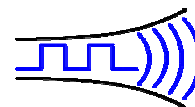


NEW

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TX3H-869.50-10

UHF Wide Band FM 450mW Transmitter

The TX3H-869.5-10 is an 869.5MHz FM transmitter module with a power output of 450mW nominal. It is a 100% pin-compatible drop-in replacement for the Radiometrix TX1H-151.300-10 and can be used in applications where greater radiated power is desired (for example when space limitations dictate the use of small and inefficient antennas, or for applications where the extra power is permitted). The module will handle raw data rates up to 10kbps.



Figure 1: RX3-869.50-10 and TX3H-869.50-10

Features

- Standard frequency: 869.50MHz band
- Data rates up to 16kbps
- Usable range over 3km
- Fully screened
- Low power requirements

The TX3H operates on European 869.40 – 869.65MHz sub-band allocation for 500mW and is designed to meet EN300 200-3 (radio) and EN301 489-3 (EMC) requirements. Custom frequencies may be available to order.

Technical Summary

- Transmit power: 450mW (26.5dBm, ± 1 dB)
- Operating frequency: 869.50MHz
- Supply: 5V (regulated)
- Current consumption: 310mA (typical)
- Data bit rate: 16kbps max.
- Size: 45 x 17 x 5.5mm

Applications

- Tracing and asset tracking systems
- Meter reading systems
- Industrial telemetry and telecommand
- Data loggers
- In-building environmental monitoring and control
- Social alarms
- High-end security and fire alarms
- Vehicle data up/download

User interface

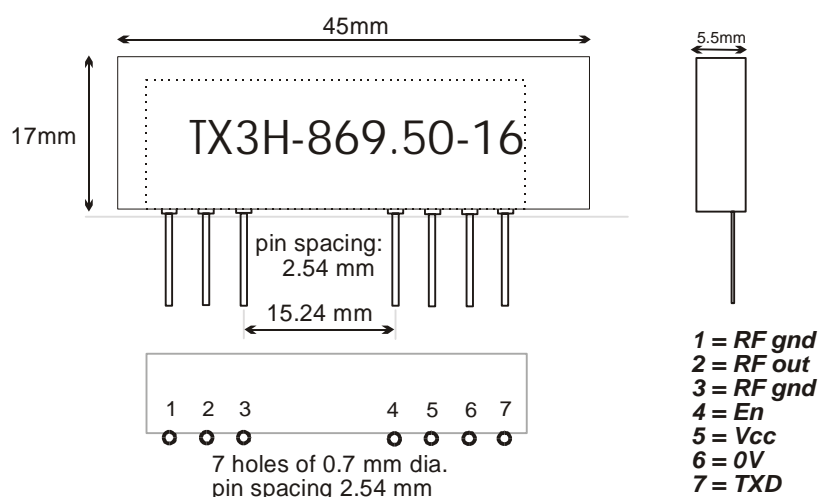


Figure 2: TX3H pin-out and dimension (compared to TX3A)

TX1H pin	Name	Function
1, 3	RFgnd	RF Ground
2	RF out	50Ω RF output to the antenna
4	EN	Pull high to enable Transmitter
5	VCC	5V regulated DC power supply
6	0V	Ground
7	TXD	DC coupled input for 5V CMOS logic. $R_{in} = 100k\Omega$

Note: Pin out as TX1H and standard TX3A

Condensed specifications:

Operating temperature: -40°C to +85°C

(Figures apply at +25°C, 5.0V supply unless otherwise stated)

	pin	min.	typ.	max.	units	notes
Supply						
Supply voltage	5	4.9	5	5.1	V	
Supply current	5	-	310	-	mA	
RF						
RF power output	2	+25.5	+26.5	+27	dBm	1
Spurious emissions, ≤1GHz	2	-	-	-54	dBm	2
Spurious emissions, ≥ 1GHz	2	-	-	-40	dBm	2
RF centre frequency		-	869.50	-	MHz	3
Initial Frequency accuracy		-15	0	+15	kHz	
Overall Frequency accuracy		-40	0	+40	kHz	4
FM deviation (peak)		-	±27	-	kHz	5
Antenna pin impedance	2	-	50	-	Ω	
Number of channels		-	1	-		
Baseband						
Modulation bandwidth @ -3dB		DC	-	8	kHz	6
Maximum raw data rate		-	-	16	kbps	6
TXD input level (logic low)	6	-	0	-	V	7
TXD input level (logic high)	6	-	5.0	-	V	7
Dynamic timing						
TX enable to full RF		-	53	55	ms	

Notes:

1. Measured into 50Ω resistive load
2. Meets EN requirements at all frequencies
3. There is a <10% duty cycle restriction on 869.50 MHz in EU member states
4. Total over full supply and temperature range
5. With 0V – 5.0V modulation input
6. 5V CMOS compatible
7. To achieve specified FM deviation