Not Recommended for New Designs

SERIES 2000 ANTENNAS

FEATURES

- **Best in Class Performance Through Patented HDX Technology**
- **Protection Class IP 65 and Higher (Exception: RI-ANTG04E)**
- **6 Form Factors available**
- **Proven in Harsh Industrial Environments**
- **Easy to Install and Use**

APPLICATIONS

- **Access Control**
- **Vehicle Identification**
- **Container Tracking**
- **Asset Management**
- **Waste Management**



DESCRIPTION

These antenna products connect to Radio Frequency Modules (RFM) and reader/writers to form the interface to the low frequency (LF) 134.2 kHz Texas Instruments transponders. In combination with a reader/writer they transmit energy and signals to the transponder and receive the response from the tag. There are three standard gate antennas (small, medium and large), two standard stick antennas with 1 or 3 meter cable length and a stick antenna specially designed for use with the Mini-RFM available for usage in low frequency systems. Each antenna is capable of creating a specific size and shape of read zone to meet the requirements of the target application. In general the gate antennas create a large read zone including greater read distance, while the stick antennas provide a more focused read zone and an ability to discriminate between transponders.

The antennas are well suited for usage in a broad range of applications including, but not limited to, access control, vehicle identification, container tracking, asset management and waste management applications.

Please be aware that an important notice concerning availability, standard warranty, and use in critical applications of Texas Instruments semiconductor products and disclaimers thereto appears at the end of this data sheet.

PRODUCTION DATA information is current as of publication date. Products conform to specifications per the terms of the Texas Instruments standard warranty. Production processing does not necessarily include testing of all parameters.

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GATE ANTENNAS – SPECIFICATIONS

ABSOLUTE MAXIMUM RATINGS

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

	RI-ANT-G01E	RI-ANT-G02E	RI-ANT-G04E	UNIT
Operating Temperature	–30 to +60	–30 to +60	–30 to +60	°C
Storage Temperature	–40 to +70	–40 to +70	–40 to +70	°C

OPERATING CHARACTERISTICS

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

PARAMETER	PART NUMBER			UNIT
	RI-ANT-G01E	RI-ANT-G02E	RI-ANT-G04E	
Inductance	Typically 27 µH @ 134.2	Typically 27 µH @ 134.2	Typically 26 µH @ 134.2	kHz
Protection Class	IP 65	IP 65	IP 44	
Vibration	Mil-Std-810E, Test 514.4 (Category 1, Procedure 1; Basic transportation)			
Case Material	UVSHIPS (UV Stabilized High Impact Polystyrol)			
Dimensions (mm)	715 ± 5 × 270 ± 3 × 25 ± 1	200 ± 3 × 200 ± 3 × 25 ± 1	1018 ± 5 × 518 ± 5 × 47 ± 5	
Weight	Typically 745	Typically 425	Typically 2500	g
Cable Length	1	1	—	m
Connection Terminals	Spade/Tongue, stud hole 3.5 mm, width 7.5 mm		1/4 inch push-on (automotive type)	
Mounting	Use non-metallic clamps, standard screws and washers through 6.5mm pre-drilled holes, so that the screw hole is flush with the mounting. Mounting material is not supplied with the antenna.		Suitable for pole or wall	

STICK ANTENNAS – SPECIFICATIONS

ABSOLUTE MAXIMUM RATINGS

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

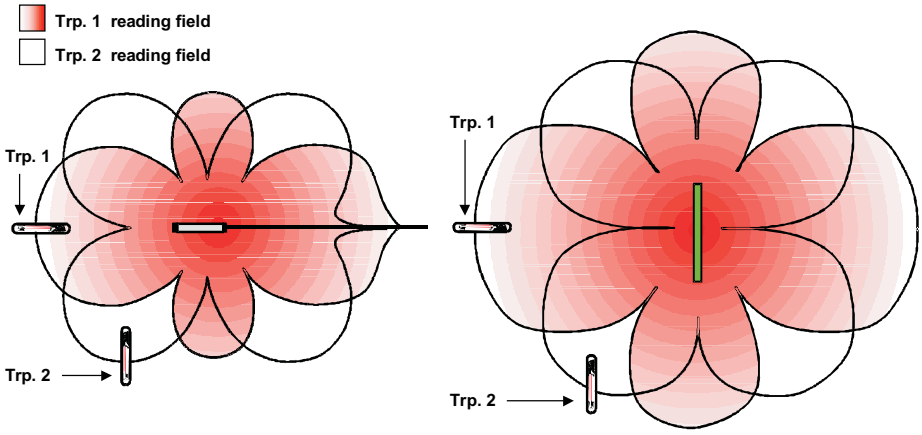
	RI-ANT-S01C	RI-ANT-S02C	RI-ANT-P02A (FOR RI-RFM-003B)	UNIT
Operating Temperature	–30 to +70	–30 to +70	–30 to +70	°C
Storage Temperature	–40 to +85	–40 to +85	–40 to +85	°C

OPERATING CHARACTERISTICS

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

PARAMETER	PART NUMBER			UNIT
	RI-ANT-S01C	RI-ANT-S02C	RI-ANT-P02A (FOR RI-RFM-003B)	
Inductance	Typically 27 µH @ 134.2	Typically 27 µH @ 134.2	Typically 116 µH @ 134.2	kHz
Protection Class	IP 66	IP 66	IP 65	
Vibration	Mil-Std-810E, Test 514.4 (Category 1, Procedure 1; Basic transportation)			
Case Material	Glass reinforced epoxy (grey)			
Dimensions (mm)	140 ± 2 × 21 ± 2 (dia.)	140 ± 2 × 21 ± 2 (dia.)	133 ± 1 × 21.3 ± 1 (dia.)	
Weight	Typically 134	Typically 185	Typically 105	g
Cable Length	1	3	0.1	m
Connection Terminals	Ring lugs: 3.5 mm inside diameter 7.5 mm outside diameter	Ring lugs: 3.5 mm inside diameter 7.5 mm outside diameter	Ring lugs: 2.8 mm inside diameter 6.0 mm outside diameter	
Mounting	Use non-metal clamps. Mounting material is not supplied with the antenna.			

Readout Pattern of Ferrite Rod (Stick) and Gate Antennas



Stick Antenna Gate Antenna

PACKAGING INFORMATION

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/Ball Finish	MSL Peak Temp (3)	Op Temp (°C)	Top-Side Markings (4)	Samples
RI-ANT-G01E-30	NRND			0	1	TBD	Call TI	Call TI	0 to 0		
RI-ANT-G02E-30	OBSOLETE			0		TBD	Call TI	Call TI	-30 to 60		
RI-ANT-G04E	OBSOLETE			1		TBD	Call TI	Call TI	-30 to 60		
RI-ANT-G04E-30	NRND			0	1	TBD	Call TI	Call TI	-30 to 60		
RI-ANT-P02A-00	OBSOLETE			1		TBD	Call TI	Call TI			
RI-ANT-P02A-30	OBSOLETE			0		TBD	Call TI	Call TI			
RI-ANT-S01C-30	OBSOLETE			0		TBD	Call TI	Call TI			
RI-ANT-S02C-00	OBSOLETE			1		TBD	Call TI	Call TI	-30 to 85		

(1) The marketing status values are defined as follows:
ACTIVE: Product device recommended for new designs.
LIFEBUY: TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.
NRND: Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.
PREVIEW: Device has been announced but is not in production. Samples may or may not be available.
OBSOLETE: TI has discontinued the production of the device.

(2) Eco Plan - The planned eco-friendly classification: Pb-Free (RoHS), Pb-Free (RoHS Exempt), or Green (RoHS & no Sb/Br) - please check http://www.ti.com/productcontent for the latest availability information and additional product content details.
TBD: The Pb-Free/Green conversion plan has not been defined.
Pb-Free (RoHS): TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI Pb-Free products are suitable for use in specified lead-free processes.
Pb-Free (RoHS Exempt): This component has a RoHS exemption for either 1) lead-based flip-chip solder bumps used between the die and package, or 2) lead-based die adhesive used between the die and leadframe. The component is otherwise considered Pb-Free (RoHS compatible) as defined above.
Green (RoHS & no Sb/Br): TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame retardants (Br or Sb do not exceed 0.1% by weight in homogeneous material)

(3) MSL, Peak Temp. -- The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

(4) Only one of markings shown within the brackets will appear on the physical device.

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OCEAN CHIPS
Океан Электроники
Поставка электронных компонентов

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AVIC JONHON

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