

Designing and manufacturing innovative frequency control devices since 1927

# Full-Size, TTL and HCMOS Compatible Clock Oscillators

# 970H • 970HHT\* • 980H • 980HHT\*

\*Tristate / Enable-Disable

### **FEATURES**

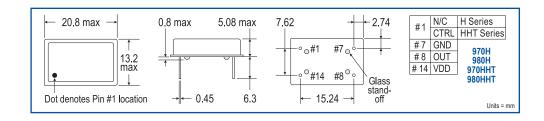
- Low power consumption
- Surface mount option
- Tristate function on 970HHT & 980HHT

## Monitor Products' 970H/HHT and 980H/HHT series of halfsize 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	<b>970H</b> HCMOS	970HHT HCMOS / Tristate	<b>980H</b> HCMOS	980HHT HCMOS / Tristate
Supply Voltage	5.0 VDC ± 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	± 100 ppm standard (± 25 ppm available)	$1.0 \sim 100.0 \text{ MHz} = \pm 100 \text{ ppm}$ $100.0 \sim 120.0 \text{ MHz} = \pm 200 \text{ ppm}$	± 100 ppm standard (± 25 ppm available)	± 100 ppm standard (± 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% @ ½ 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.

Monitor Products Company Inc reserves the right to make changes to its products and product specifications without notice. No liability is assumed as a result of their use or application.

08-28-01

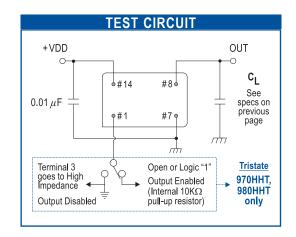


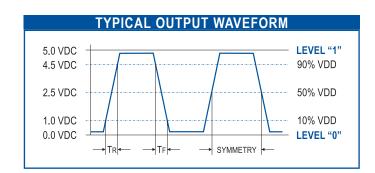


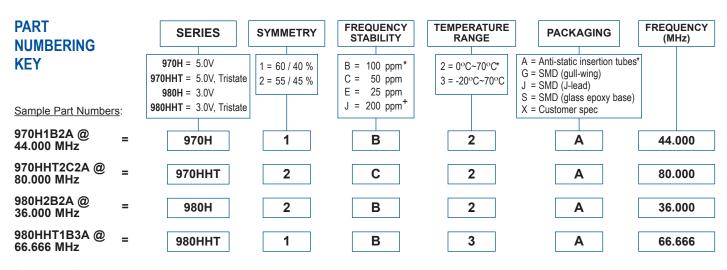
# 970H • 970HHT • 980H • 980HHT

### **ENVIRONMENTAL PERFORMANCE SPECIFICATIONS**

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







<sup>\*</sup> Standard +970HHT only Call factory for additional options. Use full descriptive part number when ordering. Parts will be marked with series and frequency only.

Monitor Products Company Inc reserves the right to make changes to its products and product specifications without notice. No liability is assumed as a result of their use or application

08-28-01

