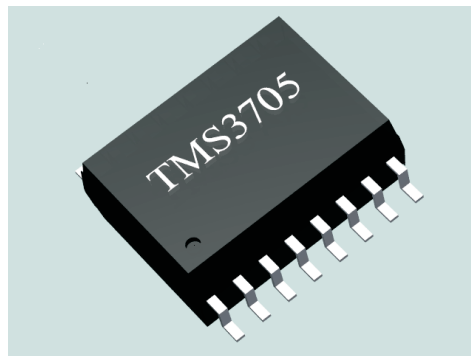


LF BASE STATION IC

FEATURES

- Low Current Consumption in Sleep Mode
- Automatic Transponder Frequency Measurement and Adaptation
- Diagnosis Function
- Full Bridge Antenna Driver
- Built in Band-Pass Filter and Limiter
- Digital FSK Demodulator
- High Speed Data Transmission in Synchronous Mode
- Power on Reset
- PLL
- Short Circuit Protection
- Support of All TI-RFid™ LF Transponder Functions



DESCRIPTION

The LF base station IC TMS3705ADR allows efficient development and production of RFID readers for low power hand scanners, stationary readers and vehicle immobilizers. This base station IC drives the antenna of a TI-RFid™ transponder system to send data modulated on the antenna signal, and to detect and demodulate the response from the transponder. It allows also minimizing the external component count.

ORDERING INFORMATION

PACKAGE ⁽¹⁾	
Package/Pin count	SO 16 (10 mm × 6 mm)
Packing/Delivery	Tape on Reel, 2500 units per reel

(1) Package drawings, standard packing quantities, thermal data, symbolization, and PCB design guidelines are available at www.ti.com/sc/package.



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ABSOLUTE MAXIMUM RATINGS⁽¹⁾

over operating free-air temperature range (unless otherwise noted)

	RI-TMS3705ADR	UNIT
Operating Voltage	4.5 to 5.5 DC	V
Current Consumption	Charge Phase (without antenna load) typical 8 mA; max. 20 mA	
	Sleep Mode (without I/O currents) typical 15 μ A; max. 0.2 mA	
ESD Protection (MILSTD 883, HBM)	–2000 to +2000	V
Operating Temperature	–40 to +85	°C
Storage Temperature	–40 to +100 (125 up to 1000hrs over lifetime)	°C

(1) 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 under *Recommended Operating Conditions* is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

OPERATING CHARACTERISTICS

over operating free-air temperature range (unless otherwise noted)

PARAMETER	PART NUMBER	UNIT
	RI-TMS3705ADR	
Operating Frequency	Typical 134.2, FSK	kHz
Interface to Micro Controller	Two wire multifunctional serial interface, 15625 baud	
Antenna Inductivity	400–700 recommended	μ H

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