



**Data Sheet**



Product Category: SMD Oscillators

Series Number	Package	Description	Last Modified
433	7 x 5 SMD Ceramic	Ultra Low Jitter 1pS	Jan. 01 2007

**FEATURES**

- Ultra low jitter at 1 ps
- Low power consumption
- Standby function
- Tape and Reel
- Miniature profile
- 3.3V or 5.0V optional
- RoHs / Lead Free compliant



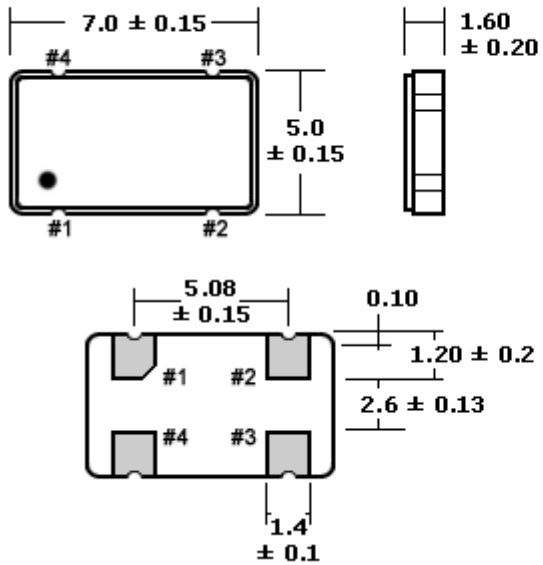
**OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS**

PARAMETERS	CONDITIONS	CHARACTERISTICS		UNITS
<b>Output Logic</b>	-	HCMOS / TTL Output		-
<b>Input Voltage (VDD)</b>	-	3.3 ±10%	5.0 ±10%	VDC
<b>Frequency Range (f<sub>O</sub>)</b>	-	1.544 ~ 133.333		MHz
<b>Operating Temperature (T<sub>OPR</sub>)</b>	-	0 ~ +70 (Std.) / -40 ~ 85 (Option)		°C
<b>Storage Temperature (T<sub>STG</sub>)</b>	-	-55 ~ +125		°C
<b>Frequency Stability</b>	a + b + c + d	±25, ±50, ±100 max.		PPM
	(a) Frequency Tolerance	Inclusive of Overall Stability		-
	(b) Temperature Stability	Inclusive of Overall Stability (Operating Temperature)		-
	(c) Input Voltage Stability	Inclusive of Overall Stability (VDD ±10%)		-
	(d) Load Stability	Inclusive of Overall Stability (RL ±5%)		-
<b>Input Current (I<sub>DD</sub>)</b>	-	12 ~ 60 max.	25 ~ 100 max.	mA
<b>Aging</b>	@ 25°C	±5 max.		PPM/Y
<b>Rise Time (T<sub>R</sub>) / Fall Time (T<sub>F</sub>)</b>	-	8 max. (0.4V to 2.4V w/ TTL, 20% ~ 80% / HCMOS)		nS
<b>PIN 1 Tri-State</b>	-	Option		-
<b>Output Voltage High "1" VOH</b>	TTL Load	2.4 min.		VDC
	HCMOS Load	2.7 min.	VDD-0.5 min.	
<b>Output Voltage Low "0" VOL</b>	TTL Load	0.4 max.		VDC
	HCMOS Load	0.5 max.		
<b>Duty Cycle</b>	-	50 ±10 (Std.) / 50 ±5 (Option)		%
<b>Start-Up Time (T<sub>S</sub>)</b>	1 ~ 35 MHz	4 max.		mS
	35 ~ 125.000 MHz	10 max.		
<b>Jitter</b>	(Bandwidth 12KHz ~ 20Mhz)	±1		ps RMS

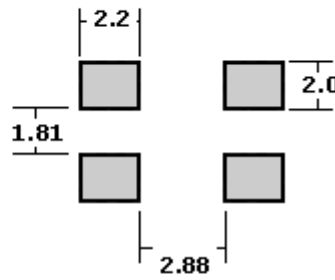
**PIN CONNECTIONS**

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**PACKAGE DIMENSIONS (mm)**



**Suggested Solder Pad Layout**



#1	No Connection or Tri-State Enable High
#2	Case Ground
#3	Output
#4	Vdd

**PART NUMBER GUIDE**

Series Number	Frequency	Voltage Supply Option	Frequency Tolerance & Stability (max.)	Operating Temp. (°C)	Duty Cycle	Pin 1 Connection
<b>433</b>	<b>- 24.0M</b>	<b>- 3</b>	<b>E</b>	<b>N</b>	<b>- T</b>	<b>TS</b>
Oscilent SMD Oscillators	Enter your desired frequency e.g. 24.0M = 24.000MHz	5 = 5VDC 3 = 3.3VDC	D = ±100 PPM E = ±50 PPM F = ±25 PPM G = ±20 PPM J = ±15 PPM	Blank* = 0~+70 C = -10~+70 D = -20~+70 N = -40~+85	Blank* = 50±10% T = -50±5%	NC = No Connection TS = Tri-State Enable High
<p><b>NOTE:</b> - Deviations on all parameters available. Please consult Oscilent for details.  <b>DEFINITIONS:</b> - Click on the characteristic names above, for definitions of the particular characteristic.  <b>*STANDARDS:</b> - "Blank" part number selections, indicate standard variables for the particular characteristic.  <b>PACKAGING:</b> - Add <b>-TR</b> for Tape/Reel. Click <a href="#">here</a> for tape/reel specifications</p>						

**Series No.: 433**

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