

## Full-Size, TTL and HCMOS Compatible Clock Oscillators

# 970H • 970HHT\* • 980H • 980HHT\*

\*Tristate / Enable-Disable

### FEATURES

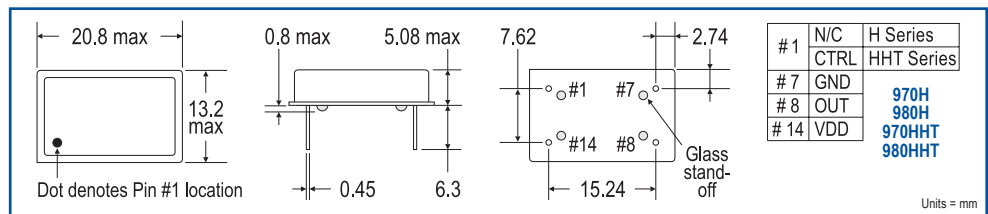
- Low power consumption
- Surface mount option
- Tristate function on 970HHT & 980HHT

Monitor Products' 970H/HHT and 980H/HHT series of half-size clock oscillators combine state-of-the-art, thick film, hybrid technology with precision manufacturing, resulting in products of unsurpassed accuracy and reliability. Their all-metal, resistance-welded cases ensure environmental protection and shielding to minimize EMI/RFI.



### APPLICATIONS

- Systems clock
- Disk drives
- Cameras
- Computer applications
- Measuring instruments
- Communications equipment



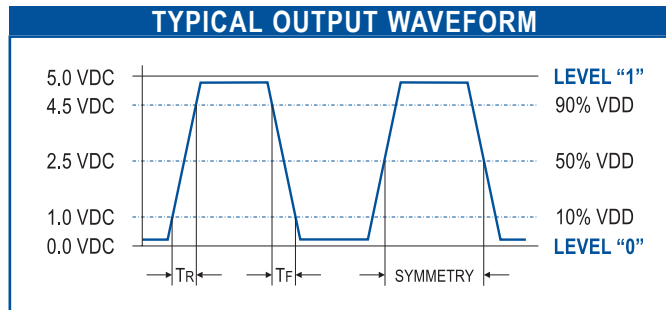
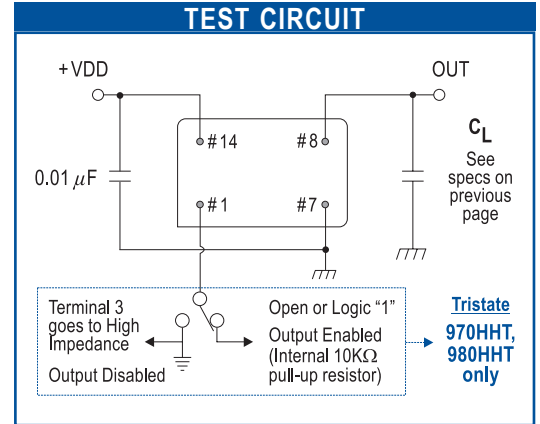
ELECTRICAL SPECIFICATIONS	970H HCMOS	970HHT HCMOS / Tristate	980H HCMOS	980HHT HCMOS / Tristate
Supply Voltage	5.0 VDC $\pm$ 0.5 V		3.0 VDC $\pm$ 0.3 V	
Frequency Range	1.0 ~ 100.0 MHz	1.0 ~ 120.0 MHz	1.0 ~ 100.0 MHz	1.0 ~ 70.0 MHz
Frequency Stability	$\pm$ 100 ppm standard ( $\pm$ 25 ppm available)	1.0 ~ 100.0 MHz = $\pm$ 100 ppm 100.0 ~ 120.0 MHz = $\pm$ 200 ppm	$\pm$ 100 ppm standard ( $\pm$ 25 ppm available)	$\pm$ 100 ppm standard ( $\pm$ 25 ppm available)
Input Current MHz: mA max	1.0 ~ 20.0 : 20 20.1 ~ 70.0 : 40 70.1 ~ 100.0 : 60	1.0 ~ 20.0 : 20 20.1 ~ 70.0 : 40 70.1 ~ 120.0 : 60	1.0 ~ 20.0 : 20 20.1 ~ 70.0 : 40 70.1 ~ 100.0 : 60	1.0 ~ 20.0 : 10 20.1 ~ 70.0 : 20
Rise & Fall Time MHz: nS max	1.0 ~ 25.0 : 10 25.1 ~ 70.0 : 6 70.1 ~ 100.0 : 4	1.0 ~ 25.0 : 10 25.1 ~ 70.0 : 6 70.1 ~ 120.0 : 4	1.0 ~ 25.0 : 10 25.1 ~ 70.0 : 6 70.1 ~ 100.0 : 4	1.0 ~ 25.0 : 10 25.1 ~ 70.0 : 6
Load Capacitance	1.0 ~ 49.9 MHz = 50 pF 50.0 MHz and up = 5 TTL or 10 LSTTL or 15pF max		5 TTL or 10 LSTTL or 15pF max	
Symmetry	60% / 40% @ $\frac{1}{2}$ Vdd max standard (55% / 45% available)			
Oper Temp Range	0°C ~ 70°C standard (extended temp ranges available - call factory for other options)			
Logic 0 Level	10% x Vdd max			
Logic 1 Level	90% x Vdd min			

Monitor Products has a proven track record as a pioneer manufacturer in the frequency control market. If our extensive selection of standard and engineered crystals and oscillators does not meet your spec, we will work with you towards a customized solution.

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## ENVIRONMENTAL PERFORMANCE SPECIFICATIONS

<b>Oper Temp Range</b>	0°C~70°C (call factory for other ranges)
<b>Storage Temp Range</b>	-55°C~125°C
<b>Vibration</b>	MIL-STD-202F, Method 204, 35G, 50 to 2000 Hz
<b>Shock</b>	MIL-STD-202F Method 213B, Test Cond E, 1000G, 1/2 Sine Wave
<b>Humidity</b>	85% RH, 85°C, 48 Hours
<b>Hermetic Seal</b>	Leak Rate $2 \times 10^{-8}$ ATM-cm <sup>3</sup> /sec max
<b>Reflow Solderability</b>	260°C, 10 secs max
<b>Solderability</b>	MIL-STD-202F, Method 208E



## PART NUMBERING KEY

Sample Part Numbers:

	SERIES	SYMMETRY	FREQUENCY STABILITY	TEMPERATURE RANGE	PACKAGING	FREQUENCY (MHz)
970H1B2A @ 44.000 MHz	970H	1	B	2	A	44.000
970HHT2C2A @ 80.000 MHz	970HHT	2	C	2	A	80.000
980H2B2A @ 36.000 MHz	980H	2	B	2	A	36.000
980HHT1B3A @ 66.666 MHz	980HHT	1	B	3	A	66.666

\* Standard + 970HHT only

Call factory for additional options. Use full descriptive part number when ordering. Parts will be marked with series and frequency only.