

Full-Size, TTL and HCMOS Compatible Clock Oscillators

970H ^M 970HHT* ^M 980H ^M 980HHT*

New, lower frequencies!

***Tristate / Enable-Disable**

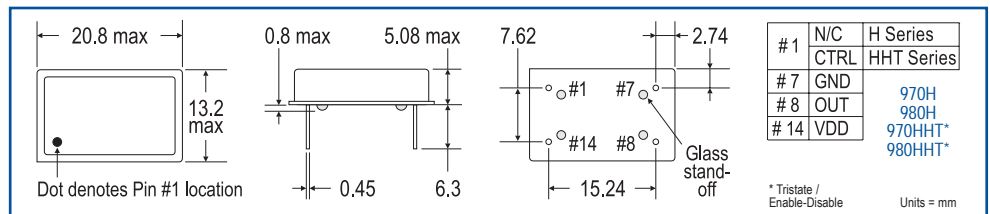
FEATURES

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

APPLICATIONS

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

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.



ELECTRICAL SPECIFICATIONS

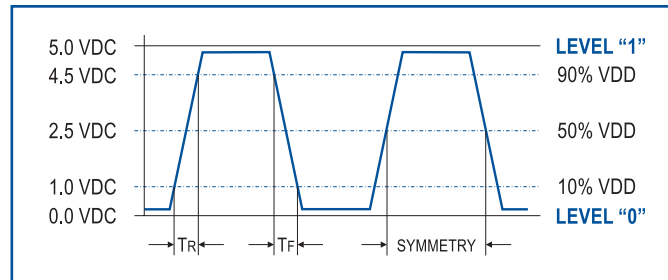
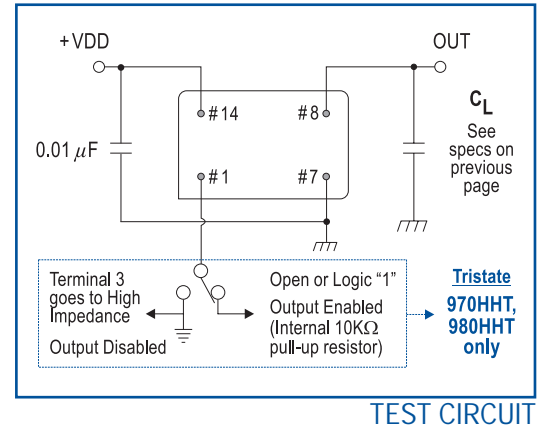
ELECTRICAL SPECIFICATIONS	970H HCMOS	970HHT HCMOS / Tristate	980H HCMOS	980HHT HCMOS / Tristate
Supply Voltage	5.0 VDC ± 0.5 V		3.0 VDC ± 0.3 V	
Frequency Range	1.0 KHz ~ 100.0 MHz	1.0 ~ 120.0 MHz	1.0 ~ 100.0 MHz	1.0 ~ 70.0 MHz
Frequency Stability	± 100 ppm standard (± 25 ppm available)	1.0 ~ 100.0 MHz = ± 100 ppm 100.0 ~ 120.0 MHz = ± 200 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% @ 2 Vdd max standard (55% / 45% available)			
Oper Temp Range	01C ~ 701C 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.

970H M 970HHT M 980H M 980HHT

ENVIRONMENTAL PERFORMANCE SPECIFICATIONS

Oper Temp Range	01C~701C (call factory for other ranges)
Storage Temp Range	-551C~1251C
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, 851C, 48 Hours
Hermetic Seal	Leak Rate 2×10^{-8} ATM-cm ³ /sec max
Reflow Solderability	2601C, 10 secs max
Solderability	MIL-STD-202F, Method 208E



TYPICAL OUTPUT WAVEFORM

PART NUMBERING KEY

Sample Part Numbers:

		SERIES	SYMMETRY	FREQUENCY STABILITY	TEMPERATURE RANGE	PACKAGING	FREQUENCY (MHz)
		970H = 5.0V 970HHT = 5.0V, Tristate 980H = 3.0V 980HHT = 3.0V, Tristate	1 = 60 / 40 % 2 = 55 / 45 %	B = 100 ppm* C = 50 ppm E = 25 ppm J = 200 ppm ⁺	2 = 01C~701C* 3 = -201C~701C	A = Anti-static insertion tubes* G = SMD (gull-wing) J = SMD (J-lead) S = SMD (glass epoxy base) X = Customer spec	
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.