

---

## SERIES 2000 STICK ANTENNA

---

### FEATURES

- **Best in Class Performance Through Patented HDX Technology**
- **IP 64+ Protected**
- **2 Types 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 two standard stick antennas with 1 or 3 meter cable length 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. 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.

**ABSOLUTE MAXIMUM RATINGS**

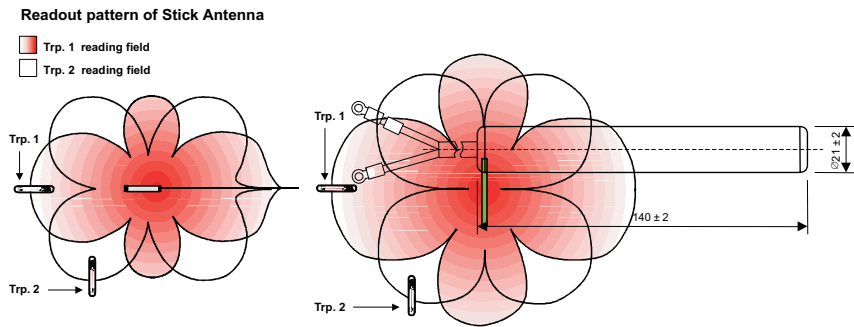
over operating free-air temperature range (unless otherwise noted)

	RI-ANT-S01C	RI-ANT-S02C	UNIT
Operating temperature	-30°C to +70°C	-30°C to +70°C	°C
Storage temperature	-40°C to +85°C	-40°C to +85°C	°C

**OPERATING CHARACTERISTICS**

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

PARAMETER	PART NUMBER		UNIT
	RI-ANT-S01C	RI-ANT-S02C	
Type	Ferrite rod		
Inductance	Typically 27 μH @ 134.2 kHz		
Protection class	IP66		
Vibration	Mil-Std -- 810 E, Test 514.4 (Category 1, Procedure 1; Basic transportation)		
Case material	Glass reinforced epoxy (grey)		
Dimensions	21 ± 2 × 140 ± 2		mm
Weight	134	185	g
Cable Length	1	3	m
Connection terminals	Ring lugs: 3.5 mm inside diameter, 6 mm outside diameter		
Mounting	Use non-metal clamps. Mounting material is not supplied with the antenna.		



**PACKAGING INFORMATION**

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead finish/ Ball material (6)	MSL Peak Temp (3)	Op Temp (°C)	Device Marking (4/5)	Samples
TRPGR30ATGA	ACTIVE	RFIDT	TGA	0	2000	RoHS & Green	Call TI	N / A for Pkg Type	-25 to 70		<a href="#">Samples</a>
TRPGR30ATGB	ACTIVE	RFIDT	TGB	0	2000	RoHS & Green	Call TI	N / A for Pkg Type	-25 to 70		<a href="#">Samples</a>
TRPGR30ENATGA	ACTIVE	RFIDT	TGA	0	2000	RoHS & Green	Call TI	N / A for Pkg Type	-25 to 70		<a href="#">Samples</a>
TRPGR30ENATGB	ACTIVE	RFIDT	TGB	0	2000	RoHS & Green	Call TI	N / A for Pkg Type	-25 to 70		<a href="#">Samples</a>

(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.

**OBSELETE:** TI has discontinued the production of the device.

(2) **RoHS:** TI defines "RoHS" to mean semiconductor products that are compliant with the current EU RoHS requirements for all 10 RoHS substances, including the requirement that RoHS substance do not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, "RoHS" products are suitable for use in specified lead-free processes. TI may reference these types of products as "Pb-Free".

**RoHS Exempt:** TI defines "RoHS Exempt" to mean products that contain lead but are compliant with EU RoHS pursuant to a specific EU RoHS exemption.

**Green:** TI defines "Green" to mean the content of Chlorine (Cl) and Bromine (Br) based flame retardants meet JS709B low halogen requirements of <=1000ppm threshold. Antimony trioxide based flame retardants must also meet the <=1000ppm threshold requirement.

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

(4) There may be additional marking, which relates to the logo, the lot trace code information, or the environmental category on the device.

(5) Multiple Device Markings will be inside parentheses. Only one Device Marking contained in parentheses and separated by a "-" will appear on a device. If a line is indented then it is a continuation of the previous line and the two combined represent the entire Device Marking for that device.

(6) Lead finish/Ball material - Orderable Devices may have multiple material finish options. Finish options are separated by a vertical ruled line. Lead finish/Ball material values may wrap to two lines if the finish value exceeds the maximum column width.

**Important Information and Disclaimer:**The information provided on this page represents TI's knowledge and belief as of the date that it is provided. TI bases its knowledge and belief on information provided by third parties, and makes no representation or warranty as to the accuracy of such information. Efforts are underway to better integrate information from third parties. TI has taken and

continues to take reasonable steps to provide representative and accurate information but may not have conducted destructive testing or chemical analysis on incoming materials and chemicals. TI and TI suppliers consider certain information to be proprietary, and thus CAS numbers and other limited information may not be available for release.

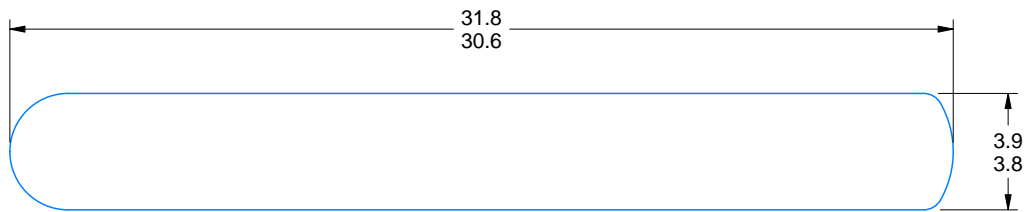
In no event shall TI's liability arising out of such information exceed the total purchase price of the TI part(s) at issue in this document sold by TI to Customer on an annual basis.

# PACKAGE OUTLINE

**TGB0000A**

**RFIDT - 3.9 mm max height**

RADIO FREQUENCY IDENTIFICATION



4224849/A 03/2019

**NOTES:**

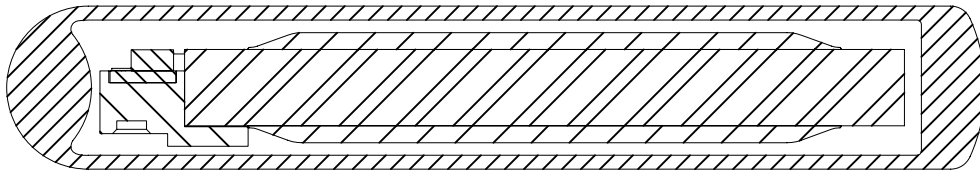
1. All linear dimensions are in millimeters. Any dimensions in parenthesis are for reference only. Dimensioning and tolerancing per ASME Y14.5M.
2. This drawing is subject to change without notice.
3. HDX+ 32mm glass transponder with capacitor on die technology.

TGA (R-RFID-N0)

RFIDT



A-A



4211903/A 06/11

- NOTES:
- A. All linear dimensions are in millimeters. Dimensioning and tolerancing per ASME Y14.5-1994.
  - B. This drawing is subject to change without notice.
  - C. HDX+ 23mm Glass TRP Cap on Die.

## IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATA SHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, regulatory or other requirements.

These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI's products are provided subject to [TI's Terms of Sale](#) or other applicable terms available either on [ti.com](https://www.ti.com) or provided in conjunction with such TI products. TI's provision of these resources does not expand or otherwise alter TI's applicable warranties or warranty disclaimers for TI products.

TI objects to and rejects any additional or different terms you may have proposed.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265  
Copyright © 2023, Texas Instruments Incorporated