



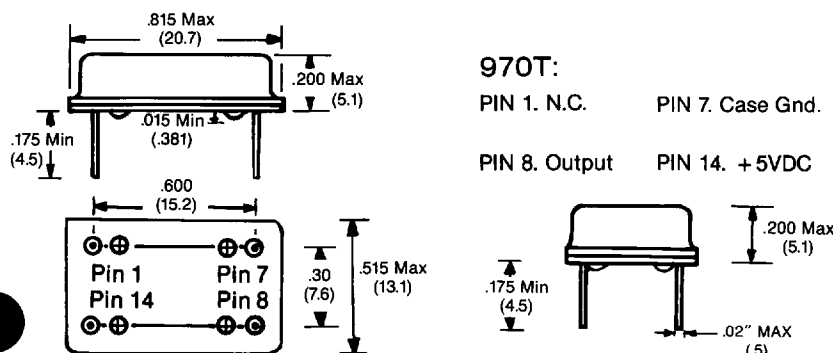
MONITOR PRODUCTS

970T TTL CLOCK OSCILLATORS



PACKAGE DIMENSIONS

Dimensions in inches and (mm)



FEATURES

- RUGGED RESISTANCE WELD PACKAGE
- LOW PROFILE DESIGN
- TTL COMPATIBLE
- STABILITY TO $\pm .001\%$
- SURFACE MOUNT OPTION
- WAVE SOLDERABLE

970 SERIES OSCILLATORS are TTL compatible and are manufactured using the latest hybrid technology and feature hermetically sealed and welded packages that offer excellent resistance to environmental extremes. In addition, the metal package provides shielding to minimize RF radiation, helping to reduce EMI/RFI.

MONITOR CLOCK OSCILLATORS are also available in LSTTL, HCMOS, and ECL in the following configurations:

- INDEPENDENT DUAL OUTPUTS
- ENABLE/DISABLE
- TRI-STATE GATE
- COMPLIMENTARY OUTPUTS
- SURFACE MOUNTING

ELECTRICAL SPECIFICATIONS

• Frequency Range	1.0 MHz to 100.0 MHz	
• Frequency Stability	± 100 ppm (.01%)	
• Operating Temp. Range	0° to 70°C	
• Input Voltage	+5VDC ± 0.5 VDC	
• TTL Output:		
Symmetry	60/40 @ 1.4VDC	
Rise and Fall Times	15ns max.	1.0-3.99MHz
	10ns max.	4.0-24.99MHz
	6ns max.	25.0-80.0MHz
• Logic '0' Level	+0.4V min.	.250-31.9MHz
• Logic '0' Level	+0.5V max.	32.0-80.0MHz
• Logic '1' Level	+2.4V min.	.250-80.0MHz
• Logic '0' Sink Current	16mA min.	.250-19.9MHz
	1.6mA/gate	
	20mA min.	20.0-80.0MHz
	2.0mA/gate	
• Logic '1' Source Current	-0.4mA min.	.250-19.9MHz
	-0.5mA min.	20.0-80.0MHz
• Output Load	10TTL Gates	
• Input Current	max. @ 25°C	
	.250-3.19MHz	70mA
	3.20-24.9MHz	30mA
	25.0-80.0MHz	50mA

All specifications subject to change without notice.

MONITOR PRODUCTS COMPANY, INC. OVER HALF A CENTURY IN FREQUENCY CONTROL

502 Via Del Monte • Oceanside, CA 92054

Western Phone (619) 433-4510

Eastern Phone (904) 725-4384

Western FAX (619) 434-0255

Eastern FAX (904) 725-4584 Telex 62950858

ENVIRONMENTAL PERFORMANCE SPECIFICATIONS

Ambient Temperature Range

Operating 0°C to 70°C Standard

Storage -55°C to 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

Hermetical seal

Leak Rate 2×10^{-8} ATM, CC/Sec of helium

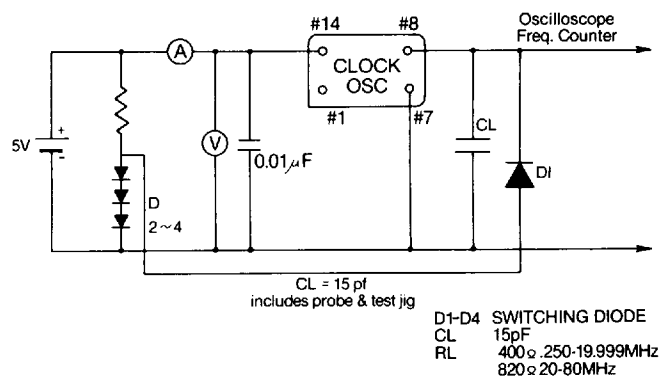
Solderability

MIL-STD-202F Method 208E

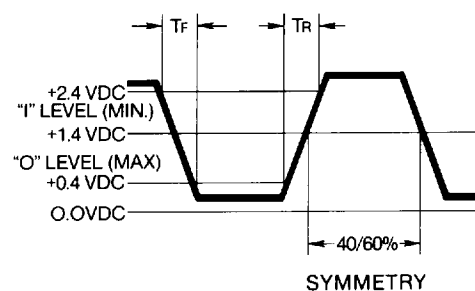
POPULAR FREQUENCIES

1.0	7.3728	24.0
1.8432	8.0	25.00
2.0	10.0	25.175
2.4576	12.0	28.322
3.579545	14.31818	32.0
3.6864	15.0	36.00
4.0	16.0	40.00
4.9152	16.257	44.00
5.0	18.432	48.00
5.0688	19.6608	60.00
6.0	20.0	66.00
6.144	22.1184	80.00

OSCILLATOR TEST CIRCUIT



TYPICAL OUTPUT WAVEFORM



HOW TO ORDER

FAMILY: (970T--)

FREQUENCY (MHz)

SYMMETRY

1 = 60/40*

2 = 55/45 Only up to 25.00MHz

Expressed as MHz when > 1.0 MHz
KHz < 1.0 MHz

FREQUENCY STABILITY

B = $\pm 0.01\%$ *C = $\pm 0.005\%$

PACKAGING

A = Standard (Insertion tube)

B = Tape & Reeled

D = Anti-Static

SURFACE MOUNT OPTIONS:

TYPE 1: Gullwing

TYPE 2: "J" Lead

TYPE 4: Glass Epoxy Base

X = Customer's Specification**

TEMPERATURE RANGE (°C)

1 = 25°

2 = 0° to 70°*

EXAMPLE: 970T2B3C-14.31818

*Standard

Not all options available in all product families, check family datasheet or call factory

**Suffix "X" indicates a customer specification applies to device. Factory will assign part number.

Parts will be marked with Family and Frequency only. When ordering, use the full descriptive part number.