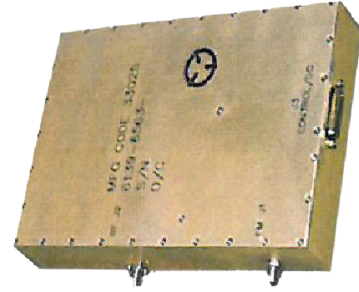


# 6139-6566-00 – DIGITALLY TUNED OSCILLATOR

## TECHNICAL FEATURE

### FEATURES

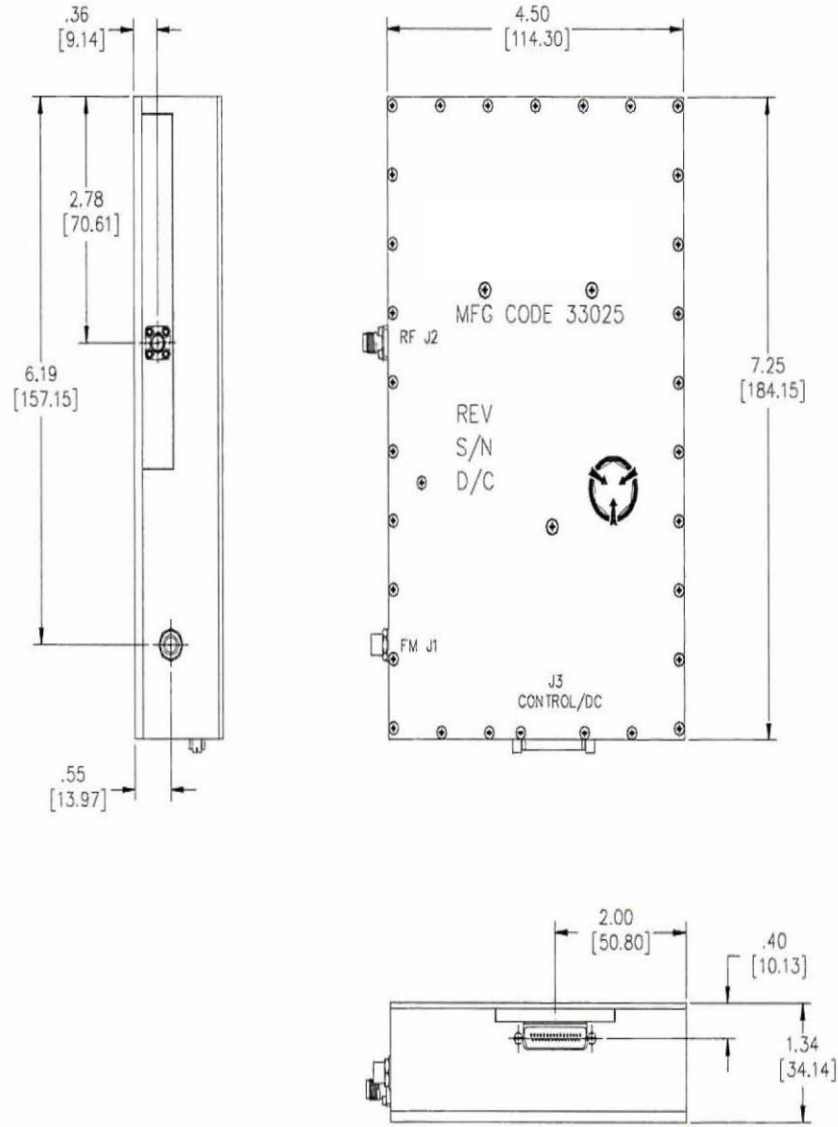
- Broadband, digital tuning
- Low post-tuning drift (PTD)
- Linear wideband FM modulation capability (optional)
- Internal heater for frequency stability



Frequency	2 to 6 GHz (2 to 9 GHz Optional)	
Power Output	+10 dBm, minimum, +16 dBm, maximum	
Sub-bands (at +25°C)	1.985 to 3.015 GHz 2.985 to 4.515 GHz 4.485 to 6.015 GHz 5.985 to 9.015 GHz	
Digital Tuning	12 bits, 2 band select bits, 0.5 MHz/bit, nominal Option: to 0.25 MHz/bit	
Post Tuning Drift (1 $\mu$ S to 1 S)	$\leq 0.02\%$ of selected frequency ( or 1 MHz, whichever is greater)	
Harmonics, Integer	-25 dBc, maximum	
Harmonics, Fractional	-60 dBc, maximum	
Spurious	-60 dBc, maximum	
Residual FM (-3 dB points)	100 kHz p-p, maximum	
Phase Noise	Offset	dBc/Hz, max
	100 kHz	-68
	1 MHz	-86
	10 MHz	-116
Bias Pushing	$\pm 0.2$ MHz/V, maximum	
Output VSWR	2.0:1, maximum	
Load Pulling (2.0:1 VSWR)	$\pm 1.0$ MHz, maximum	
Frequency Stability, -54°C to +85°C Includes set-on accuracy	$\pm 10$ MHz, maximum	
DC Power	+15 volts @ 1.4 A maximum, 25 mV p-p maximum ripple $\pm 3\%$ (10 kHz to 1 MHz)	
	-15 volts @ 0.5 A maximum, 25 mV p-p maximum ripple $\pm 3\%$ (10 kHz to 1 MHz)	
Heater Supply	+28 Volts A 2.0 A, maximum @ -54°C	
Analog Tuning (FM Modulation)	DC to 10 MHz, $\pm 3$ dB bandwidth Input Impedance: 1 kOhm, nominal	
	Band	Modulation Deviation
	1	200 MHz p-p, min.
	2	300 MHz p-p, min.
	3	400 MHz p-p, min.
	4	600 MHz p-p, min.
Modulation Sensitivity	40 MHz/V, min.	
Modulation Sensitivity Ratio	$\leq 5\%$ deviation, 1.2:1, maximum $\leq 20\%$ deviation, 2.0:1, maximum (Deviation cannot extend past sub-band limits)	
Temperature Range	-54°C to +85°C Operating, -54°C to +100°C Storage	
RF & FM Tuning Connectors	SMA Female	
DC, Heater Power & Digital Input Connector	31 Pin D-Subminiature	
Dimensions	7.25 x 4.50 x 1.34 inches	

# 6139-6566-00 – DIGITALLY TUNED OSCILLATOR

## OUTLINE DRAWING



## MULTI-PIN CONNECTOR FUNCTION TABLE

PIN	FUNCTION	PIN	FUNCTION	PIN	FUNCTION	PIN	FUNCTION
1	-15 VDC	9	DATA 10	17	+15 VDC	25	DATA 11
2	-15 VDC	10	DATA 9	18	+15 VDC	26	DATA 12 (MSB)
3	RTN, -V	11	DATA 8	19	RTN, +V	27	BAND SELECT 2 (MSB)
4	RTN, -V	12	BAND SELECT 0 (LSB)	20	RTN, +V	28	+28 VDC HTR RTN
5	RTN, DIGITAL	13	+28 VDC HTR	21	DATA 5	29	+28 VDC HTR
6	RTN, DIGITAL	14	+28 VDC HTR RTN	22	DATA 1	30	DATA 7
7	DATA 4	15	DATA 3	23	DATA 0 (LSB)	31	DATA 6
8	RTN, DIGITAL	16	DATA 2	24	BAND SELECT 1		

The information in this document is a derivative of a document cleared by the Department of Defense (DoD) Office of Security Review (OSR) for public release. OSR case number 10-S-0983 dated March 11, 2010. DS\_6139\_6566\_00\_Digitally Tuned Oscillator\_MW\_090106.doc. This revision supersedes all previous releases. All technical information is believed to be accurate, but no responsibility is assumed for errors. We reserve the right to make changes in products or specifications without notice. Copyright © 2010 Crane Electronics, Inc. All rights reserved.

