

0.5 to 2.5 GHz Digital Instantaneous Frequency Measurement Unit

P/N: FM010203-001

Features

- 2 GHz Frequency Range
- 0.5 MHz Resolution
- 12 Bit Data Word
- 50 ns RF Pulse Capable
- -55 dBm Sensitivity
- 65 dB Dynamic Range
- Bad Data Detection and Flag
- Small Form Factor
- Low Weight
- Low Power Consumption
- Designed for Airborne Applications



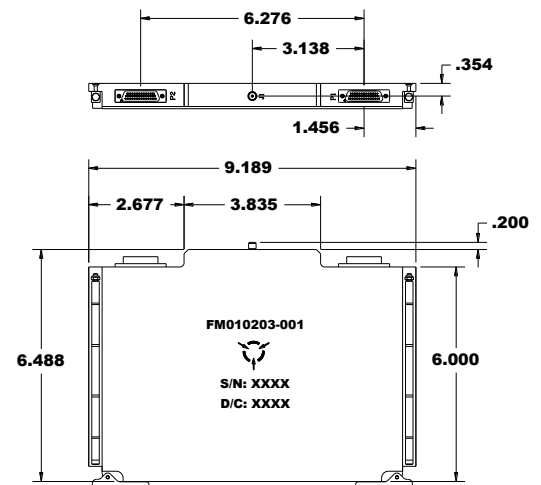
Description

The FM010203-001 DIFM is a low frequency (Communication band) DIFM, with extremely high resolution and accuracy. The FM010203-001 DIFM provides a 12-bit digital output word of the RF input frequency at sampling rates up to 80 MHz. The unit is capable of handling pulses as short as 50 ns up to CW. The nominal frequency resolution is 0.5 MHz, with an RMS accuracy of <1.5 MHz. This is ideal for separating RF pulse trains in a high signal density environment.

Designed for very demanding Airborne Fighter applications, this unit will operate over a temperature range of -40°C to +85°C. Please contact the factory for other available configurations.

Electrical Specification

Ref	PARAMETERS	SPECIFICATION	Notes
1	Operating Frequency Range	0.5 to 2.5 GHz	1
2	Unambiguous Bandwidth	475 to 2523 MHz	2
3	Frequency Resolution	0.5 MHz	
4	Digital Frequency Word	12 Bits	
5	Throughput Time	200 ns	3
6	RF Input Dynamic Range	-55 to +10 dBm	
7	RF Input Signal/Noise Ratio	0 dB (99% valid rate)	4
8	RF Input Pulse Width	50 ns to CW	
9	Recovery time	50 ns	
10	RF Input VSWR	2.2:1	
11	Frequency Error (RMS) 0 dB SNR	1.5 MHz	5
12	Frequency Peak Error 3dB SNR	5.0 MHz	
13	Simultaneous Signal: Level	6 dB, 95% Valid Rate	6
14	Temperature Range (operating)	-40 to +85°C	
15	Power Supply Current: +12V Rail	300 mA	
16	Power Supply Current: +3.3V Rail	1.200 mA	
17	Power Supply Current: -5V Rail	70 mA	
18	Power Supply Current: +5V Rail	300 mA	
19	Weight	2.75 pounds	



Dimensions in Inches

Notes

- 1 Frequency accuracy is guaranteed over the operating frequency range.
- 2 Frequency is calculated from the digital word with the formula: $Frequency (MHz) = 475.25 + (Digital Word)$
- 3 Simple throughput or pipelined processing (up to 80 MHz) is available.
- 4 Invalid data is defined as measurements that are erroneous by > 15 MHz.
- 5 RMS calculation is based on the sum of all valid measurements.
- 6 Simultaneous Signal valid rate is based on the percentage of all frequency combinations that result in the larger signal being measured accurately to within 15 MHz.