

Crystal Oscillators LVPECL/LVDS 3.3V

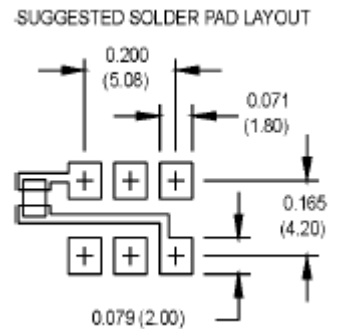
5X7 mm Surface Mount High Reliability 750 KHz to 800 MHz



ELECTRICAL SPECIFICATIONS

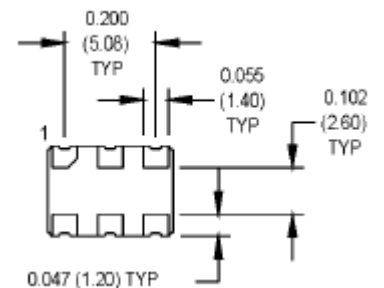
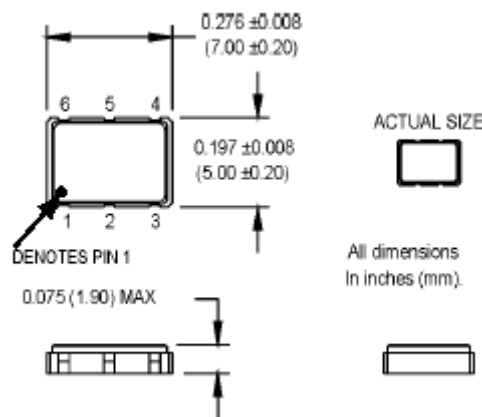
FARAMETER	Min.	Typ.	Max.	Units
Frequency Range	0.75		800	MHz
Input Voltage, V_{DD}	3.15	3.3	3.45	Volts
Frequency Stability	±25	±50	±100	ppm
Storage Temp.	-55		+125	°C
Jitter				
Period jitter RMS				
19.44MHz		5		ps
77.76MHz		8		ps
155.52MHz		9		ps
622.08MHz		10		ps
Integrated jitter RMS				
12KHz to 20 MHz@ 155.52MHz		3	5	ps
Symmetry at (V_{DD-1.3}) V_{DC} (PECL)				percent
At (1.25 V_{DC}) (LVDS)			45/55	percent
Aging				
First year		3		ppm
After first year		1		ppm/yr
<u>PECL Output Models</u>				
RL=50 Ω to (V _{DD} -2V)				
Out put High Voltage, V _{OH}		VDD-1.025		V
Output Low Voltage, V _{OL}			VDD-1.620	V
Input Current, PECL				
0.75—24MHz			25	mA
24—160MHz			65	mA
160—800MHz			100	mA
Switching Characteristics				
Clock Risk Time, tr		0.3		
@20/80%			0.35	ns
Clock Fall time, tf		0.3		
@80/20%			0.35	ns
<u>LVDS Output Models</u>				
RL=100 Ω				
Output Differential Voltage, V _{OD}	247	355	454	mV
Output High Voltage, V _{OH}		1.4	1.6	V
Output Low Voltage, V _{OL}	0.9	1.1		V
Offset Voltage, V _{OS}	1.125	1.2	1.375	V
Input Current, LVDS				
0.75—24MHz			25	mA
24—96MHz			45	mA
96—800MHz			80	mA
Switching Characteristics				
Differential Clock Rise Time, tr		0.3	0.4	ns
Differential Clock Fall Time, tf		0.3	0.4	ns

ENVIRONMENTAL SPECIFICATIONS	Operating Temperature Range	-55°C to +125°C
	Shock	MIL-STD-883, Method 2002, Test Condition B (1500 peak g, 0.5 ms duration, 1/2 sine wave, 5 shocks in 6 planes)
	Vibration	MIL-STD-883, Method 2007, Test Condition A
	Humidity	Resistant to 85°C R.H. at 85°C
MECHANICAL SPECIFICATION	Leak	MIL-STD-883, method 1014, condition A1 and C1
	Case	Hermetically sealed ceramic LCC
	Pads	60 microinch of gold over nickel
	Marking	Epoxy ink or laser engraved
	Resistance to Solvents	MIL-STD-202, Method 215



Pin Connections

PIN	FUNCTION
1	N/C
2	N/C
3	Ground
4	Output 1:Q
5	Output 2:Q
6	+V _{DD}



Typical Phase Noise (dBc/Hz)	10Hz	100Hz	1KHz	10KHz	100KHz
Oscillator Frequency					
19.44MHz	-60	-90	-112	-140	-140
106.25MHz	-60	-90	-112	-128	-125
155.52MHz	-60	-90	-112	-125	-123
622.08MHz	-60	-90	-112	-110	-109

This 5x7mm SMD package weighs less than 0.2 grams and has a hermetic seal, thus ensuring the integrity of each oscillator. These high reliability oscillators are mechanically robust; they provide PECL/LVDS waveforms for applications subjected to the most stringent environmental conditions. Each oscillator is burned-in at 125°C for 168 hours, temperature cycled and centrifuged then fully tested in accordance with MIL-STD-883B.

Features

- ✓ Small SMD package (5×7mm)
- ✓ Stability options form +/-25ppm to +/-100ppm
- ✓ High speed-Low jitter LVPECL or LVDS output with tristate
- ✓ Tristate option available Serialized test data available Crystal angle controlled to +/-0.5 for excellent temperature stability
- ✓ 168 hour Class B burn-in and extensive environmental testing for best performance in rugged field environments
- ✓ Leadless chip carrier package is hermetically sealed for superior aging and field performance
- ✓ Serialized test data available
- ✓ Calculated MTBF is 3.8×10^6 hours at 125°C

Ordering Information

