







# Pletronics

## Oscillator Design Guide

RoHS 6/6 Compliant

Logic and Package		Model	Frequency Range	Vcc	Availability
<b>LVDS Applications</b> <ul style="list-style-type: none"> <li>- 10 Gb/sec</li> <li>- SONET</li> <li>- FPGA Clock</li> <li>- Datacom Clock</li> </ul>	5 x 7 mm Ceramic  <ul style="list-style-type: none"> <li>• .15 pS Jitter</li> <li>• Enable / Disable</li> <li>• Low Cost</li> <li>• Good Leadtimes</li> </ul>	<b>LV77D</b>	1 MHz to 250 MHz	1.8V, 2.5V, or 3.3V	Now
		<b>LV88D</b>	Optimized for 106.25 MHz or 212.5 MHz <b>(Factory or End User Selectable)</b>	3.3V only	Now
		<b>LV99D</b>	10 MHz to 650 MHz	3.3V only	Now
<b>PECL Applications</b> <ul style="list-style-type: none"> <li>- 10 Gb/sec</li> <li>- SONET</li> <li>- FPGA Clock</li> <li>- Datacom Clock</li> </ul>	5 x 7 mm Ceramic  <ul style="list-style-type: none"> <li>• .13 pS Jitter</li> <li>• Enable / Disable</li> <li>• Low Cost</li> <li>• Good Leadtimes</li> </ul>	<b>PE77D</b>	40 MHz to 250 MHz	2.5V or 3.3V	Now
		<b>PE88D</b>	Optimized for 106.25 MHz or 212.5 MHz <b>(Factory or End User Selectable)</b>	3.3V only	Now
		<b>PE99D</b>	10 MHz to 1.2 GHz	3.3V only	Now
<b>CMOS</b> <ul style="list-style-type: none"> <li>• Enable / Disable</li> <li>• Low Jitter</li> <li>• Good Drive</li> </ul>	3.2 x 5 mm Ceramic (Emerging for New Designs) 	<b>SM55T</b> <b>SM55G</b> <b>SM55M</b>	1.5 to 125 MHz General Purpose For Large Capacitance Load Lower Power Version	1.8V, 2.5V, 3.3V or 5.0V (All Models)	Now Consult Factory* Consult Factory*
	5 x 7 mm Ceramic (Mature Product) 	<b>SM77H</b> <b>SM77G</b> <b>SM77M</b> <b>SM77D</b>	1.5 to 70 MHz General Purpose For Large Capacitance Load Lower Power Version  70 to 180 MHz	1.8V, 2.5V, 3.3V or 5.0V (All Models)	Now Consult Factory* Consult Factory* Now
	2.5 x 3.2 mm Ceramic (Advanced Pkg) 	<b>SM44T</b>	16 to 80 MHz	1.8V, 2.5V, 3.3V or 5.0V	Now
	CMOS 32.768 kHz Watch Crystal Oscillator <b>(Fast Startup)</b> 	<b>S3883</b>	<b>S3883-32.768k</b> 4 x 6.5 x 2 mm 500 mS Start Up RoHS 5/6 Compliant	1.5V thru 5.0V	Consult factory *for availability and lead time

### Std Part Number Generation

PECL and LVDS	CMOS
<p><b>Model</b> PE77 45 D E V - 80.0M</p> <p>PE77, PE88, PE99 LV77, LV88, LV99</p> <p><b>Frequency Stability</b> 45 = ± 50 PPM 44 = ± 25 PPM 20 = ± 20 PPM</p> <p><b>Supply Voltage</b> V = 3.3 volts ± 10% W = 2.5 volts ± 10% X = 1.8 volts ± 5%</p> <p><b>Standard Temperature Ranges</b> Blank = -10 to +70°C E = -40 to +85°C</p>	<p><b>Model</b> SM55 45 T E V - 80.0M</p> <p>SM55T SM77H SM77D SM44T</p> <p><b>Frequency Stability</b> 45 = ± 50 PPM 44 = ± 25 PPM 20 = ± 20 PPM</p> <p><b>Supply Voltage</b> V = 3.3 volts ± 10% W = 2.5 volts ± 10% X = 1.8 volts ± 5% blank or Y = 5.0 volts ± 10%</p> <p><b>Standard Temperature Ranges</b> Blank = -10 to +70°C E = -40 to +85°C</p>

See individual data sheets on [www.pletronics.com](http://www.pletronics.com) for detailed specifications

# Pletronics

## \*OCXO



OCXO is available in 3.3V, 5.0V and 12.0V  
Miniature OCXO with good stability  
Excellent phase noise characteristics

Output: CMOS (OHM4) or Sinewave (OSM4)  
Stratum 3 versions available  
10 MHz to 40 MHz  
Available in DIP and SMD versions

VCXO	Model	Output Logic	Frequency Range	Vcc	Pullability	Availability
5 x 7 mm Ceramic **	VHA6	CMOS	1.5 MHz to 80 MHz	3.3V, 5.0V	± 50 APR	Now
	VLA7	LVDS	10 MHz to 650 MHz	3.3V	± 50 APR	Q2 2008
	VPA7	PECL	10 MHz to 1.2 GHz	3.3V	± 50 APR	Q2 2008
10 x 14 mm *	VPB7	PECL	1.5 MHz to 1.2 GHz	3.3V	± 50 APR	Now
	VLB7	LVDS	1.5 MHz to 650 MHz			

**TCVCXO	Model	Size	Frequency Range	Vcc	Stability	Pullability
	TCA4	5 x 7 mm	10 MHz to 30 MHz Clipped Sine Wave only	2.7V to 5.0V	± 1 to ± 2.5 ppm -40 to +85°C	Up to ± 8 ppm
	TCD4	3.2 x 5 mm	10 MHz to 30 MHz Clipped Sine Wave only	2.7V to 5.0V	± 1 to ± 2.5 ppm -40 to +85°C	Up to ± 8 ppm

## Pletronics Crystals by Package Type

Ceramic	Watch 32.768 KHz	Cylindrical Watch 32.768 KHz	Cylindrical	HC-49 SMD	HC49U Thru
 ** SM10T 2.5 x 3.2 mm 16 to 60 MHz  ** SM11T 3.2 x 5 mm 12 to 32 MHz  ** SM12T 3.5 x 6 mm 10 to 50 MHz  ** SM13T 5 x 7 mm 6 to 80 MHz	 ** SM8S 1.2 x 3.2 mm  ** SM12S 1.8 x 4.9 mm  * SM13S 1.5 x 7 mm  * SM10S 2.5 x 7.3 mm  * SM20S 3.8 x 8 mm	 * WX15 1.5 x 5.1 mm  * WX26 2.1 x 6.2 mm  * WX 3.1 x 8.2 mm	 CY26 2.1 x 6.2 mm 30 to 150 KHz  CY39 3.2 x 9.0 mm 30 to 150 KHz 4 to 70 MHz  CY310 3.2 x 10.5 mm 3.5 to 4 MHz	 ** SM42 4.7 x 10.3 mm 3.2 to 70 MHz 2 pad  ** SM45 5 x 13.1 mm 3.2 to 70 MHz 4 pad	 ** MP49 4.5 x 10.8 mm 1.843 to 210 MHz  ** LP49 4.5 x 10.8 mm 3.2 to 70 MHz

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Recommend SM8S & SM12S for RoHS Compliant SMD Watch Crystals

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