

CMOS AC-A1460 Series

Description

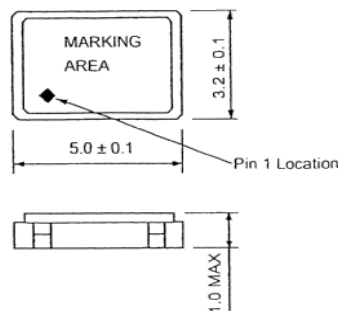
The **AC-A1460 Series** of quartz crystal oscillators provide enable/disable 3-state CMOS compatible signals for bus connected systems. Supplying Pin 1 of the AC-A1460 units with a logic "1" or open enables its Pin 3 output. In the disable mode, Pin 3 presents a high impedance to the load.

Features

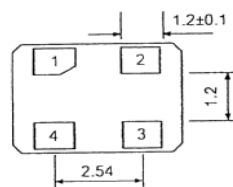
- Wide frequency range 0.5MHz to 156.250MHz
- User specified tolerance available
- Space-saving alternative to discrete component oscillators
- 3.3 Volt operation
- High shock resistance, to 1000g
- Low Jitter
- High Q Crystal actively tuned oscillator circuit
- No internal PLL avoids cascading PLL problems
- High frequencies due to proprietary design
- Metal lid electrically connects to ground to reduce EMI
- Gold plated pads
- RoHs Compliant, Lead Free Construction

Electrical Connection

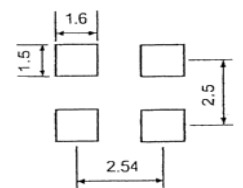
Pin	Connection
1	Enable/Disable
2	Ground
3	Output
4	V _{DD}



All dimensions are typical unless otherwise specified



Recommended Solder Pad Layout



Dimensions in Millimeters

AC-A1460 Series Continued
CMOS

Rev. -

Operating Conditions and Output Characteristics

Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max
Frequency	----	----	0.5MHz	----	156.250MHz
Duty Cycle	----	@ $V_{DD}/2$	45/55%	----	55/45%
Logic 0	V_{OL}	@ 600 μ A	----	0.1V	0.2V
Logic 1	V_{OH}	@ 600 μ A	$V_{DD}-0.2V$	$V_{DD}-0.1V$	----
Rise & Fall Time	$t_{r,tf}$	10-90% V_O	----	1.0 ns	2.0 ns
Jitter, RMS ⁽²⁾	----	Overtone	----	----	5 psec
T_{pz}	----	----	----	----	100 ns
Enable Voltage	----	----	2.0V	----	----
Disable Voltage	----	----	----	----	0.8V
Frequency Stability ⁽³⁾	dF/F	Overall conditions including: voltage, calibration, temp., 10 yr aging, shock, vibration	-100ppm	----	+100ppm

General Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max
Supply Voltage ⁽¹⁾	V_{DD}	----	3.00V	3.3V	3.60V
Supply Current	I_{DD}	No Load	0.0 mA	40 mA	60 mA
Output current	I_O	Low level Output Current	0.0 mA	----	± 25.0 mA
Operating temperature	T_A	----	0°C	----	70°C
Storage temperature	T_S	----	-55°C	----	125°C
Power Dissipation	P_D	----	----	----	216 mW
Solder temperature	T_L	4 minutes	----	----	253°C
Load	----	----	----	----	15pf
Start-up Time	t_s	----	----	----	10 ms

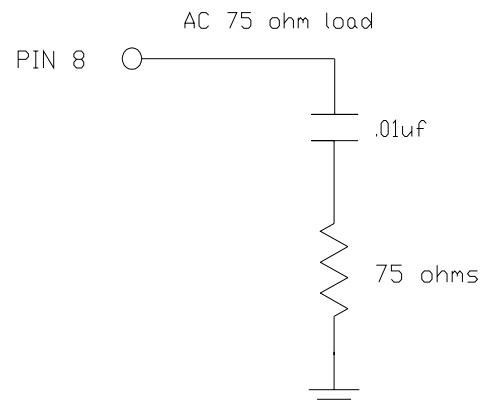
Environmental and Mechanical Characteristics

Mechanical Shock	Per MIL-STD-202, Method 213, Condition E
Thermal Shock	Per MIL-STD-883, Method 1011, Condition A
Vibration	0.060" double amplitude 10 Hz to 55 Hz, 35g's 55Hz to 2000 Hz
Hermetic Seal	Leak rate less than 1×10^{-8} atm.cc/sec of helium

Footnotes:

- External high frequency power supply decoupling required.
- RMS jitter bandwidth of 12kHz to 20MHz.
- Standard frequency stability (others available)

Test Load:



Creating a Part Number

AC - A146X - FREQ

Package Code

AC 4 pad 5x3.2mm SMD

Tolerance/Performance

0 ± 100 ppm 0-70°C
 1 ± 50 ppm 0-70°C
 7 ± 25 ppm 0-70°C
 9 Customer Specific
 A ± 20 ppm 0-70°C
 B ± 50 ppm -40 to +85°C
 C ± 100 ppm -40 to +85°C

Input Voltage

Code	Specification
A	3.3V



**FREQUENCY
CONTROLS, INC.**