



Data Sheet



Product Category: Crystal Oscillator

Series Number	Package	Description	Last Modified
391	14 Pin Dip 5 Leads	PECL Output	July 01 2005

FEATURES

- Wave form symmetry as low as 45/55%
- PECL output
- Industry standard 14 pin Dip
- 3.3V or 5V optional
- RoHs / Lead Free compliant

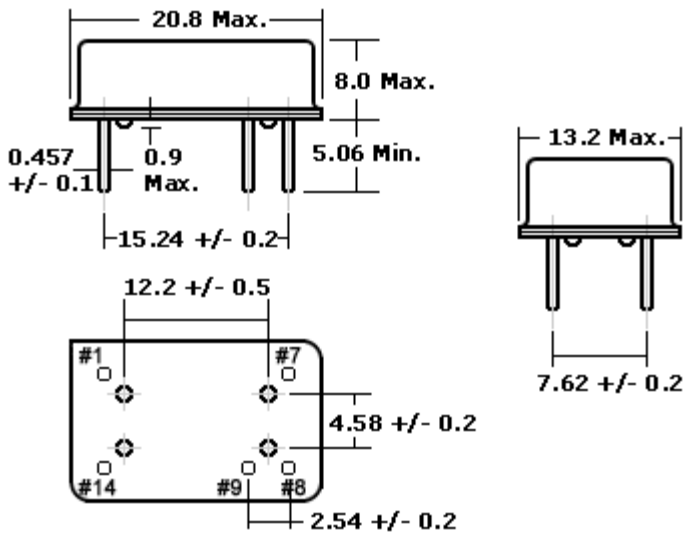


OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	CHARACTERISTICS		UNITS
Output Logic	-	Positive ECL Square Wave (PECL)		-
Input Voltage (VDD)	-	3.3 ±10%	5.0 ±10%	VDC
Frequency Range (f_O)	-	19.440 ~ 180.0 (Fund, Third, Fifth / UM-1)		MHz
Operating Temperature (T_{OPR})	-	0 ~ +70 (Std.) / -40 ~ 85 (Option)		°C
Storage Temperature (T_{STG})	-	-55 ~ +125		°C
Overall Frequency Stability	-	±20 (0 ~ +70°C Only), ±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 ±5%)		-
	(d) Load Stability	Inclusive of Overall Stability (RL ±5%)		-
Input Current (I_{DD})	-	80 max.	120 max.	mA
Aging	@ 25°C	±1 max.		PPM/Y
Rise Time (T_R)	20% to 80% of Waveform	2 max.		nS
Fall Time (T_F)	20% to 80% of Waveform	2 max.		nS
Output Voltage High "1" VOH	PECL	VDD - 1.025 min.		VDC
Output Voltage Low "0" VOL	PECL	VDD - 1.620 max.		VDC
Load	-	50		Ohms
Duty Cycle	50% of Waveform	50 ±10 (Std.) / 50 ±5 (Option)		%
Start-Up Time (T_S)	-	10 max.		mS
Jitter	RMS	3.5 max.		ps

PIN CONNECTIONS	
#1	No Connection (NC) or Tri-State Enable Low (TS)
#7	Ground
#8	Output
#12	Complimentary Output

PACKAGE DIMENSIONS (mm)



	(CO) or No Connection (NC)
#14	Vdd

PART NUMBER GUIDE

Series Number	Frequency	Voltage Supply Option	Frequency Tolerance & Stability (max.)	Operating Temp. (°C)	Duty Cycle	Pin 1 & 9 Connection
391	- 28.0 M	- 5	D	N	- T	NC1
Oscilent SMD Oscillators	Enter your freq. e.g. 28.0M = 28.00 MHz	5 = 5VDC 3 = 3.3VDC	D = ±100 PPM E = ±50 PPM F = ±25 PPM G = ±20 PPM	Blank* = 0~+70 N = -40~+85	Blank* = 50±10% T = -50±5%	TS1 = TS (pin 1) and CO (pin9) TS2 = TS (pin 1) and NC (pin9) NC1 = NC (pin 1) and CO (pin9) NC2 = NC (pin 1) and NC (pin9)

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

Oscilent Corporation - CALL **949.252.0522**

Series No.: **391**

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