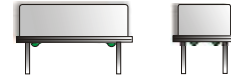


# CRYSTAL CONTROLLED OSCILLATORS

## 14 PIN DIP CMOS TRI-STATE CLOCK OSCILLATOR



**AC51RA**  
**AC54RA**

### ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-55	-	125	°C	
Supply Voltage	(Vcc)	-0.5	-	7	Vdc	

### MODEL SPECIFICATIONS:

TABLE 2.0

#### MODEL AC51RA

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Frequency Range	(Fo)	70	-	160	MHz	
Frequency Tolerance:		-25	-	25	ppm	1

#### MODEL AC54RA

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Frequency Range	(Fo)	70	-	160	MHz	
Frequency Tolerance:		-20	-	20	ppm	1

### OPERATING SPECIFICATIONS

TABLE 3.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Operating Temperature Range		0	-	70	°C	
Supply Voltage	(Vcc)	3.135	3.300	3.465	Vdc	
Supply Current	(Icc)	-	-	35	mA	
Jitter (BW=10Hz to 20MHz)		-	-	5	ps rms	
Jitter (BW=12kHz to 20MHz)		-	-	1	ps rms	
SSB Phase Noise at 10Hz offset		-	-60	-	dBc/Hz	
SSB Phase Noise at 100Hz offset		-	-90	-	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-125	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-135	-	dBc/Hz	
SSB Phase Noise at 100KHz offset		-	-140	-	dBc/Hz	

### INPUT CHARACTERISTICS

TABLE 4.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Enable Voltage (High)	(Vih)	2.1	-	-	Vdc	2
Disable Voltage (Low)	(Vil)	-	-	0.8	Vdc	
Enable / Disable Time		-	-	100	nS	

### CMOS OUTPUT CHARACTERISTICS

TABLE 5.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		-	-	15	pF	
Voltage (High)	(Voh)	2.90	-	-	Vdc	
(Low)	(Vol)	-	-	0.44	Vdc	
Current (High)	(Ioh)	-4.0	-	-	mA	
(Low)	(Iol)	-	-	4.0	mA	
Duty Cycle measured @ 1.5V		45	50	55	%	
Rise / Fall Time measured from 10% to 90%		-	-	2	nS	
Start Up Time		-	-	10	mS	3

### PACKAGE CHARACTERISTICS

TABLE 6.0

Package	Hermetically sealed, metal package.
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#### Note:

- 1) Inclusive of calibration, frequency vs. temperature stability, supply voltage change, load change, shock and vibration, 10 years aging.
- 2) Oscillator output is enabled with no connection on pin1.
- 3) WARNING! Do not insert oscillator into a hot circuit. Failure to comply will result in damage to oscillator.

### DESCRIPTION

The Connor Winfield AC51RA and AC54RA are 3.3V Tri-State CMOS / TTL Compatible Crystal Controlled Oscillators (XO). The AC51RA and AC54RA are designed for applications requiring high frequency precision clocks.

### FEATURES

3.3V OPERATION  
 FREQUENCY RANGE:  
 70MHz TO 160 MHz  
 TEMPERATURE RANGE:  
 0 TO 70°C  
 OVERALL FREQUENCY  
 TOLERANCE:  
 AC51RA - +/-25PPM.  
 AC54RA - +/-20PPM.  
 TRI-STATE ENABLE / DISABLE  
 FUNCTION  
 HERMETICALLY SEALED  
 PACKAGE.

### ORDERING INFORMATION

AC51RA - 125.00 MHz

ACMOS  
CLOCK  
SERIES

CENTER  
FREQUENCY

Specifications subject to change without notice.

CRYSTAL CONTROLLED OSCILLATORS

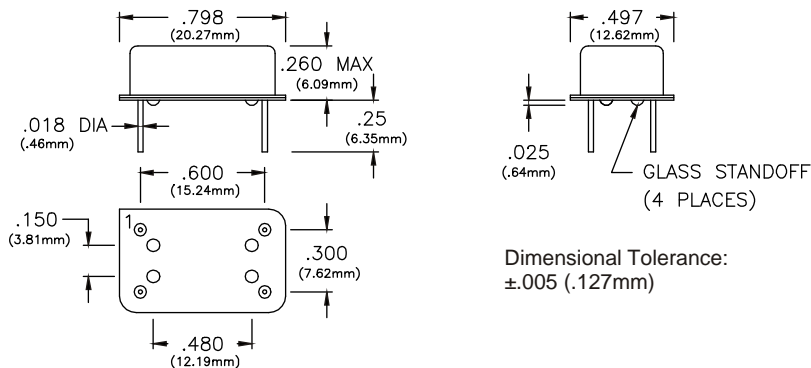
TABLE 7.0

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

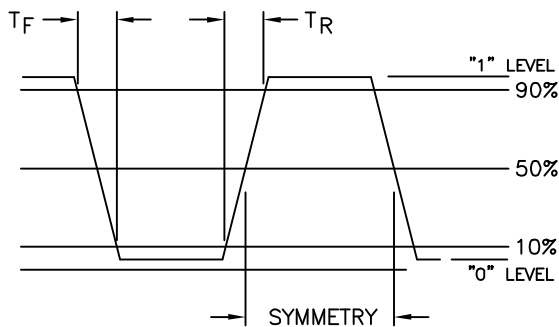
TABLE 8.0

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

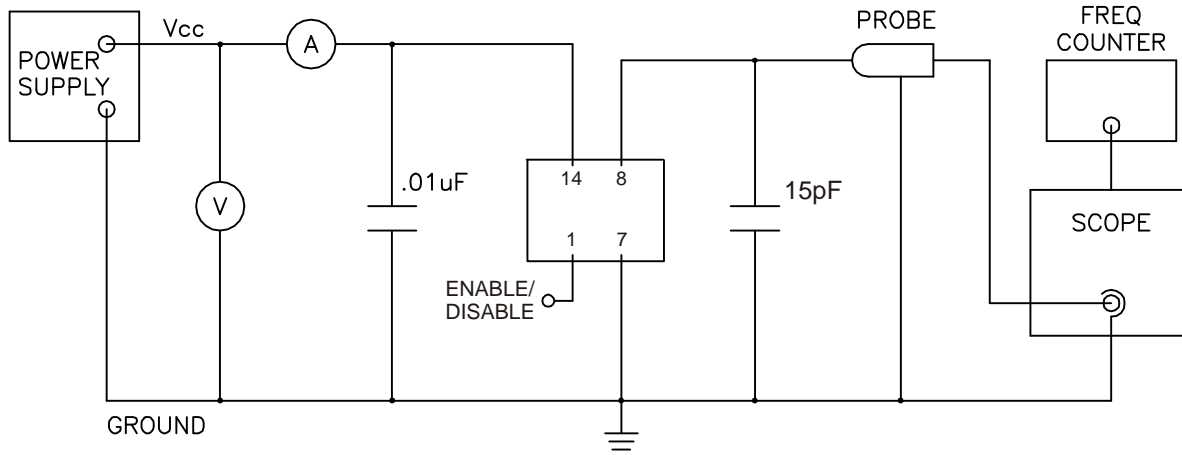
PACKAGE OUTLINE



OUTPUT WAVEFORM



TEST CIRCUIT



Specifications subject to change without notice.