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**EVALUATION KIT
AVAILABLE**

MAXIM

ISO 15693-Compliant 64-Bit UID

MAX66100

General Description

The MAX66100 contains a 64-bit unique identifier (UID) and a 13.56MHz ISO 15693 RF interface in a single chip. The UID is revealed during the inventory process. The MAX66100 supports all ISO 15693-defined data rates, modulation indices, subcarrier modes, the selected state, application family identifier (AFI), and data storage format identifier (DSFID). AFI and DSFID are factory programmed with customer-supplied data.

Applications

Driver Identification (Fleet Application)

Access Control

Asset Tracking

Mechanical Drawings appear at end of data sheet.

Features

♦ **Fully Compliant with ISO 15693 and ISO 18000-3 Mode 1 Standard**

♦ **13.56MHz ±7kHz Carrier Frequency**

♦ **64-Bit Unique, Factory-Programmed UID**

♦ **Supports AFI and DSFID Function**

♦ **Write: 10% or 100% ASK Modulation Using 1/4 (26kbps) or 1/256 (1.6kbps) Pulse-Position Coding**

♦ **Read: Load Modulation Using Manchester Coding with 423kHz and 484kHz Subcarrier in Low (6.6kbps) or High (26kbps) Data-Rate Mode**

♦ **Compatible with Existing ISO 15693 Products on the Market**

♦ **Powered Entirely Through the RF Field**
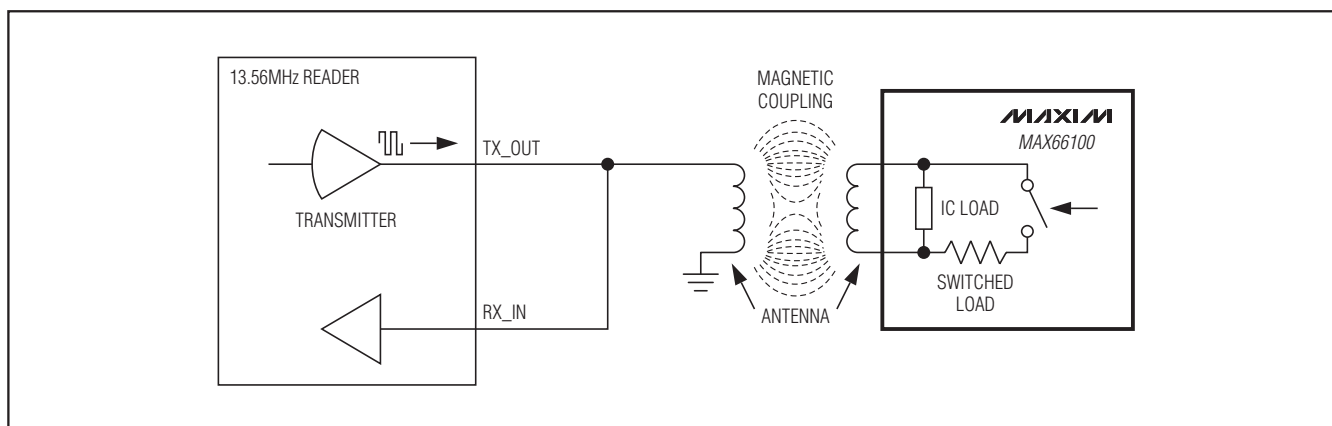
♦ **Operating Temperature: -25°C to +50°C**

Ordering Information

PART	TEMP RANGE	PIN-PACKAGE
MAX66100E-000AA+	-25°C to +50°C	ISO Card
MAX66100K-000AA+	-25°C to +50°C	Key Fob

+Denotes a lead(Pb)-free/RoHS-compliant package.

Typical Operating Circuit

MAXIM _____ *Maxim Integrated Products* **1**

ISO 15693-Compliant 64-Bit UID

ABSOLUTE MAXIMUM RATINGS

Maximum Incident Magnetic Field Strength 141.5dBµA/m
Operating Temperature Range ....-25°C to +50°C

Relative Humidity ....(Water Resistant)
Storage Temperature Range ....-25°C to +50°C

Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

(T_A = -25°C to +50°C.) (Note 1)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
RF INTERFACE						
Carrier Frequency	f_C	(Notes 1, 2)	13.553	13.560	13.567	MHz
Activation Field Strength (Note 3)	H_{MIN}	At 25°C, MAX66100E		110.5		dBµA/m
		At 25°C, MAX66100K		122.0		
Maximum Field Strength	H_{MAX}	At 25°C (Note 3)		137.5		dBµA/m
Power-Up Time	t_{POR}	(Notes 3, 4)			1.0	ms

Note 1: System requirement.
Note 2: Production tested at 13.56MHz only.
Note 3: Guaranteed by simulation; not production tested.
Note 4: Measured from the time at which the incident field is present with strength greater than or equal to $H_{(MIN)}$ to the time at which the MAX66100's internal power-on reset signal is deasserted and the device is ready to receive a command frame. Not characterized or production tested; guaranteed by simulation only.

Detailed Description

The MAX66100 contains a 64-bit unique identifier (UID) and a 13.56MHz ISO 15693 RF interface in a single chip. The UID is accessed through standard ISO 15693 function commands. The data rate can be as high as 26.69kbps. The MAX66100 supports AFI and DSFID. Applications of the MAX66100 include driver identification (fleet application), access control, and asset tracking.

Overview

Figure 1 shows the relationships between the major control and memory sections of the MAX66100. Figure 2 shows the applicable ISO 15693 commands and their purpose. The network function commands allow the master to identify all slaves in its range and to change their state, e.g., to select one for further communication. The protocol for these is described in the *Network Function Commands* section. All data is read and written least significant bit (LSb) first, starting with the least significant byte (LSB).

Parasite Power

As a wireless device, the MAX66100 is not connected to any power source. It gets the energy for operation from the surrounding RF field, which must have a minimum strength as specified in the *Electrical Characteristics* table.

Unique Identification Number (UID)

Each MAX66100 contains a factory-programmed and locked identification number that is 64 bits long (Figure 3). The lower 36 bits are the serial number of the chip. The next 8 bits store the device feature code, which is 01h. Bits 45 to 48 are 0h. The code in bit locations 49 to 56 identifies the chip manufacturer, according to ISO/IEC 7816-6/AM1. This code is 2Bh for Maxim. The code in the upper 8 bits is E0h. The UID is read accessible through the Inventory and Get System Information commands.
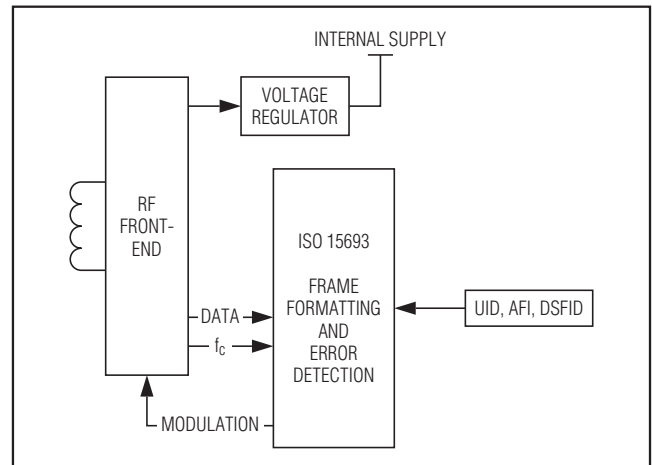

Figure 1. Block Diagram

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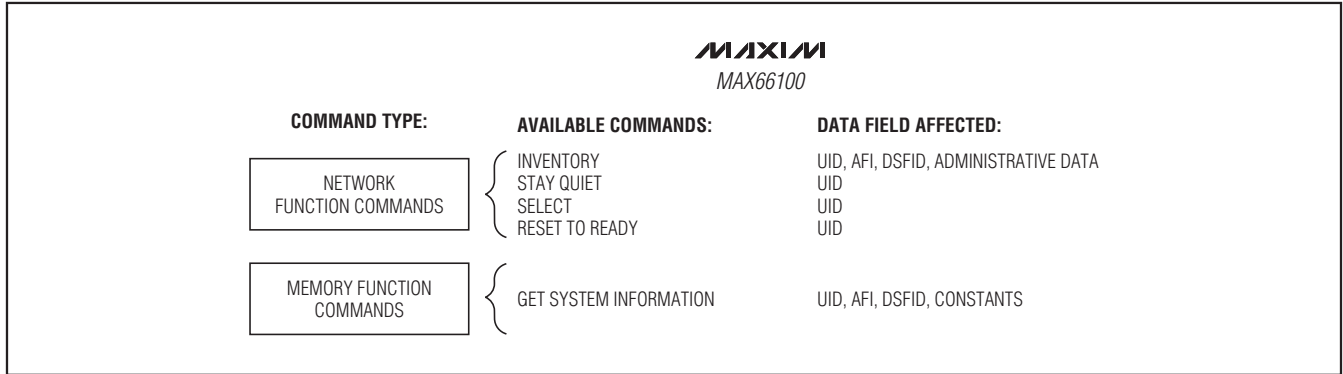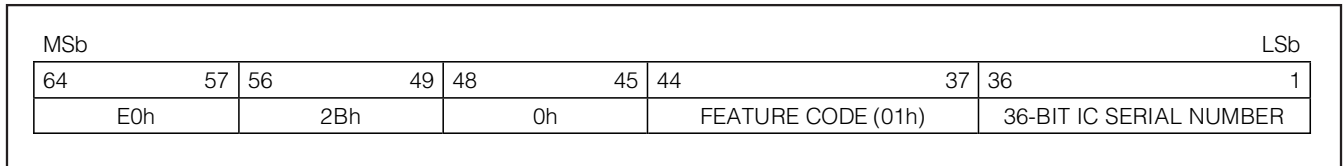Figure 2. ISO 15693 Commands Overview

MSb							LSb
64	57	56	49	48	45	44	37	36	1
E0h		2Bh		0h		FEATURE CODE (01h)		36-BIT IC SERIAL NUMBER	

Figure 3. 64-Bit UID

SOF	1 OR MORE DATA BYTES	CRC (LSB)	CRC (MSB)	EOF

TIME →
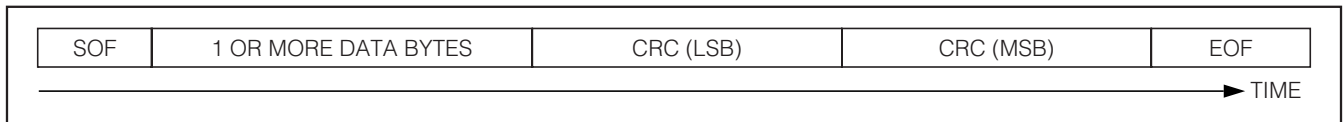
Figure 4. ISO 15693 Frame Format

ISO 15693 Communication Concept

The communication between the master and the MAX66100 (slave) is based on the exchange of data packets. The master initiates every transaction; only one side (master or slaves) transmits information at any time. Each data packet begins with a start-of-frame (SOF) pattern and ends with an end-of-frame (EOF) pattern. A data packet with at least 3 bytes between SOF and EOF is called a frame (Figure 4). The last 2 bytes of an ISO 15693 frame are an inverted 16-bit CRC of the preceding data generated according to the CRC-16-CCITT polynomial. This CRC is transmitted with the LSB first. For more details on the CRC-16-CCITT, refer to ISO 15693 Part 3, Annex C.

For transmission, the frame information is modulated on a carrier frequency, which is 13.56MHz for ISO 15693. The subsequent paragraphs are a concise description of the required modulation and coding. For full details including graphics of the data coding schemes and SOF/EOF timing, refer to ISO 15693-2, Sections 7.2, 7.3, and 8.

The path from **master to slave** uses amplitude modulation (Figure 5); the modulation index can be either in the range of 10% to 30% or 100% (ISO 15693-2, Section 7.1). The standard defines two pulse-position coding schemes that must be supported by a compliant device. Scheme A uses the "1 out of 256" method (Figure 6), where the transmission of 1 byte takes 4.833ms, equivalent to a data rate of 1655bps. The location of a modulation notch during the 4.833ms conveys the value of the byte. Scheme B uses the "1 out of 4" method (Figure 7), where the transmission of 2 bits takes 75.52µs, equivalent to a data rate of 26,484bps. The location of a modulation notch during the 75.52µs conveys the value of the 2 bits. A byte is transmitted as a concatenation of four 2-bit transmissions, with the least significant 2 bits of the byte being transmitted first. The transmission of the SOF pattern takes the same time as transmitting 2 bits in Scheme B. The SOF pattern has two modulation notches, which makes it

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distinct from any 2-bit pattern. The position of the second notch tells whether the frame uses the "1 out of 256" or "1 out of 4" coding scheme (Figures 8 and 9, respectively). The transmission of the EOF pattern takes 37.76µs; the EOF is the same for both coding schemes and has one modulation notch (Figure 10).

The path from **slave to master** uses one or two subcarriers, as specified by the Subcarrier_flag bit in the request data packet. The standard defines two data rates for the response, low (approximately 6600bps)

Figure 5. Downlink Modulation (e.g., Approximately 100% Amplitude Modulation)

and high (approximately 26,500bps). The Data_rate_flag bit in the request data packet specifies the response data rate. The data rate varies slightly depending on the use of one or two subcarriers. The LSb is transmitted first. A compliant device must support both subcarrier modes and data rates.

In the **single subcarrier** case, the subcarrier frequency is 423.75kHz. One bit is transmitted in 37.76µs (high data rate) or 151µs (low data rate). The modulation is the on/off key. For a logic 0, the subcarrier is on during the first half of the bit transmission time and off for the second half. For a logic 1, the subcarrier is off during the first half of the bit transmission time and on for the second half. See Figure 11 for more details.

In the **two subcarrier** cases, the subcarrier frequencies are 423.75kHz and 484.28kHz. The bit duration is the same as in the single subcarrier case. The modulation is equivalent to binary FM. For a logic 0, the lower subcarrier is on during the first half of the bit transmission time, switching to the higher subcarrier for the second half. For a logic 1, the higher subcarrier is on during the first half of the bit transmission time, switching to the lower subcarrier for the second half. See Figure 12 for details. The transmission of the SOF pattern takes the same time as transmitting 4 bits (approximately 151µs at a high data rate or approximately 604µs at a low data rate). The SOF is distinct from any 4-bit data sequence. The EOF pattern is equivalent to a SOF being transmitted backwards. The exact duration of the SOF and EOF varies slightly depending on the use of one or two subcarriers (see Figures 13 and 14, respectively).
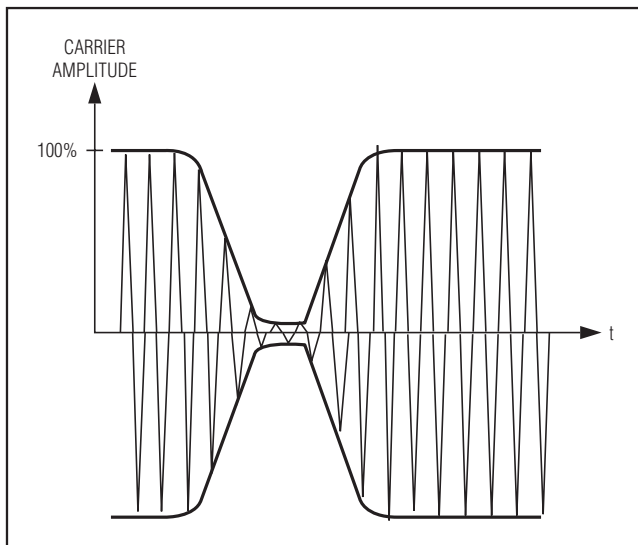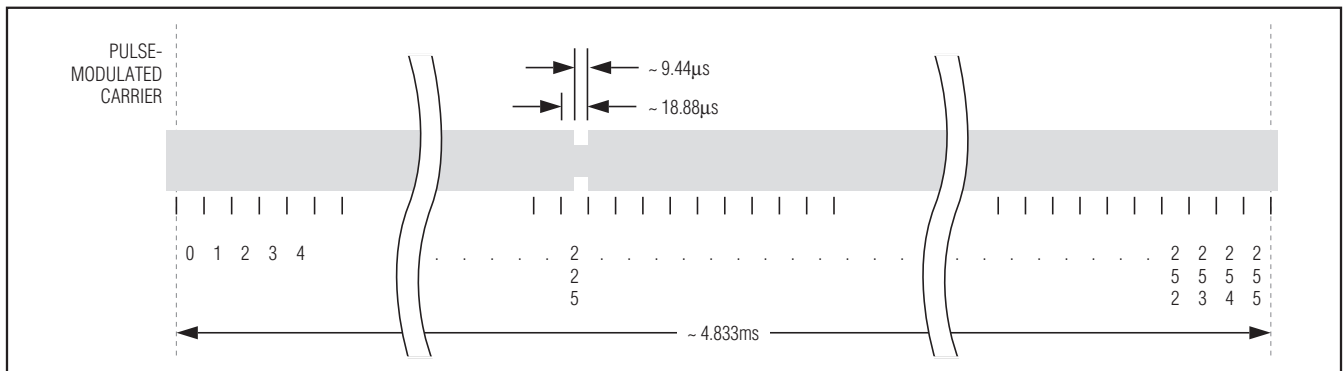

Figure 6. Downlink Data Coding (Case "1 Out of 256")
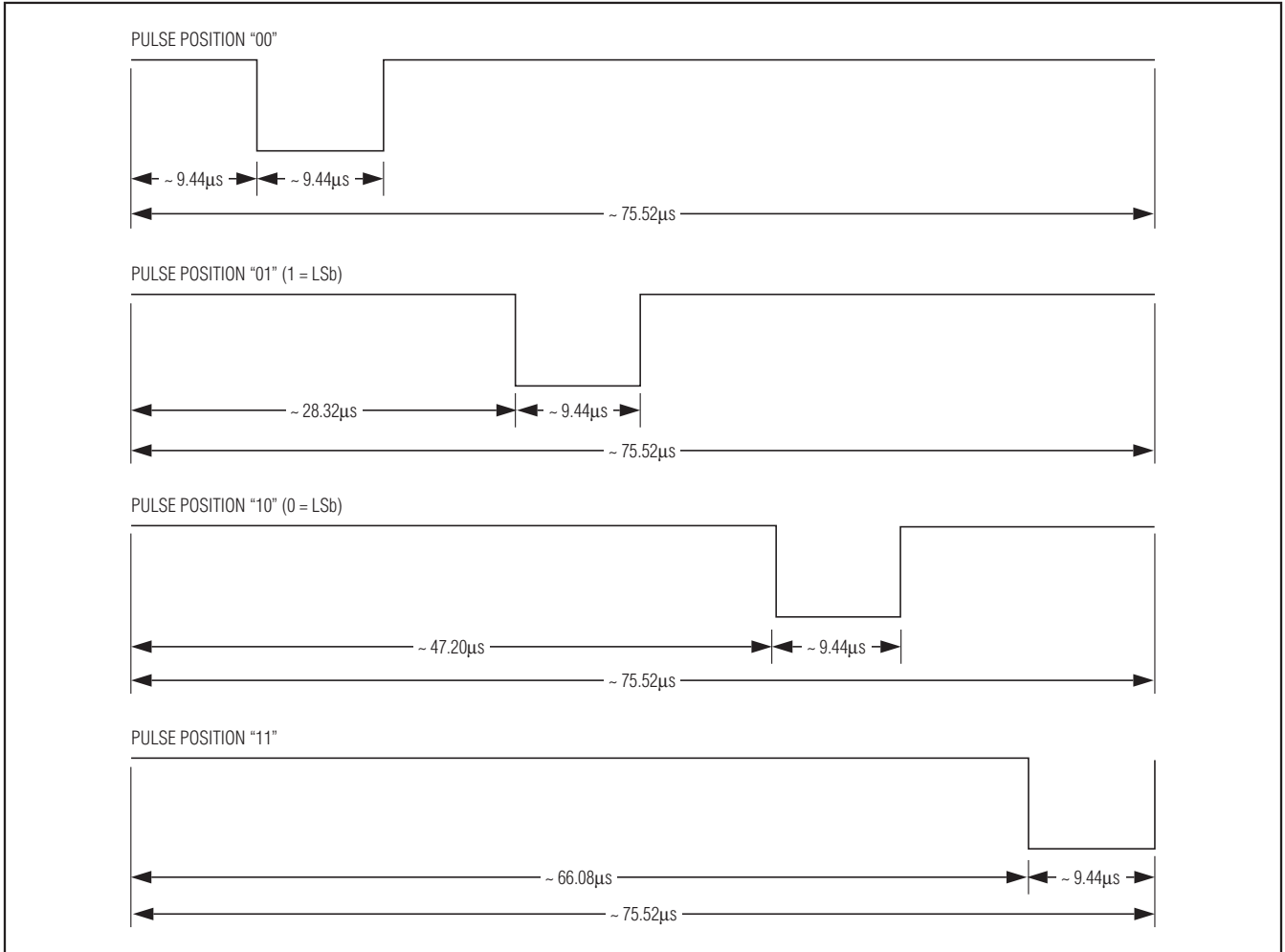
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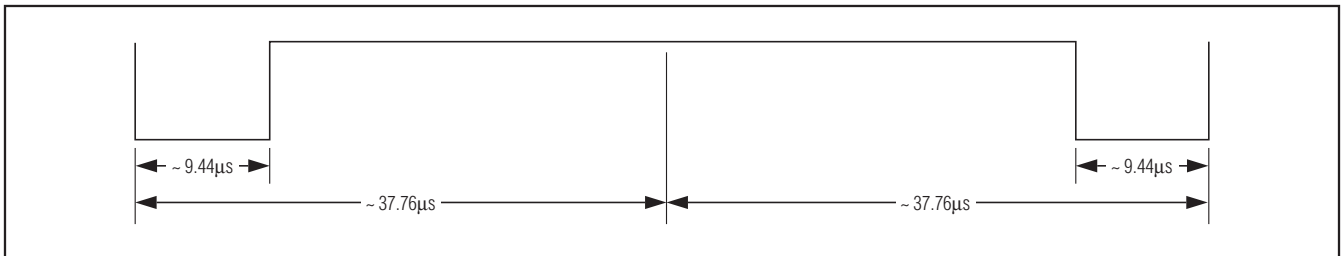Figure 7. Downlink Data Coding (Case "1 Out of 4") (Carrier Not Shown)

Figure 8. Downlink SOF for "1 Out of 256" Coding (Carrier Not Shown)
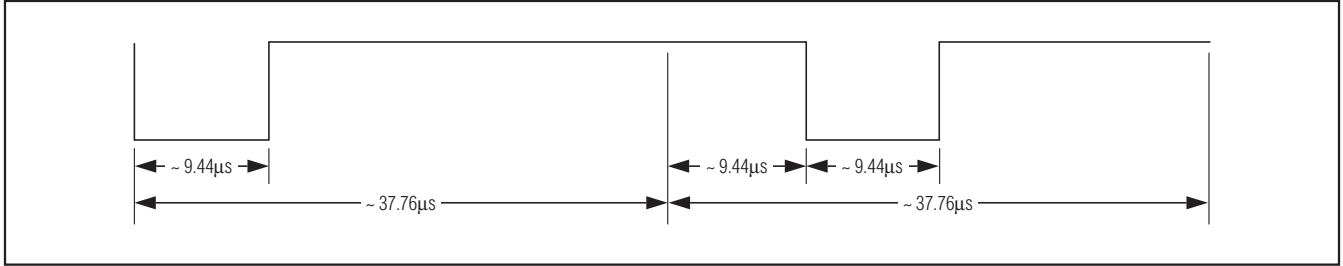
ISO 15693-Compliant 64-Bit UID

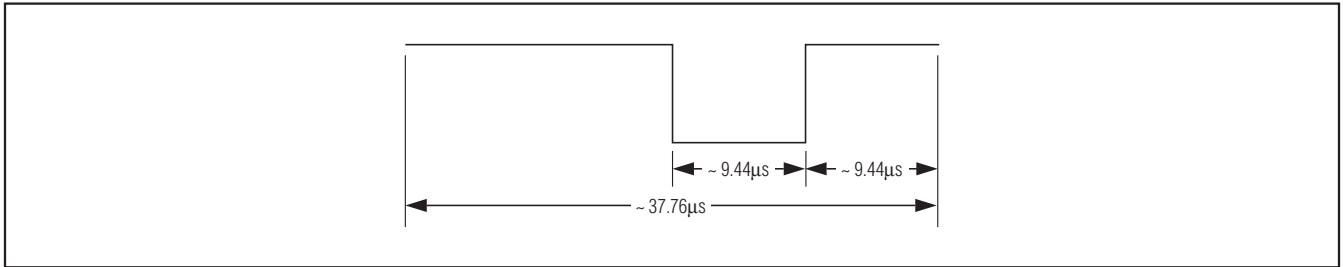Figure 9. Downlink SOF for "1 Out of 4" Coding (Carrier Not Shown)

Figure 10. Downlink EOF (Identical for Both Coding Schemes) (Carrier Not Shown)
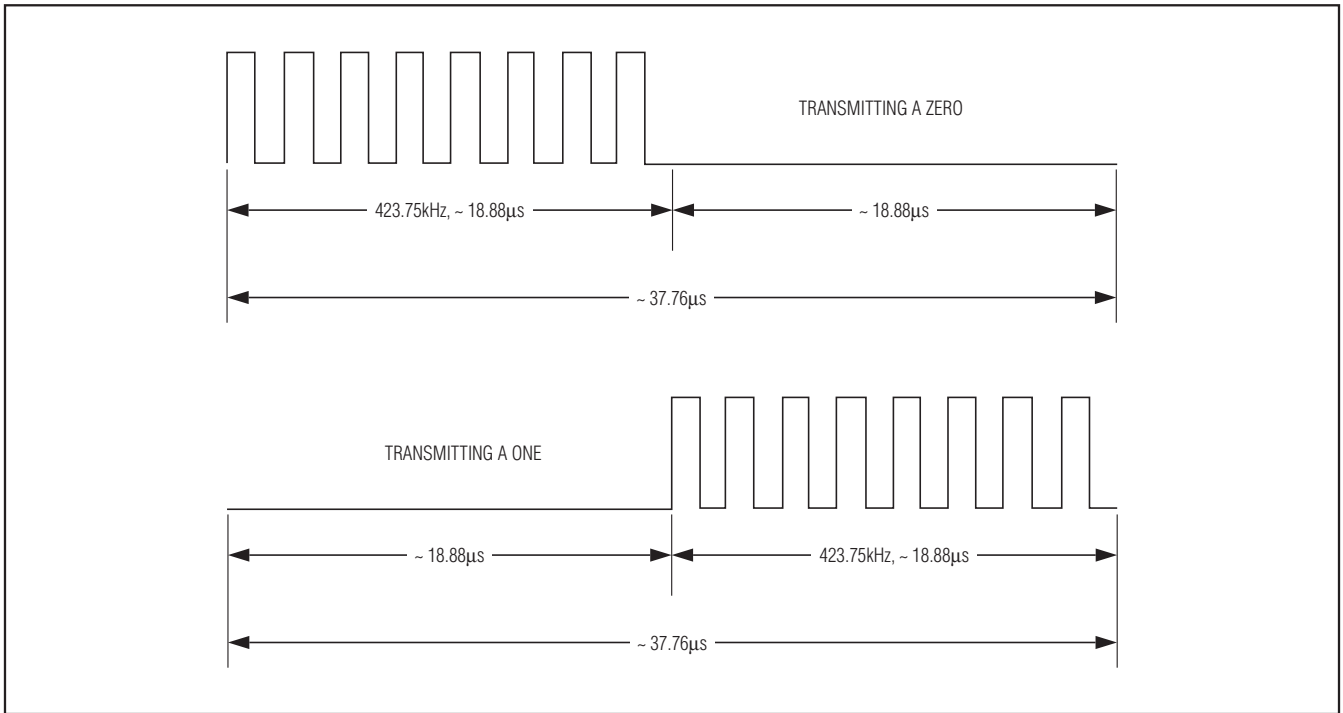

Figure 11. Uplink Coding, Single Subcarrier Case (High Data-Rate Timing)
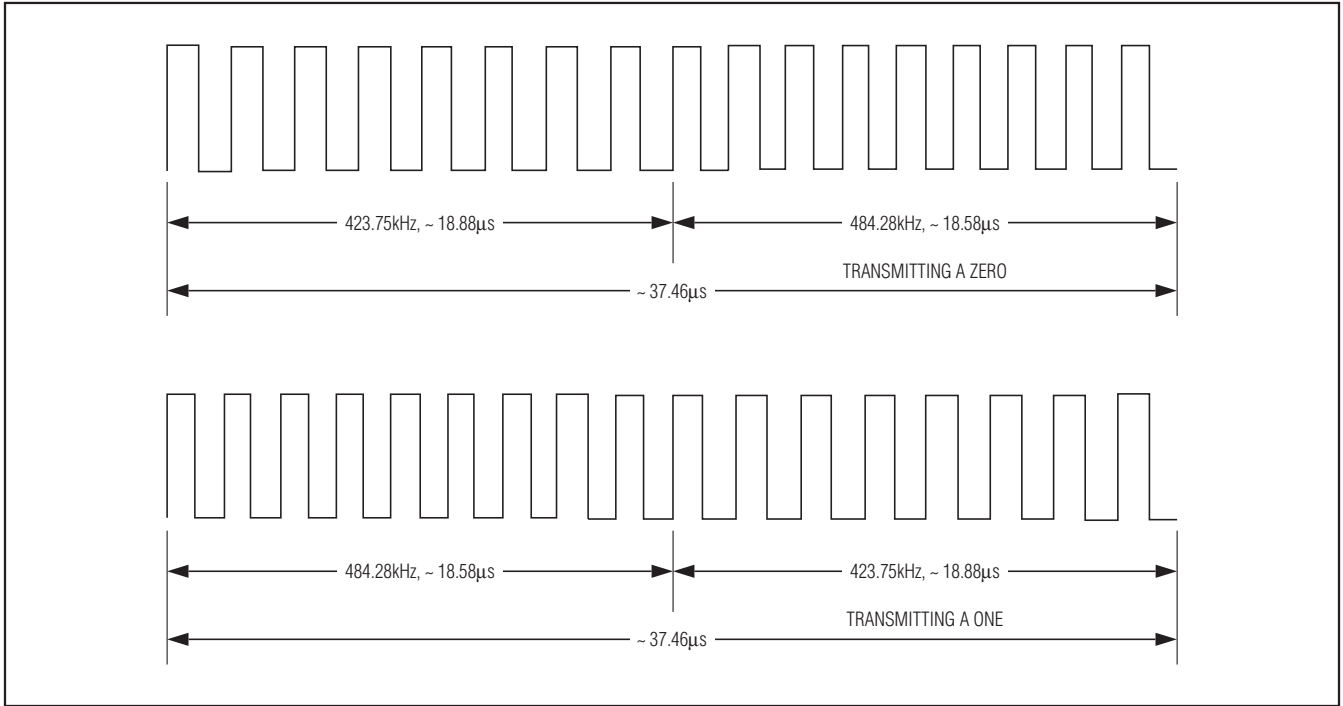
MAXIM

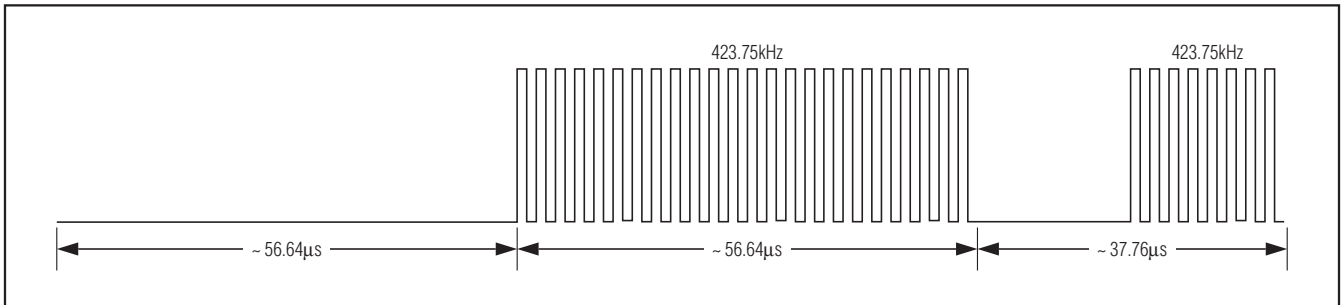Figure 12. Uplink Coding, Two Subcarriers Case (High Data-Rate Timing)

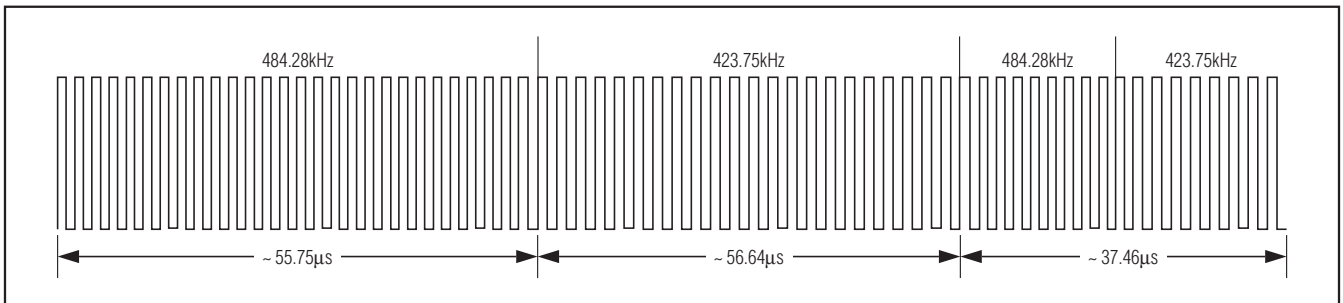Figure 13. Uplink SOF, Single Subcarrier Case (High Data-Rate Timing)

Figure 14. Uplink SOF, Two Subcarriers Case (High Data-Rate Timing)

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ISO 15693 Slave States and Address Modes

Initially, the master has no information whether there are any RF devices in the field of its antenna. The master learns the UIDs of the slaves in its field from the responses to the Inventory command, which does not use the Address_flag and the Select_flag bits. The state transitions are controlled by network function commands. Figure 15 shows details.

ISO 15693 defines four states in which a slave can be plus three address modes. The states are power-off, ready, quiet, and selected. The address modes are nonaddressed, addressed, and selected. The addressed mode requires that the master include the slave's UID in the request, which increases the size of the requests by 8 bytes. Table 1 shows which address mode is applicable depending on the slave's state and how to set the Address_flag and the Select_flag bits for each address mode.

ISO 15693 States and Transitions

Power-Off State
This state applies if the slave is outside the master's RF field. A slave transitions to the power-off state when leaving the power-delivering RF field. When entering the RF field, the slave automatically transitions to the ready state.

Ready State
In this state, a slave has enough power to perform any of its functions. The purpose of the ready state is to have the slave population ready to process the inventory command as well as other commands sent in the addressed or nonaddressed mode. A slave can exit the ready state and transition to the quiet or the selected state upon receiving the Stay Quiet or Select command sent in the addressed mode.

Quiet State
In this state, a slave has enough power to perform any of its functions. The purpose of the quiet state is to silence slaves that the master does not want to communicate with. Only commands sent with the addressed mode are accepted and processed. This way the master can use the nonaddressed mode for communication with remaining slaves in the ready state, which minimizes the size of the request data packets. As long as no additional slaves arrive in the RF field, it is safe for the master to continue communicating in the nonaddressed mode. A slave can exit the quiet state and transition to the ready or the selected state upon receiving the Reset to Ready or Select command sent in the addressed mode.

Selected State
In this state, a slave has enough power to perform any of its functions. The purpose of the selected state is to isolate the slave that the master wants to communicate with. Commands are accepted and processed regardless of the address mode in which they are sent, including the Inventory command. With multiple slaves in the RF field, the master can put one slave in the selected state and leave all the others in the ready state. This method requires less communication than using the quiet state to single out the slave for communication. For a slave in the selected state, the master can use the selected mode, which keeps the request data packets as short as with the nonaddressed mode. A new slave entering the RF field cannot disturb the communication, since it stays in the ready state. A slave can exit the

Table 1. Slave States and Applicable Address Modes

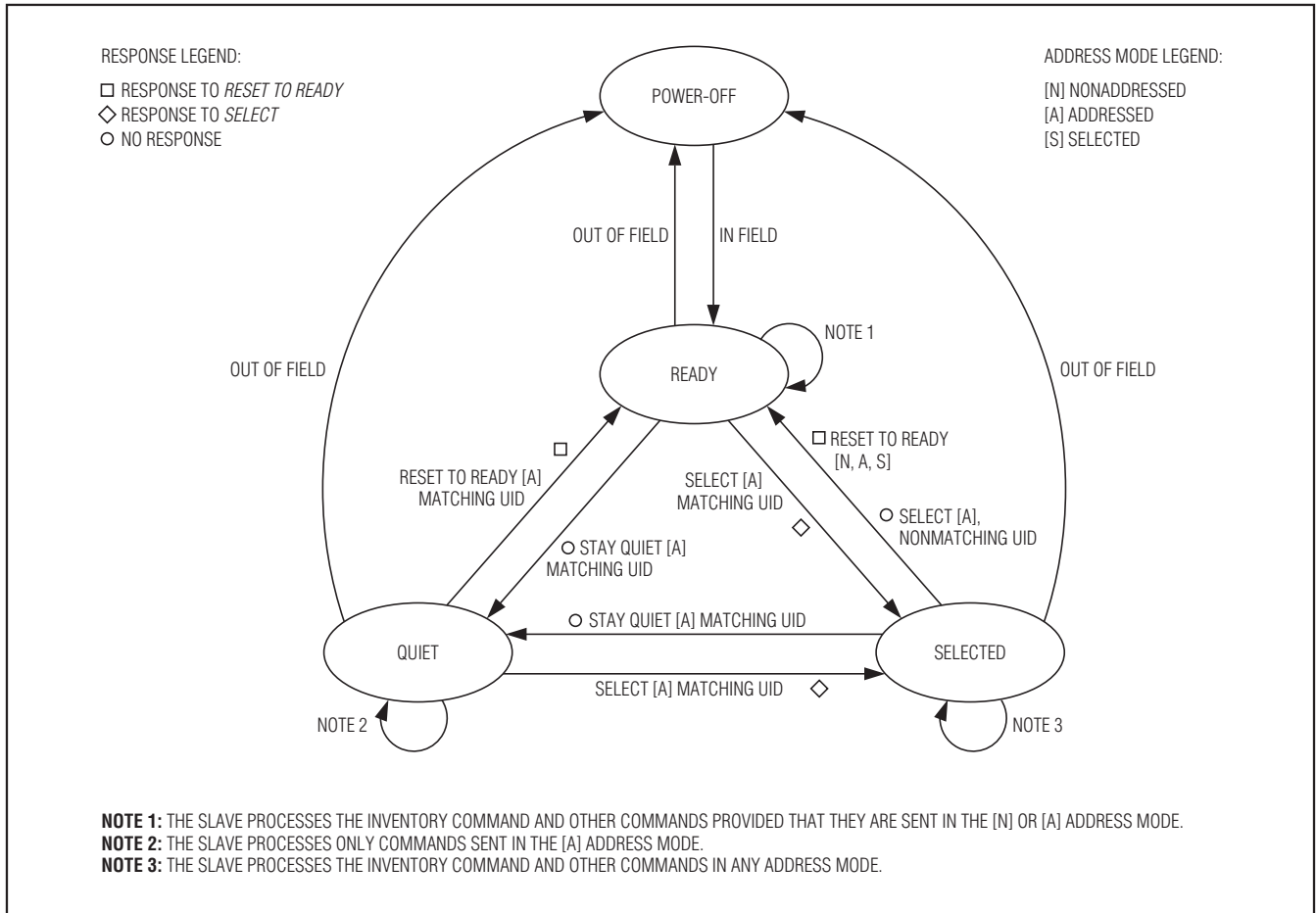| SLAVE STATES	ADDRESS MODES		
	NONADDRESSED MODE (Address_flag = 0; Select_flag = 0)	ADDRESSED MODE (Address_flag = 1; Select_flag = 0)	SELECTED MODE (Address_flag = 0; Select_flag = 1)
Power-Off	(Inactive)	(Inactive)	(Inactive)
Ready	Yes	Yes	No
Quiet	No	Yes	No
Selected	Yes	Yes	Yes

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Figure 15. ISO 15693 State Transitions Diagram

selected state and transition to the ready or the quiet state upon receiving the Reset to Ready command sent in any address mode or the Stay Quiet command sent in the addressed mode. A slave also transitions from selected to ready upon receiving a Select command if the UID in the request is different from the slave's own UID. In this case the master's intention is to transition

another slave with the matching UID to the selected state. If the slave already in the selected state does not recognize the command (e.g., due to a bit error), two slaves could be in the selected state. To prevent this from happening, the master should use the Reset to Ready or the Stay Quiet command to transition a slave out of the selected state.

ISO 15693-Compliant 64-Bit UID

Request Flags, Inventory_flag Bit Not Set

BIT 8 (MSb)	BIT 7	BIT 6	BIT 5	BIT 4	BIT 3	BIT 2	BIT 1 (LSb)
0	Option_flag	Address_flag	Select_flag	0	Inventory_flag (= 0)	Data_rate_flag	Subcarrier_flag

Request Flags, Inventory_flag Bit Set

BIT 8 (MSb)	BIT 7	BIT 6	BIT 5	BIT 4	BIT 3	BIT 2	BIT 1 (LSb)
0	0	Nb_slots_flag	AFI_flag	0	Inventory_flag (= 1)	Data_rate_flag	Subcarrier_flag

Request Flags

The command descriptions on the subsequent pages begin with a byte called request flags. The ISO 15693 standard defines two formats for the request flags byte. The state of the Inventory_flag bit controls the function of the bits in the upper half of the request flags byte. The function of the request flags byte is as follows.

Inventory_flag Bit Not Set

Bits 8, 4: No Function. These bits have no function. They must be transmitted as 0.

Bit 7: Options Flag (Option_flag). This bit is used with block read commands to include the block security status in the response. If not applicable for a command, the Option_flag bit must be 0.

Bit 6: Address Flag (Address_flag). This bit specifies whether all slaves in the master's field that are in the selected or ready state process the request (bit = 0) or only the single slave whose UID is specified in the request (bit = 1). If the Address_flag bit is 0, the request must not include a UID. The combination of both the Select_flag and Address_flag bits being set (= 1) is not valid.

Bit 5: Select Flag (Select_flag). This bit specifies whether the request is processed only by the slave in the selected state (bit = 1) or by any slave according to the setting of the Address_flag bit (bit = 0).

Bit 3: Inventory Flag (Inventory_flag). This bit must be 1 for the Inventory command only. For all other commands, this bit must be 0.

Bit 2: Data Rate Flag (Data_rate_flag). This bit specifies whether the response data packet is transmitted using the low data rate (bit = 0) or the high data rate (bit = 1).

Bit 1: Subcarrier Flag (Subcarrier_flag). This bit specifies whether the response data packet is transmitted using a single subcarrier (bit = 0) or two subcarriers (bit = 1).

Inventory_flag Bit Set

Bits 8, 7, 4: No Function. These bits have no function. They must be transmitted as 0.

Bit 6: Slot Counter Flag (Nb_slots_flag). This bit specifies whether the command is processed using a slot counter (bit = 0) or without using the slot counter (bit = 1).

Bit 5: Application Family Identifier Flag (AFI_flag). To detect only slaves with a certain AFI value, the AFI_flag bit must be 1 and the desired AFI value must be included in the request. If the least significant nibble of the AFI in the request is 0000b, slaves process the command only if the most significant nibble of the AFI matches. If the AFI in the request is 00h, all slaves process the command regardless of their AFI.

Bit 3: Inventory Flag (Inventory_flag). This bit must be 1 for the Inventory command only. For all other commands, this bit must be 0.

Bit 2: Data Rate Flag (Data_rate_flag). This bit specifies whether the response data packet is transmitted using the low data rate (bit = 0) or the high data rate (bit = 1).

Bit 1: Subcarrier Flag (Subcarrier_flag). This bit specifies whether the response data packet is transmitted using a single subcarrier (bit = 0) or two subcarriers (bit = 1).

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Request Data for the Inventory Command

REQUEST FLAGS	COMMAND	AFI (NOTE 1)	MASK LENGTH	MASK PATTERN (NOTE 2)
(1 Byte)	01h	(1 Byte)	(1 Byte)	(Up to 8 Bytes)

Note 1: The AFI byte is transmitted only if the AFI_flag bit is set to 1. The AFI byte, if transmitted, narrows the range of slaves that qualify for responding to the request.

Note 2: The mask pattern is transmitted only if the selection mask length is not 0. If the mask length is not an integer multiple of 8, the MSB of the mask pattern must be padded with 0 bits. The LSb of the mask pattern is transmitted first.

Response Data for the Inventory Command (No Error)

RESPONSE FLAGS	DSFID	UID
00h	(1 Byte)	(8 Bytes)

Network Function Commands

The command descriptions show the data fields of the request and response data packets. To create the complete frame, an SOF, 16-bit CRC, and EOF must be added (see Figure 4). The ISO 15693 standard defines four network function commands: Inventory, Stay Quiet, Select, and Reset to Ready. This section describes the format of the request and response data packets.

Inventory

The Inventory command allows the master to learn the UIDs and DSFIDs of all slaves in its RF field in an iterative process. It is the only command for which the Inventory_flag bit must be 1. The Inventory command uses two command-specific parameters, which are the mask length and the mask pattern. The mask allows the master to preselect slaves for responding to the Inventory command. The LSb of the mask aligns with the LSb of the slave's UID. The master can choose not to use a mask, in which case all slaves qualify, provided they are not excluded by the AFI criteria (see the *Request Flags* section). The maximum mask length is 60 (3Ch, if Nb_slots_flag = 0) or 64 (40h, if Nb_slots_flag = 1). The mask pattern defines the least significant bits (as many as specified by the mask length) that a slave's UID must match to qualify for responding to the Inventory command (case Nb_slots_flag = 1). If the slot counter is used (Nb_slots_flag = 0), the value of the slot counter extends the mask pattern at the higher bits for comparison to the slave's UID. The slot counter starts at 0 after the inventory request frame is transmitted and increments during the course of the Inventory command with every subsequent EOF sent by the master. The processing of an Inventory command ends when the master sends the SOF of a new frame.

Response data for the Inventory command (no error) is transmitted only if a slave qualifies to respond. In case of an error in the request, slaves do not respond.

When receiving the Inventory command, the slave devices in the RF field enter the collision management sequence. If a slave meets the conditions to respond, it sends out a response data packet. If multiple slaves qualify, e.g., AFI, mask, and slot counter are not used, the response frames collide and are not readable. To receive readable response frames with the UID and DSFID, the master must eliminate the collision.

Not knowing the slave population, the master could begin with a mask length of 0 and activate the slot counter. By using this method and going through all 16 slots, the master has a chance to receive clean responses (i.e., the slave is identified) as well as colliding responses. To prevent a slave that has been identified from further participating in the collision management sequence, the master transitions it to the quiet state. Next, the master issues another Inventory command where the slot number that previously generated a collision is now used as a 4-bit mask, and runs again through all 16 slots. If a collision is found, another inventory command is issued, this time with a mask that is extended at the higher bits by the slot counter value that produced the collision. This process is repeated until all slaves are identified. For a full description of the Inventory command processing by the slave device and the timing specifications, refer to ISO 15693 Part 3, Sections 8 and 9.

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Request Data for the Stay Quiet Command

REQUEST FLAGS	COMMAND	UID
(1 Byte)	02h	(8 Bytes)

Request Data for the Select Command*

REQUEST FLAGS	COMMAND	UID
(1 Byte)	25h	(8 Bytes)

*If this command is processed without any error, the slave responds with a response flags byte of 00h.

Request Data for the Reset to Ready Command*

REQUEST FLAGS	COMMAND	UID**
(1 Byte)	26h	(8 Bytes)

*If this command is processed without any error, the slave responds with a response flags byte of 00h.
**The UID is transmitted only in the addressed mode.

Stay Quiet

The Stay Quiet command addresses an individual slave and transitions it to the quiet state. The request must be sent in the addressed mode (Select_flag bit = 0, Address_flag bit = 1). The slave transitioning to the quiet state does not send a response.

Select

The Select command addresses an individual slave and transitions it to the selected state. The request must be sent in the addressed mode (Select_flag bit = 0, Address_flag bit = 1). The slave transitioning to the selected state sends a response. If there was a slave with a different UID in the selected state, then that slave transitions to the ready state without sending a response.

Reset to Ready

The Reset to Ready command addresses an individual slave and transitions it to the ready state. To address a slave in the quiet state, the request must be sent in the addressed mode (Select_flag bit = 0, Address_flag bit = 1). To address a slave in the selected state, the request can be sent in any address mode. The slave transitioning to the ready state sends a response.

Memory Function Commands

The command descriptions show the data fields of the request and response data packets. To create the complete frame, an SOF, 16-bit CRC, and EOF must be added (see Figure 4). ISO 15693 defines three address modes, selected, addressed, and nonaddressed, which are specified through the setting of the Select_flag bit and the Address_flag bit. The memory function commands can be issued in any address mode. To access slaves in the quiet state, the addressed mode is required. The addressed mode requires that the master include the slave's UID in the request.

Error Indication

In case of an error, the response to a request begins with a response flags byte 01h followed by one error code.

If there was no error, the response begins with a response flags byte 00h followed by command-specific data, as specified in the detailed command description.

If the MAX66100 does not recognize a command, it does not generate a response.

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Request Data for the Get System Information Command

REQUEST FLAGS	COMMAND	UID
(1 Byte)	2Bh	(8 Bytes)

Response Data for the Get System Information Command (No Error)

RESPONSE FLAGS	INFO FLAGS	UID	DSFID	AFI	NUMBER OF BLOCKS	MEMORY BLOCK SIZE	IC REFERENCE
00h	0Fh	(8 Bytes)	(1 Byte)	(1 Byte)	00h	07h	(1 Byte)

__Detailed Command Descriptions

In the request data graphics of this section, the UID field is shaded to indicate that the inclusion of the UID depends on the address mode.

Get System Information

The Get System Information command is the only command beyond the network function level that the MAX66100 supports. It allows the master to retrieve technical information about the MAX66100. The IC reference code indicates the die revision in hexadecimal format, such as A1h, A2h, B1h, etc.

_____CRC Generation

The ISO 15693 standard uses a 16-bit CRC, generated according to the CRC-16-CCITT polynomial function: $X^{16} + X^{12} + X^5 + 1$ (see Figure 16). This CRC is used for error detection in request and response data packets and is always communicated in the inverted form. After all data bytes are shifted into the CRC generator, the state of the 16 flip-flops is parallel-copied to a shift register and shifted out for transmission with the LSb first. For more details on this CRC, refer to ISO/IEC 15693-3, Annex C.
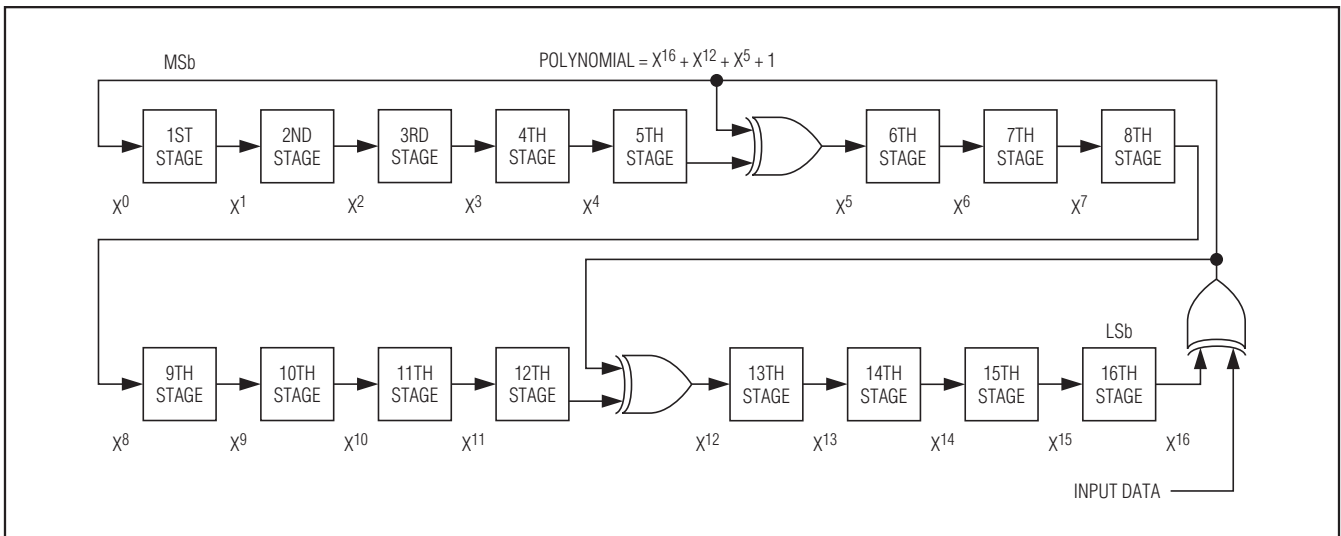

Figure 16. CRC-16-CCITT Generator

ISO 15693-Compliant 64-Bit UID

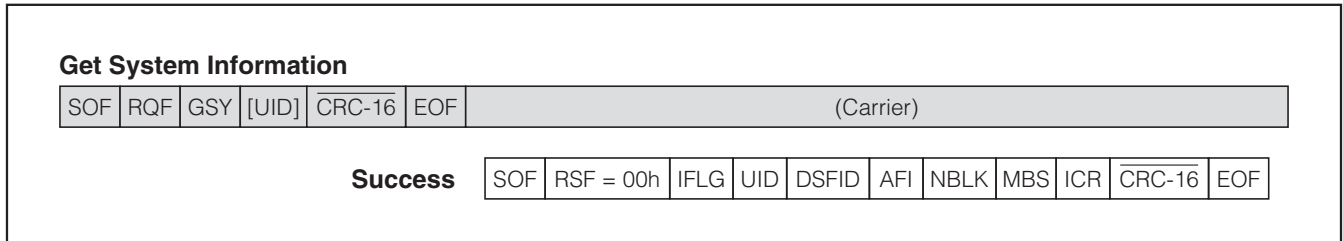## Command-Specific ISO 15693 Communication Protocol—Legend

SYMBOL	DESCRIPTION
GSY	Command "Get System Information"
SOF	Start of Frame
RQF	Request Flags byte (always sent by master)
$\overline{CRC\text{-}16}$	Transmission of an inverted CRC-16 (2 bytes) generated according to CRC-16-CCITT
EOF	End of Frame
RSF	Response Flags byte (always sent by slave)
[UID]	The tag's unique 8-byte identification number; could be sent by either the master or the slave. The brackets [ ] indicate that the transmission of the UID depends on the request flags (RQF).

SYMBOL	DESCRIPTION
IFLG	Info Flags byte (always sent by slave)
DSFID	Data Storage Format Identifier byte
AFI	Application Family Identifier byte
NBLK	Number of Blocks byte (slave memory size indicator)
MBS	Memory Block Size byte (slave memory block size)
ICR	IC Reference byte (slave chip revision)

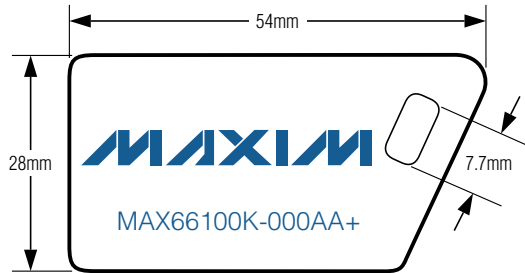## Command-Specific ISO 15693 Communication Protocol—Color Codes

Master-to-Slave	Slave-to-Master

ISO 15693 Communication Examples

Get System Information

SOF	RQF	GSY	[UID]	$\overline{CRC\text{-}16}$	EOF	(Carrier)

Success

SOF	RSF = 00h	IFLG	UID	DSFID	AFI	NBLK	MBS	ICR	$\overline{CRC\text{-}16}$	EOF

MAXIM

MAX66100

TOP VIEW

54mm

MAXIM

28mm

MAX66100K-000AA+

7.7mm

SIDE VIEW

1.6mm

KEY FOB

TOP VIEW

85.60mm

3.49mm

14.29mm

53.98mm

MAX66100E-000AA+

SIDE VIEW

0.76mm
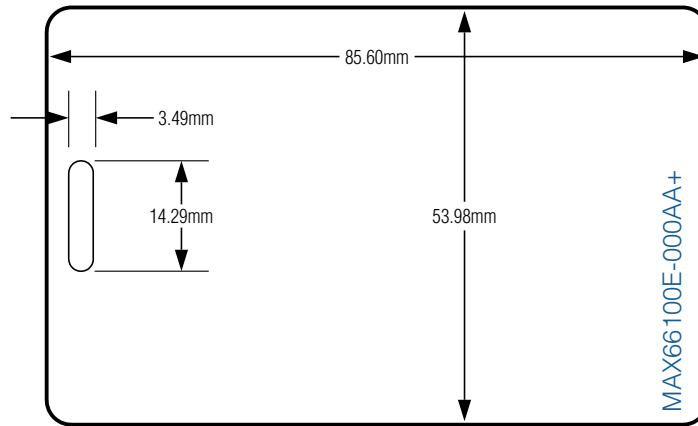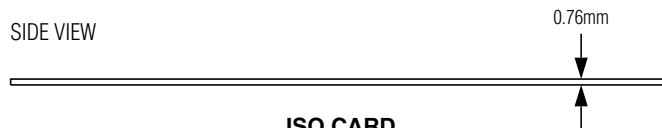
ISO CARD

ISO 15693-Compliant 64-Bit UID

MAX66100

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	1/11	Initial release	—