



**Data Sheet**



Product Category: SMD Oscillators

Series Number	Package	Description	Last Modified
489	6 Pad J-Lead Ceramic	PECL Output	Jan. 01 2007

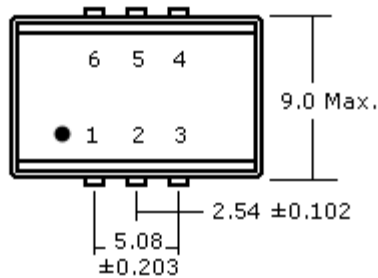
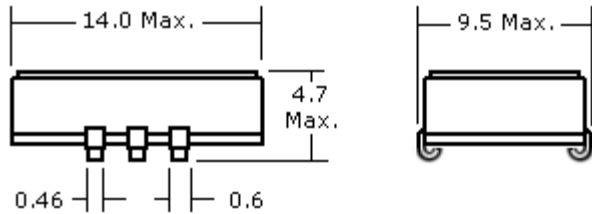
**FEATURES**

- Wave form symmetry of 40/60%
- PECL output
- Industry standard J-Lead SMD Package
- RoHs / Lead Free compliant

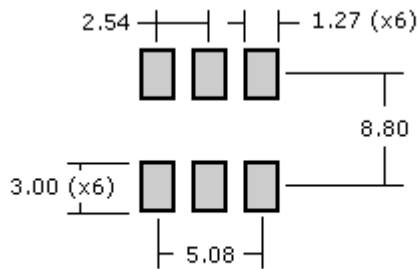


**OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS**

PARAMETERS	CONDITIONS	CHARACTERISTICS	UNITS
<b>Output Logic</b>	-	Positive ECL Square Wave (PECL)	-
<b>Input Voltage (VDD)</b>	-	3.3 ±10%      5.0 ±10%	VDC
<b>Frequency Range (f<sub>O</sub>)</b>	-	19.440 ~ 180.0 (Fund, Third, Fifth / UM-1)	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>Overall Frequency Stability</b>	-	±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%)	-
<b>Input Current (I<sub>DD</sub>)</b>	-	80 max.      120 max.	mA
<b>Aging</b>	@ 25°C	±1 max.	PPM/Y
<b>Rise Time (T<sub>R</sub>)</b>	20% to 80% of Waveform	1 max.	nS
<b>Fall Time (T<sub>F</sub>)</b>	20% to 80% of Waveform	1 max.	nS
<b>Output Voltage High "1" VOH</b>	PECL	VDD - 1.025 min.	VDC
<b>Output Voltage Low "0" VOL</b>	PECL	VDD - 1.620 max.	VDC
<b>Load</b>	-	PECL 50 ohm to Vcc-2VDC	Ohms
<b>Duty Cycle</b>	50% of Waveform	50 ±10 (Std.) / 50 ±5 (Option)	%
<b>Start-Up Time (T<sub>S</sub>)</b>	-	10 max.	mS
<b>Jitter</b>	-	0.5 typical , 1 RMS max.	pS
<b>Tri-State Output</b>	Input High = Output Disable	"Off" : 2.8V min.	-
	Input Low & Floating = Output Active	"On" : 0.6V max.	-

**PACKAGE DIMENSIONS (mm)**

PIN CONNECTIONS	
#1	No Connection
#2	Enable / Disable
#3	Ground
#4	Output
#5	Complimentary Output
#6	Vcc



Suggested Solder Pad Layout

**PART NUMBER GUIDE**

Series Number	Frequency	Voltage Supply Option	Frequency Tolerance & Stability (max.)	Operating Temp. (°C)	Duty Cycle	Tri State Connection
<b>489</b>	<b>- 28.0 M</b>	<b>- 5</b>	<b>D</b>	<b>N</b>	<b>- T</b>	<b>TS</b>
Oscilent SMD Oscillators	Enter your freq. e.g. <b>28.0M = 28.00 MHz</b>	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%	TS = Enable / Disable (Pin 1) T2 = Enable / Disable (Pin 2)
<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>						

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