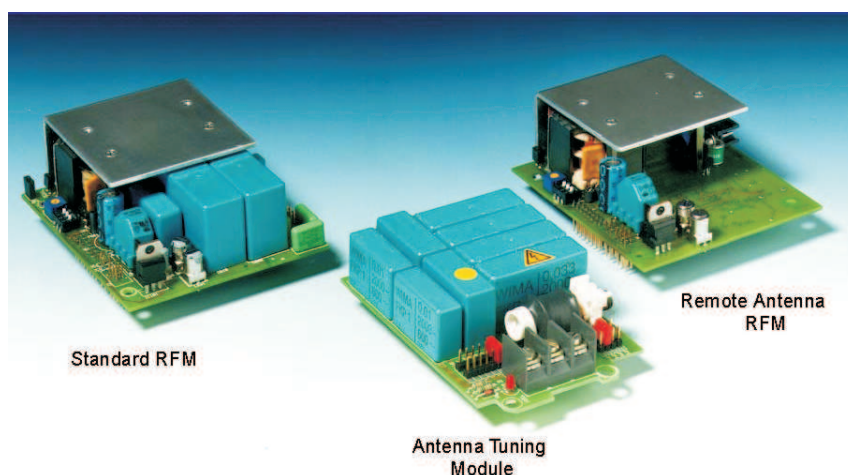


HIGH PERFORMANCE LF RADIO FREQUENCY MODULE

FEATURES

- **Common**
 - Variable Power Supply Range
 - Synchronization Control in Multi-Reader Arrays
 - High Power Output
- **Standard RFM**
 - Capacitive Tuning to Resonance
- Supports Antenna Cable Lengths Up to 10 Meters (Depending on Antenna Design)
- **Remote Antenna RFM**
 - Supports Antenna Cable Lengths Up to 120 Meters
 - Capacitive and Inductive Tuning to Resonance



DESCRIPTION

The RI-RFM-007B radio frequency power module is capable driving a variety of antennas with inductance ranges from 26.0 μ H to 27.9 μ H including TI standard antennas RI-ANT-G01E, RI-ANT-G02E, RI-ANT-G04E gate antennas as well as RI-ANT-S01C and RI-ANT-S02C stick antennas.

The RI-RFM-007B module in combination with a control module is 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.

ABSOLUTE MAXIMUM RATINGS⁽¹⁾

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

	RI-RFM-007B	RI-RFM-008B	RI-ACC-008B	UNIT
Operating Temperature	–25 to +70	–25 to +70	–25 to +70	°C
Storage Temperature	–40 to +85	–40 to +85	–40 to +85	°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.



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.

RECOMMENDED OPERATING CONDITIONS

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

	RI-RFM-007B	RI-RFM-008B	RI-ACC-008B
Power Supply	7 to 24 Vdc regulated If switched Power Supply is used, the frequency must be > 200 kHz		

OPERATING CHARACTERISTICS

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

PARAMETER	TEST CONDITIONS			UNIT
	RI-RFM-007B (STANDARD RFM)	RI-RFM-008B (REMOTE ANTENNA RFM)	RI-ACC-008B (ANTENNA TUNING MODULE)	
Relative Humidity	Acc. to IEC 68-2-30 \geq 93% non condensing, Test Db, 21 cycles			
RF Transmit Power	To be set by pulse width to comply with PTT/FCC regulations			
RF Transmit Frequency	134.2 kHz			
Antenna Resonance Voltage	max. 380 Vpeak	max. 380 Vpeak	max. 380 Vpeak If used with customer designed antenna, it may be necessary to limit the output to 280 Vpeak	
Antenna Tuning Range	26 to 27.9	26 to 27.9	8 to 80 (including cable)	μ H
Dimensions (L \times W \times H)	83 \times 93 \times 44 \pm 1.5	83 \times 93 \times 44 \pm 1.5	115 \times 70 \times 27 \pm 1.5	mm
Weight	\pm 260	\pm 160	\pm 162	g
RECOMMENDED ACCESSORIES				
Antenna Tuning Module	No	RI-ACC-008B	No	
Digital Reader Module	RI-CTL-010A	RI-CTL-010A	No	

Additional specifications and application conditions are defined in the relevant RFM Reference Manual (11-06-21-042 (SCBU022) & 11-06-21-033) available on internet at: <http://www.ti.com/mc/docs/tiris/docs/specs/htm>.

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Fax: 65 833 6063

Taiwan: Phone: 886 2 376 2571
Fax: 886 2 377-2717

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		Samples
TRPGR30ATGB	ACTIVE	RFIDT	TGB	0	2000	RoHS & Green	Call TI	N / A for Pkg Type	-25 to 70		Samples
TRPGR30ENATGA	ACTIVE	RFIDT	TGA	0	2000	RoHS & Green	Call TI	N / A for Pkg Type	-25 to 70		Samples
TRPGR30ENATGB	ACTIVE	RFIDT	TGB	0	2000	RoHS & Green	Call TI	N / A for Pkg Type	-25 to 70		Samples

(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) **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.

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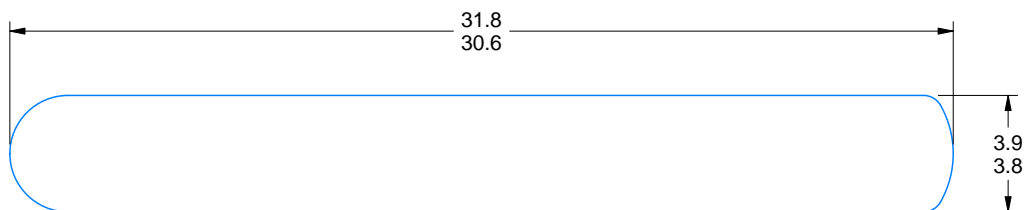
In no event shall TI's liability arising out of such information exceed the total purchase price of the TI part(s) at issue in this document sold by TI to Customer on an annual basis.

PACKAGE OUTLINE

TGB0000A

RFIDT - 3.9 mm max height

RADIO FREQUENCY IDENTIFICATION



4224849/A 03/2019

NOTES:

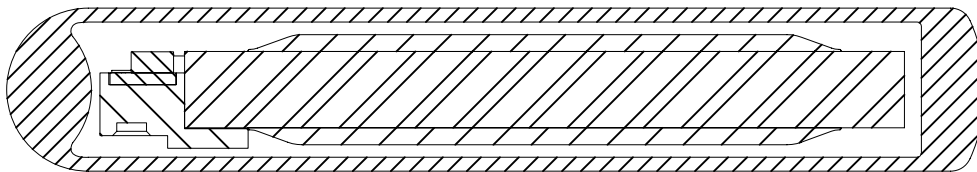
1. All linear dimensions are in millimeters. Any dimensions in parenthesis are for reference only. Dimensioning and tolerancing per ASME Y14.5M.
2. This drawing is subject to change without notice.
3. HDX+ 32mm glass transponder with capacitor on die technology.

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.

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