



Stratum 3 Oven Controlled Oscillators

September 2006

- Ovenized quartz crystal high precision square wave generator with a CMOS output.
- 3.3V or 5.0V operation available
- Tube packaging is available.
- 10 to 40 MHz
- Full Size Thru-Hole DIP package
- Electronic Frequency Control (EFC) optional
- Low Jitter - Good phase noise characteristics

Pletronics Inc. certifies this device is in accordance with the RoHS 5/6 (2002/95/EC) and WEEE (2002/96/EC) directives.

Pletronics Inc. guarantees the device does not contain the following:

Cadmium, Hexavalent Chromium, Lead, Mercury, PBB's, PBDE's

Weight of the Device: 6.2 grams

Moisture Sensitivity Level: 1 As defined in J-STD-020C

Second Level Interconnect code: e1 or e2

Absolute Maximum Ratings:

Parameter	Unit
V _{CC} Supply Voltage	-0.5V to +7.0V
V _i Input Voltage	-0.5V to V _{CC} + 0.5V
V _o Output Voltage	-0.5V to V _{CC} + 0.5V

Reliability: Environmental Compliance

Parameter	Condition
Vibration	10 to 2000 Hz / 10 g
Shock	2000 g, 0.3 mS, ½ sine
Solderability	MIL-STD-883 Method 2003
Thermal Shock	MIL-STD-883 Method 1011, Condition A

Part Number:

OHM4	048052	LKST3	000	- 19.44M	-XX	
						Internal code or blank
						Frequency MHZ (Standards Shown) 12.800 16.384 19.440 20.000 40.000
						Electronic Frequency Control 000 = No EFC (Standard) 020 = ± 2.0 ppm minimum 040 = ± 4.0 ppm minimum 150 = ± 15.0 ppm minimum 999 = ± 4.0 ppm with 0 to 10K ohm
						Stratum 3
						Supply Voltage 048052 = 5.0V ± 0.20V operation 031035 = 3.3V ± 0.20V operation
						Series Model

Standard values are listed, consult Pletronics Inc. for other options.

Part Marking:

PLE
OHM4050c
fff.fff M
ymdannn

Where: *c* = N for no EFC, R for resistor, V for voltage
fff.fff = Frequency in MHZ
Ymda = Date code
nnn = Device number

---- OR ----

PLE
OHM4030c
fff.fff M
ymdannn



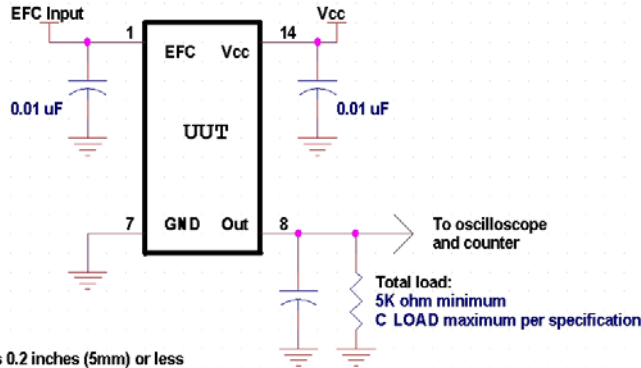
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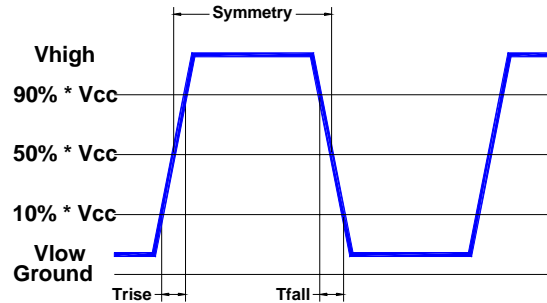
Specification for 3.30V and 5.00V $\pm 0.20V$ over the specified temperature range

Item	Min	Max	Unit	Condition	
Frequency Range	10	40	MHz	See list of standard frequencies	
Frequency Accuracy vs. Temperature, Power Supply, Load and 15 years aging	-4.6	+4.6	ppm		
Frequency Stability for 24 hours vs. Temperature, Power Supply and Load	-0.28	+0.28	ppb		
Short Term Stability	-0.5	+0.5	ppb	0.1 second to 30 seconds	
	-0.05	+0.05	ppb	for 1 second	
Initial Calibration	-1.0	+1.0	ppm		
Phase Noise					
1 Hz	--	-70	dBc/Hz		
10 Hz	--	-100			
100 Hz	--	-130			
1,000Hz	--	-140			
Warmup	--	30	sec	within specification after turn on at 0°C	
Output Waveform	CMOS				
Output High Level	0.5	--	V	Below V_{CC}	See Load Circuit Clod = 45 pF
Output Low Level	--	0.4	V		
Output Symmetry	45	55	%	at 50% of V_{CC}	
T_{rise} and T_{fall}	--	7	nS	10% to 90% of V_{CC}	
Power Supply Current	--	160	mA	$V_{CC} = 3.3V$	at -20°C
		70	mA	$V_{CC} = 5.0V$	
	--	110	mA	$V_{CC} = 3.3V$	at +30°C
		70	mA	$V_{CC} = 5.0v$	
	Warmup	--	250	mA	for 30 seconds maximum
Operating Temperature Range	-40	+85	°C		
Storage Temperature Range	-65	+125	°C		

Load Circuit and Test Waveform



All leads 0.2 inches (5mm) or less



ESD Rating

Model	Minimum Voltage	Conditions
Human Body Model	2000	MIL-STD-883 Method 3115
Charged Device Model	2000	JESD 22-C101

Package Labeling

Label is 1" x 2.6" (25.4mm x 66.7mm)
Font is Courier New
Bar code is 39-Full ASCII

Label is 1" x 2.6" (25.4mm x 66.7mm)
Font is Arial

P/N:	
	OHM4048052GG010040-20.00M
Customer P/N:	
	12345678
Qty:	
	1000
D/C	
	0510M012

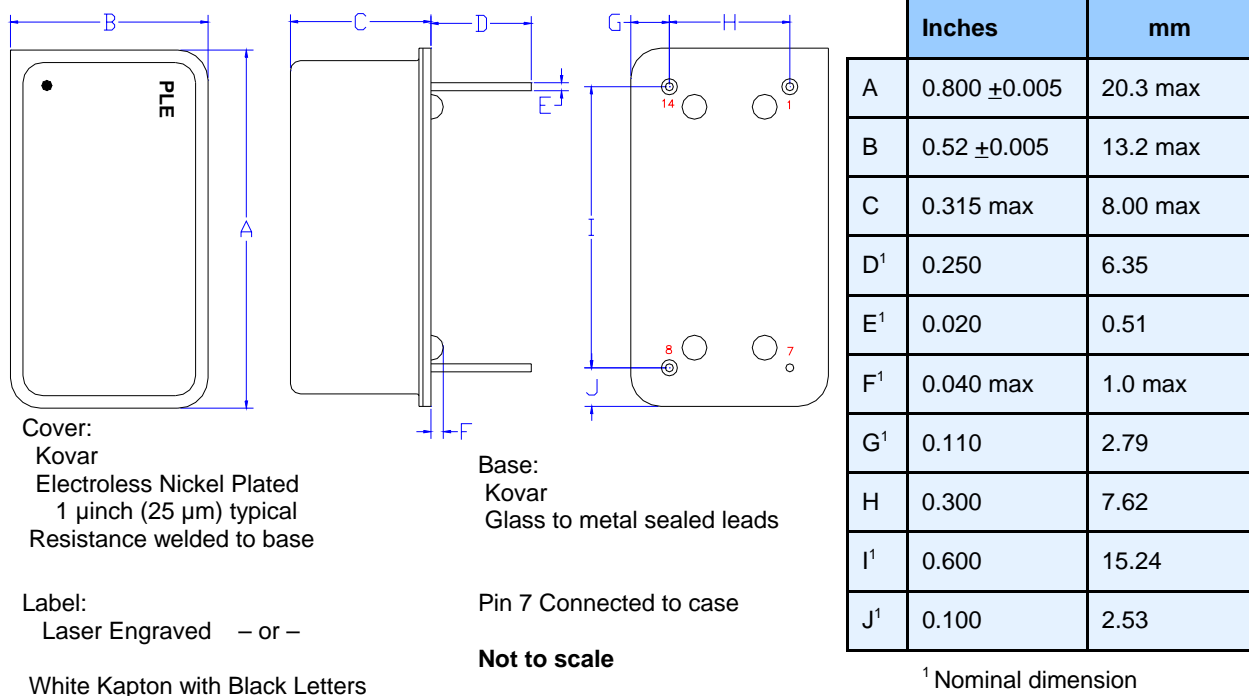
Pb Free
2nd LvL Interconnect Category=e1
Max Safe Temp=245C for 10s (Reflow only) 2X Max
Max Safe Temp=280C for 15s (Wave solder only)

Pb Free
2nd LvL Interconnect Category=e2
Max Safe Temp=245C for 10s (Reflow only) 2X Max
Max Safe Temp=280C for 15s (Wave solder only)

PCB Mounting (typical for lead free processing)

Hand soldering is recommended at $245^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 5 seconds maximum per pin

Mechanical:



Pad	Function	Note
1	EFC	Connected to Ground (standard) –OR– 10 K ohm to ground –OR– 0.5 to V _{supply} control voltage, depends on option ordered. Use the 30% value for initial operation
7	Ground (GND)	
8	Output	
14	Supply Voltage (V _{CC})	Recommend connecting appropriate power supply bypass capacitors as close as possible.

Layout and application information

For Optimum Jitter Performance, Pletronics recommends:

- Minimize air flow over the oscillator
- Stabilize the power supply voltage for best performance.

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