

# CRYSTAL CONTROLLED OSCILLATORS

## Surface Mount 5.0V 14 Pin DIP HCMOS Clock Oscillator



**ABSOLUTE MAXIMUM RATINGS**

TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-55	-	125	°C	
Supply Voltage	(Vcc)	-0.5	-	7.0	Vdc	

**MODEL SPECIFICATIONS:**

TABLE 2.0

**MODEL JHC54R8RG**

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Frequency Range	(Fo)	1.0	-	70	MHz	
Frequency Tolerance:		-20	-	20	ppm	1
Operating Temperature Range		0	-	70	°C	

**MODEL JHC64R8RG**

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Frequency Range	(Fo)	1.0	-	70	MHz	
Frequency Tolerance:		-20	-	20	ppm	1
Operating Temperature Range		-40	-	85	°C	

**OPERATING SPECIFICATIONS**

TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Supply Voltage	(Vdd)	4.5	5.0	5.5	Vdc	
Supply Current	1.0 to 24.999 MHz	(Icc)	-	25	mA	
	25 to 49.999 MHz	(Icc)	-	45	mA	
	50 to 70 MHz	(Icc)	-	60	mA	
Jitter (BW=10Hz to 20MHz)		-	-	5	ps rms	
Jitter (BW=12kHz to 20MHz)		-	-	1	ps rms	

**INPUT CHARACTERISTICS**

TABLE 4.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Enable Voltage	(Vih)	2.2	-	-	Vdc	2
Disable Voltage	(Vil)	-	-	0.8	Vdc	
Enable Time		-	-	100	ns	
Disable Time		-	-	100	ns	

**HCMOS OUTPUT CHARACTERISTICS**

TABLE 5.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		-	-	50	pF	
Voltage (High)	(Voh)	4.5	-	-	Vdc	
(Low)	(Vol)	-	-	0.5	Vdc	
Current (High)	(Ioh)	-16	-	-	mA	
(Low)	(Iol)	-	-	16	mA	
Duty Cycle at 50% of Vcc		45	50	55	%	
Rise / Fall Time 10% to 90%		-	-	5	ns	
Start-Up Time		-	3	10	ms	

**PACKAGE CHARACTERISTICS**

TABLE 6.0

Package	Hermetically sealed, gull wing, metal package. (MI142)
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**PROCESS RECOMMENDATIONS**

TABLE 7.0

Soldering Process	See solder profile page 2.
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Note:

- Inclusive of calibration @ 25°C, frequency vs. temperature stability, supply voltage change, load change, shock and vibration, 10 years aging.
- Oscillator output is enabled with no connection on pin 1.

JHC54R8RG  
JHC64R8RG

**DESCRIPTION**

Connor Winfield models JHC54R8RG and JHC64R8RG are 5.0V HCMOS, fixed frequency Crystal Oscillator (XO) designed for use in all applications requiring precision clocks over the commercial or industrial temperature ranges.

**FEATURES**

- 5.0V OPERATION
- FREQUENCY RANGE: 1.0 to 70 MHz
- OVERALL FREQUENCY TOLERANCE: ±20ppm
- TEMPERATURE RANGE:  
JHC54R8RG: 0 to 70°C  
JHC64R8RG: -40 to 85°C
- TRI-STATE ENABLE / DISABLE FUNCTION
- SURFACE MOUNT GULL WING PACKAGE
- HERMETICALLY SEALED PACKAGE
- RoHS COMPLIANT / LEAD FREE

**ORDERING INFORMATION**

JHC64R8RG - 49.408MHz

HCMOS  
CLOCK  
SERIES

CENTER  
FREQUENCY

Specifications subject to change without notice.

# CRYSTAL CONTROLLED OSCILLATORS

## Enable / Disable Function

**TABLE 8.0**

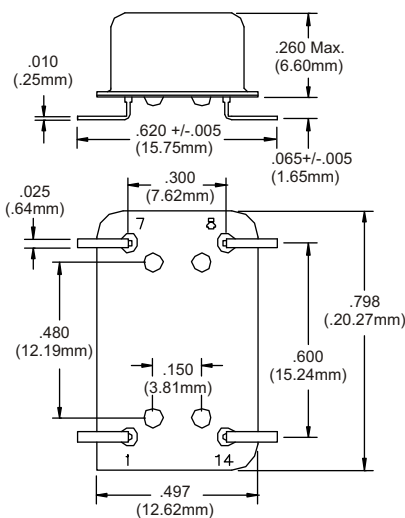
Tri-State Enable / Disable Function (Pin 1)	Output
High or Open	Enable
Low	Disable (High Impedance)

## Pin Connections

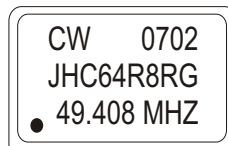
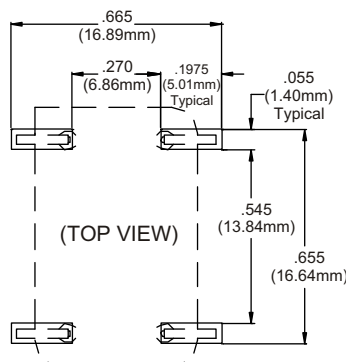
**TABLE 9.0**

Pin	Connection
1	Enable/Disable
7	Ground
8	Output
14	Vcc

## Package Outline and Dimensions

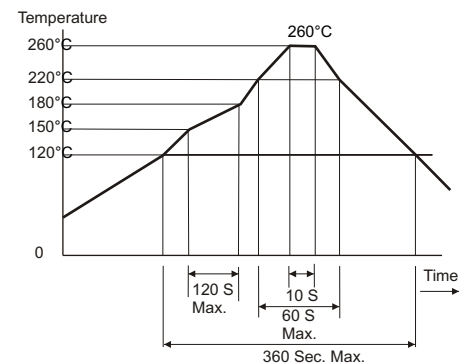


## Suggested Pad Layout

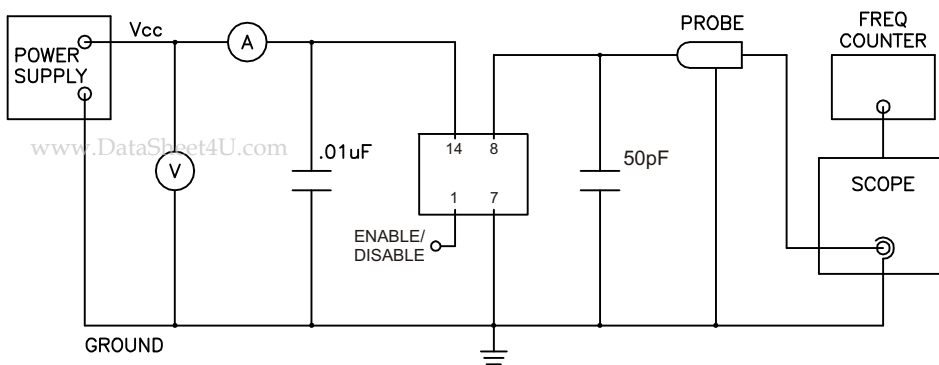


Dimensional Tolerance:  
±.005 (.127mm)  
±.02 (.508mm)

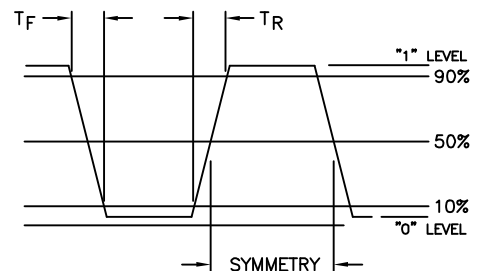
## Solder Profile



## Test Circuit



## Output Waveform



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