

- **0.5W, High-Reliability**
- **Flight-proven, Rugged design**
- **Ultra-Miniature, High Strength Enclosure**
- **S-Band Operation (2200.5– 2299.5 MHz)**
- **BiPhase/NRZ-L**

## Description

Microwave Innovations proudly offers our 0.5W, S-Band, munitions-qualified Telemetry Transmitter for customers needing high-reliability and proven performance in a very cost effective and compact package. This transmitter is designed to operate in harsh environments of smart munitions missions .

The 0.5W, FM Telemetry Transmitter is a COTS product, which leverages from our established designs, while using components to meet stringent military requirements at low cost.

Commercial-Off-The-Shelf (COTS) product which supports a Fixed Rate Data Input for dynamic data rate requirements. Full spectral efficiency is supported with Ultra-Low Phase Noise Performance in high shock and vibration environments.

Other features include;

- Biphase data input
- Health Status Indicator
- 10 Pin Flex Connector Input

## Telemetry Transmitter, Munitions 0.5 Watt, S-Band, FM



This mission-qualified Telemetry Transmitter is leveraging off our well established high-reliability designs that have been flown on some of the most demanding programs known. The units legacy is well proven on munitions programs with high G requirements in excess of 50,000 G's. The COTS design can be supplied with a high-reliability Parts Program for established reliability and performance meeting the most extreme mission performance requirements.

Microwave Innovations' high-reliability, high-shock, and extreme environmental performance heritage is broadly recognized for ground, air, sea, and space environments.

**OTHER CONFIGURATIONS AVAILABLE.**  
**PLEASE INQUIRE!**



# Munitions Telemetry Transmitter

## 0.5 Watt, S-Band, FM

### SPECIFICATIONS

#### RF Output

**Frequency:** 2200.5 to 2299.5 MHz  
(Frequency Step Size 0.5 or 1.0 MHz)

**Carrier Stability:** Within  $\pm 0.002\%$  over temperature

**RF Power:** 0.5 Watts (Minimum)

**VSWR:** 1.5:1 (Maximum)

**Impedance:** 50 Ohms (Nominal)

**Loading:** Normal operation into any Load VSWR and any Phase Angle

**Open/Short Protection:** No damage due to Open or Short of unlimited duration

**Harmonic & Spurious Level:** In accordance with IRIG 106-96

#### TM Modulation Input

**Frequency Response:** 1 KHz-10MHz(-3dB nominal @ 5.6 MHz) w/ option for pre-mod filter (can be tailored as per customer specification)

**Peak Deviation:** 2.6 MHz

**Deviation Non-Linearity:** 1 % Maximum BSL for 2.6 MHz Deviation

**Deviation Sensitivity:** Factory Set as appropriate for data rate/type

**Harmonic Distortion:** 1% Max. for 2.6 MHz Deviation

**Incidental AM:** 5% Maximum

**Incidental FM:** 26 KHz Maximum

**Input Impedance:** 940  $\Omega$  typical +/- 5%

#### Power Requirements

**Input Voltage:** +5.5 to +6.5 VDC

**Input Current:** 500 mA Maximum

#### Environmental Specification

**Temperature:** Operating -40C to +63C

**Vibration:** MIL-STD-810G, Method 514.6DD, Cat 13, Lo=0.10 G2/Hz  
Fo=106 Hz, Spike Bandwidth +/- 8%, Duration 3 Min/Axis  
Up to 9000 G's, 7 msec

**Shock:** Up to 9000 G's, 7 msec

**Acceleration:** 100G

**Altitude:** Unlimited

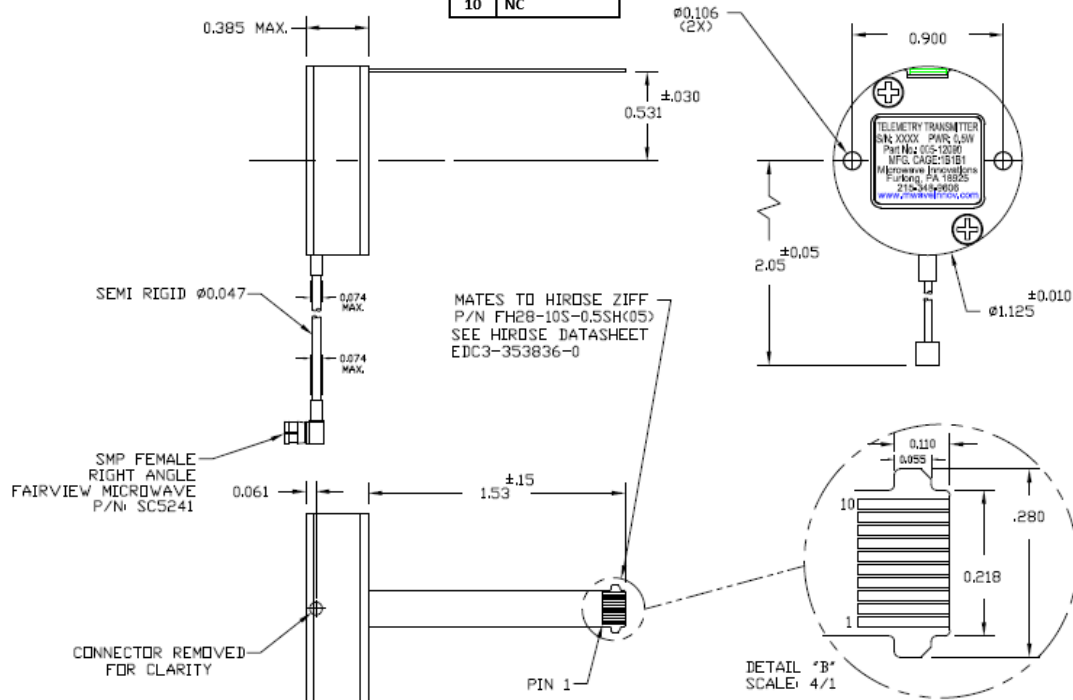
#### Physical Characteristics

**Weight:** < 2 oz

**Dimensions:** as per outline drawing

FLEX CABLE CONNECTOR I/F

TABLE 1, PINOUT	
PIN	Function
1	NC
2	TM_SPARE
3	MOD_IN
4	GND
5	PWR_IN
6	PWR_IN
7	GND
8	STATUS_TM
9	TM_SPARE2
10	NC



**Unique Customer Requirements Are Welcome, Including:**

Connector Types, PWR Non-Isolated, Isolated, Enclosure Size, Data Rates, RF Center Frequency & Power, etc.

