

# CRYSTAL CONTROLLED OSCILLATORS

## 3.3V 8 PIN DIP TRI-STATE CLOCK OSCILLATOR



H54RA, H51RA,  
H52RA, H53RA

### 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 H54RA						
PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Frequency Range	(Fo)	1.0	-	100	MHz	
Frequency Tolerance:		-20	-	20	ppm	1

### MODEL H51RA

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Frequency Range	(Fo)	1.0	-	100	MHz	
Frequency Tolerance:		-25	-	25	ppm	1

### MODEL H52RA

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Frequency Range	(Fo)	1.0	-	100	MHz	
Frequency Tolerance:		-50	-	50	ppm	1

### MODEL H53RA

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Frequency Range	(Fo)	1.0	-	100	MHz	
Frequency Tolerance:		-100	-	100	ppm	1

### OPERATING SPECIFICATIONS

TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Operating Temperature Range		0	-	70	°C	
Supply Voltage	(Vdd)	3.0	3.3	3.6	Vdc	
Supply Current	1.544 to 31.999 MHz	(Icc)	-	15	mA	
	32 to 49.999 MHz	(Icc)	-	20	mA	
	50 to 66.999 MHz	(Icc)	-	25	mA	
	67 to 100 MHz	(Icc)	-	40	mA	

### INPUT CHARACTERISTICS

TABLE 4.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Enable Voltage	(Vih)	≥ 70% Vdd	-	-	Vdc	2
Disable Voltage	(Vil)	-	-	≤ 30% Vdd	Vdc	
Enable Time		-	-	10	mS	
Disable Time		-	-	100	nS	

### HCMOS OUTPUT CHARACTERISTICS

TABLE 5.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		-	-	15	pF	
Voltage	(Voh)	Vcc-0.5V	-	-	Vdc	
	(Vol)	-	-	0.4	Vdc	
Current	(Ioh)	-8	-	-	mA	
	(Iol)	-	-	8	mA	
Duty Cycle at 50% of Vcc		45	50	55	%	
Rise / Fall Time 10% to 90%		-	3	6	nS	
Start-Up Time		-	-	10	mS	
Jitter (BW=10kHz to 20MHz)		-	-	5	ps rms	
Jitter (BW=12kHz to 20MHz)		-	-	1	ps rms	

### PACKAGE CHARACTERISTICS

TABLE 6.0

Package	Hermetically sealed metal package
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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

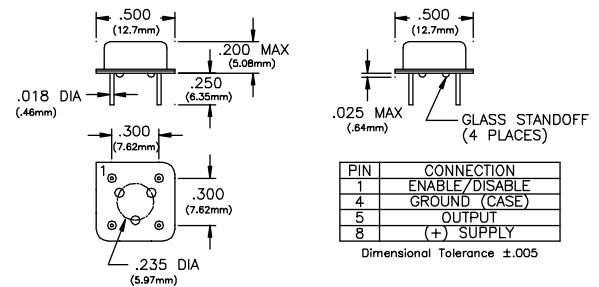
### DESCRIPTION

The Connor-Winfield H54RA, H51RA, H52RA, and H53RA are 3.3V HCMOS, Surface Mount, Fixed Frequency Crystal Oscillators (XO) designed for use in all applications requiring precision clocks.

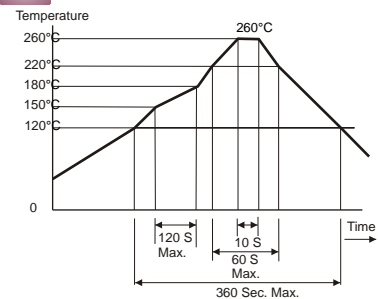
### FEATURES

1.0 to 100 MHz  
3.3V OPERATION  
TRI-STATE ENABLE/DISABLE  
OVERALL FREQUENCY TOLERANCE:  
H54RA ±20ppm  
H51RA ±25ppm  
H52RA ±50ppm  
H53RA ±100ppm  
TEMPERATURE RANGE: 0 to 70°C  
HERMETICALLY SEALED PACKAGE  
RoHS 5/6 COMPLIANT

### PACKAGE



### SOLDER PROFILE



### ORDERING INFORMATION

H54RA - 80.00MHz  
CLOCK SERIES - CENTER FREQUENCY

Specifications subject to change without notice.