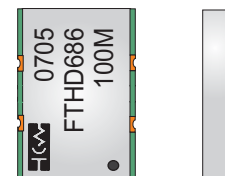


# CRYSTAL CONTROLLED OSCILLATORS

## 5.0V Surface Mount HF SINEWAVE OSCILLATOR



FTTHD686

### ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-55	-	125	°C	
Supply Voltage	(Vcc)	-0.5	-	7.0	Vdc	

### OPERATING SPECIFICATIONS

TABLE 2.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)	50	-	100	MHz	
Total Frequency Tolerance		-35		35	ppm	1
Operating Temperature Range		-40	-	85	°C	
Supply Voltage	(Vcc)	4.75	5.00	5.25	Vdc	
Supply Current	(Icc)	-	-	50	mA	
Start-up Time @ 25°C		-	-	10	mS	

### PHASE NOISE CHARACTERISTICS

TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
SSB Phase Noise at 10Hz offset		-	-60	-	dBc/Hz	
SSB Phase Noise at 100Hz offset		-	-90	-	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-110	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-135	-	dBc/Hz	
SSB Phase Noise at 100KHz offset		-	-145	-	dBc/Hz	

### SINEWAVE OUTPUT CHARACTERISTICS

TABLE 4.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		-	-	50	ohm	
Voltage		2	3	4	dBm	
Voltage vs. Supply Voltage Change		-1	-	1	dBm	

### SPURIOUS CHARACTERISTICS

TABLE 5.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Harmonics		-	-	-20	dBm	
Sub Harmonics		-	-	-70	dBm	

### PACKAGE CHARACTERISTICS

TABLE 6.0

Package	Non-hermetic package consisting of an FR4 substrate with grounded metal cover.
---------	--

### PROCESS RECOMMENDATIONS

TABLE 7.0

Solder Reflow	See solder profile page 2.
Wash	Ultrasonic cleaning is not recommended.

#### Notes

- 1.0 Includes initial tolerance, deviation over temperature, supply and load variations, shock, vibration and aging fifteen years.

### DESCRIPTION

The Connor-Winfield FTTHD686 is a 5.0V, surface mount Crystal Controlled Oscillator (XO) with Sinewave output. Based on a fundamental crystal design the FTTHD686 is designed for applications requiring low noise, low jitter and tight frequency stability.

### FEATURES

- 5.0V OPERATION
- SINEWAVE OUTPUT
- FREQUENCY STABILITY: ±35ppm
- TEMPERATURE RANGE: -40 to 85°C
- SURFACE MOUNT PACKAGE
- TAPE AND REEL PACKAGING
- RoHS COMPLIANT / LEAD FREE

### ORDERING INFORMATION

FTTHD686 - 100.00 MHz

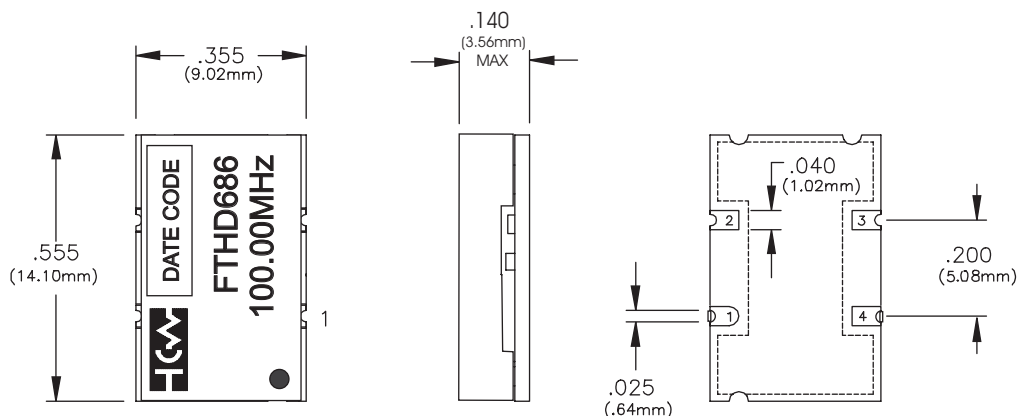
CLOCK  
SERIES

CENTER  
FREQUENCY

Specifications subject to change without notice.

**CRYSTAL CONTROLLED OSCILLATORS**

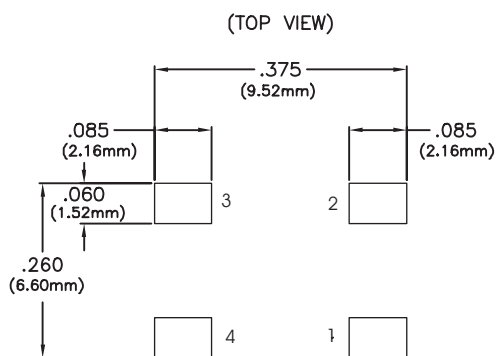
Package Outline



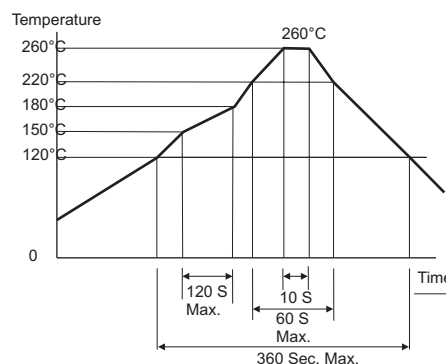
Pin Connections

PIN	CONNECTION
1	N/C
2	GROUND
3	HF OUTPUT
4	Vcc

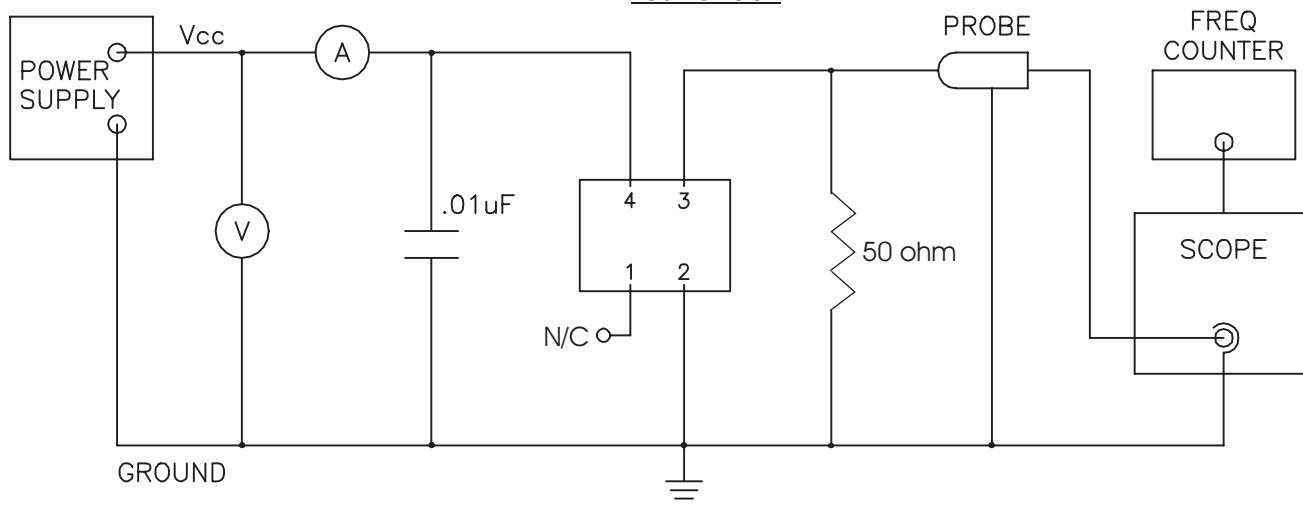
Suggested Pad Layout



Solder Profile



Test Circuit



Specifications subject to change without notice.