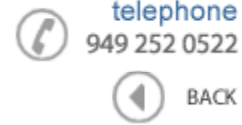




Data Sheet



Product Category: SMD Oscillators

Series Number	Package	Description	Last Modified
481	7 x 5 Programmable	HCMOS / TTL Output	Jan. 01 2007

## FEATURES

- Programmable
- Low power consumption
- Standby function
- Tape and Reel
- Miniature profile
- 3.3V or 5.0V optional
- RoHs / Lead Free compliant

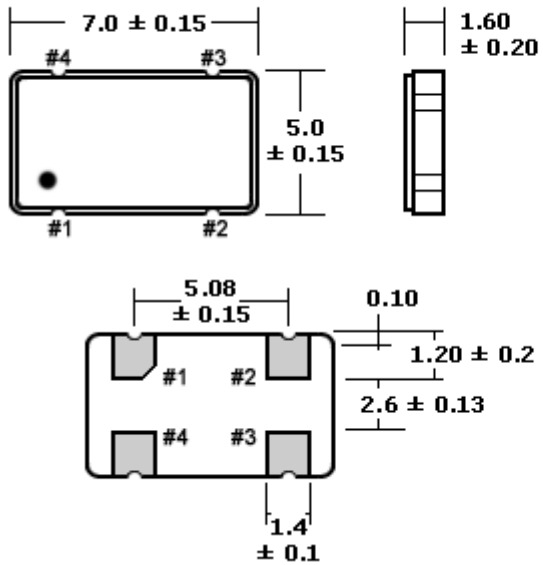


## OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	CHARACTERISTICS		UNITS
Output Logic	-	HCMOS / TTL Output		-
Input Voltage (VDD)	-	3.3 ±10%	5.0 ±10%	VDC
Frequency Range (f <sub>O</sub> )	-	1.000 ~ 125.000	1.000 ~ 160.000	MHz
Operating Temperature (T <sub>OPR</sub> )	-	0 ~ +70 (Std.) / -40 ~ 85 (Option)		°C
Storage Temperature (T <sub>STG</sub> )	-	-55 ~ +125		°C
Frequency Stability	a + b + c + d	±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%)		-
Input Current (I <sub>DD</sub> )	-	28 max.	45 max.	mA
Aging	@ 25°C	±5 max.		PPM/Y
Rise Time (T <sub>R</sub> )	-	4 max. (0.4V to 2.4V w/ TTL, 20% ~ 80%/ HCMOS)		nS
Fall Time (T <sub>F</sub> )	-	4 max. (0.4V to 2.4V w/ TTL, 20% ~ 80%/ HCMOS)		nS
Output Voltage High "1" VOH	TTL Load	2.4 min.		VDC
	HCMOS Load	2.7 min.	VDD-0.5 min.	
Output Voltage Low "0" VOL	TTL Load	0.4 max.		VDC
	HCMOS Load	0.5 max.		
Duty Cycle	-	50 ±10 (Std.) / 50 ±5 (Option)		%
Start-Up Time (T <sub>S</sub> )	-	10 max.		mS
Jitter	(One Sigma)	±50 max.		ps

PIN CONNECTIONS

**PACKAGE DIMENSIONS (mm)**



**Suggested Solder Pad Layout**



#1	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>481</b>	<b>- 2.4576M</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. <b>12.0M</b> = <b>12.000MHz</b> See table below for standard frequencies.	5 = 5VDC 3 = 3.3VDC	D = ±100 PPM E = ±50 PPM	Blank* = 0~+70 N = -40~+85	Blank* = 50±10% T = -50±5%	TS = Tri-State Enable High

**NOTE:** - Deviations on all parameters available. Please consult Oscilent for details.

**DEFINITIONS:** - Click on the characteristic names above, for definitions of the particular characteristic.

**\*STANDARDS:** - "Blank" part number selections, indicate standard variables for the particular characteristic.

**PACKAGING:** - Add **-TR** for Tape/Reel. Click [here](#) for tape/reel specifications

**PART NUMBER CODING - STANDARD OSCILLATOR FREQUENCIES**

FREQUENCY (1.8432 - 16.000MHz)	FREQUENCY (16.257 - 80.00MHz)
1.8432	16.257
2.000	16.384
2.4576	17.734475
3.579545	18.000
3.6864	18.432
4.000	19.6608
4.9152	20.000
5.000	24.000
5.0688	24.576
6.000	25.000
6.144	25.175
7.3728	28.322
8.000	30.000
9.216	32.000

9.8304	32.514
10.000	33.000
11.0592	35.000
12.000	40.000
12.288	48.000
12.800	50.000
14.31818	64.000
14.7456	65.000
15.9744	66.666
16.000	80.000

**NOTE: Other frequencies available. Please consult Oscilent for part numbers**

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**Series No.:** 481