erase
- 100,000 Erase/Write Cycles (minimum)
- 40 Year Data Retention (minimum)
- 5 ms Programming Time (typical)



DESCRIPTION

The M35102 is a contactless memory, powered by the received carrier electromagnetic wave. It is a 1792-bit EEPROM, plus 256-bit ROM, organised as 16 pages of 16 x 8 bits.

The M35102 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.

Figure 1. Logic Diagram

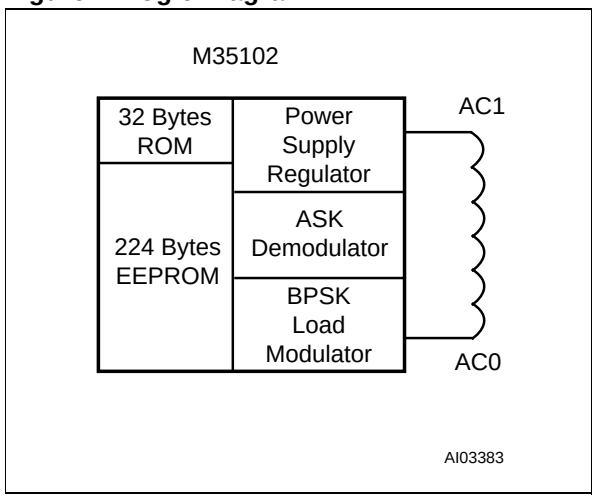


Table 1. Signal Names

AC1	Antenna Coil
AC0	Antenna Coil

Complete data available under NDA.

Table 2. Ordering Information Scheme

Example: M35102 - W4 / xxx

Delivery Form	
W4	180 µm ± 15 µm unsawn wafer
S4	180 µm ± 15 µm sawn wafer
C20	Antenna on Super 35 mm tape
C30	Antenna on Super 35 mm tape

Transfer Code
Given by ST

ORDERING INFORMATION

Devices are shipped from the factory with the memory content set at all '1's (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 contact the ST Sales Office nearest to you.

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