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# LTF AND LTH SERIES

## FEATURES

- STANDARD 8 AND 14 DIP PACKAGE
- TULERANCE AND STABILITY TO ±25PPM
- LOW COST
- AVAILABLE IN 3.3 VOLT

## SPECIFICATIONS

| SERIES | | LTF | LTH |
|---|---|---|---|
| PACKAGE | | 14 PIN DIP | 8 PIN DIP |
| FREQUENCY RANGE | | 500.00KHz TO 125.00MHz | 500.00KHz TO 125.00MHz |
| FREQUENCY STABILITY † | | LTF 100 Co1100:±100ppm | LTH 13100 :±100ppm |
| | | LTF 50 Co1050:±50ppm | LTF 13150 :±50ppm |
| | | LTF 50 Co1025:±25ppm | LTF 13025 :±25ppm |
| OPERATING TEMPERATURE RANGE | | 0℃ TO + 70℃ STANDARD<br>-40 TO +85℃ EXTENDED | 0℃ TO + 70℃ STANDARD<br>-40 TO +85℃ EXTENDE |
| STORAGE TEMPERATURE RANGE | | -55℃ TO +125℃ | -55℃ TO +125℃ |
| INPUT | VOLTAGE †† | +5 VDC ± 0.5VDC | +5 VDC ± 0.5VDC |
| | CURRENT (MAX) | 500.00KHz TO 2.999MHz:30mA | 500.00KHz TO 2.999MHz:30mA |
| | | 3.00KHz TO 31.999MHz:50mA | 3.00KHz TO 31.999MHz:50mA |
| | | 32.00KHz TO 79.999MHz:70mA | 32.00KHz TO 79.999MHz:70mA |
| | | 80.00KHz TO 125.00MHz:80mA | 80.00KHz TO 125.00MHz:80mA |
| OUTPUT | SYMMETRY<br>(AT 1.4 VDC LEVEL) | 40 TO 60% NORMAL<br>45 TO 55% TIGHT | 40 TO 60% NORMAL<br>45 TO 55% TIGHT |
| | RISE AND FALL TIME<br>(0.4-2.4 VDC) | UNDER 9 MHz: ±15 ns MAX | UNDER 9 MHz: ±15 ns MAX |
| | | 9 MHz TO 32 MHz:±10ns MAX | 9 MHz TO 32 MHz:±10ns MAX |
| | | 32 MHz TO 80 MHz:±6ns MAX | 32 MHz TO 80 MHz:±6ns MAX |
| | | 80MHz TO 125 MHz:±4ns MAX | 80MHz TO 125 MHz:±4ns MAX |
| | LOGIC “0”LEVEL | +0.5 V MAX,SINK TO 16 mA | +0.5 V MAX,SINK TO 16 mA |
| | LOGIC”1”LEVEL | +2.4 V MIN,SOURCE 0.4mA | +2.4 V MIN,SOURCE 0.4mA |
| | LOAD | 1 TO 10 TTL STANDARD | 1 TO 10 TTL STANDARD |

†FERQUENCY STABILITY INCLUSIVE OF ROOM TOLERANCE
FREQUENCY STABILITY OVER TEMPERATURE,10% POWER SUPPLY VARIATION.AGING,SHOCK,AND VIBRATION
††+3.3 VOTL VERSION IS AVAILABLE.CONSULT RALTRON FOR SPECIFICATIONS
†††OUTPUT LOADS ALSO AVAILABLE AT 15Pf AND 50PF,CONSULT RALTRON FOR SPECIFICATIONS

## PART NUMBERING SYSTEM

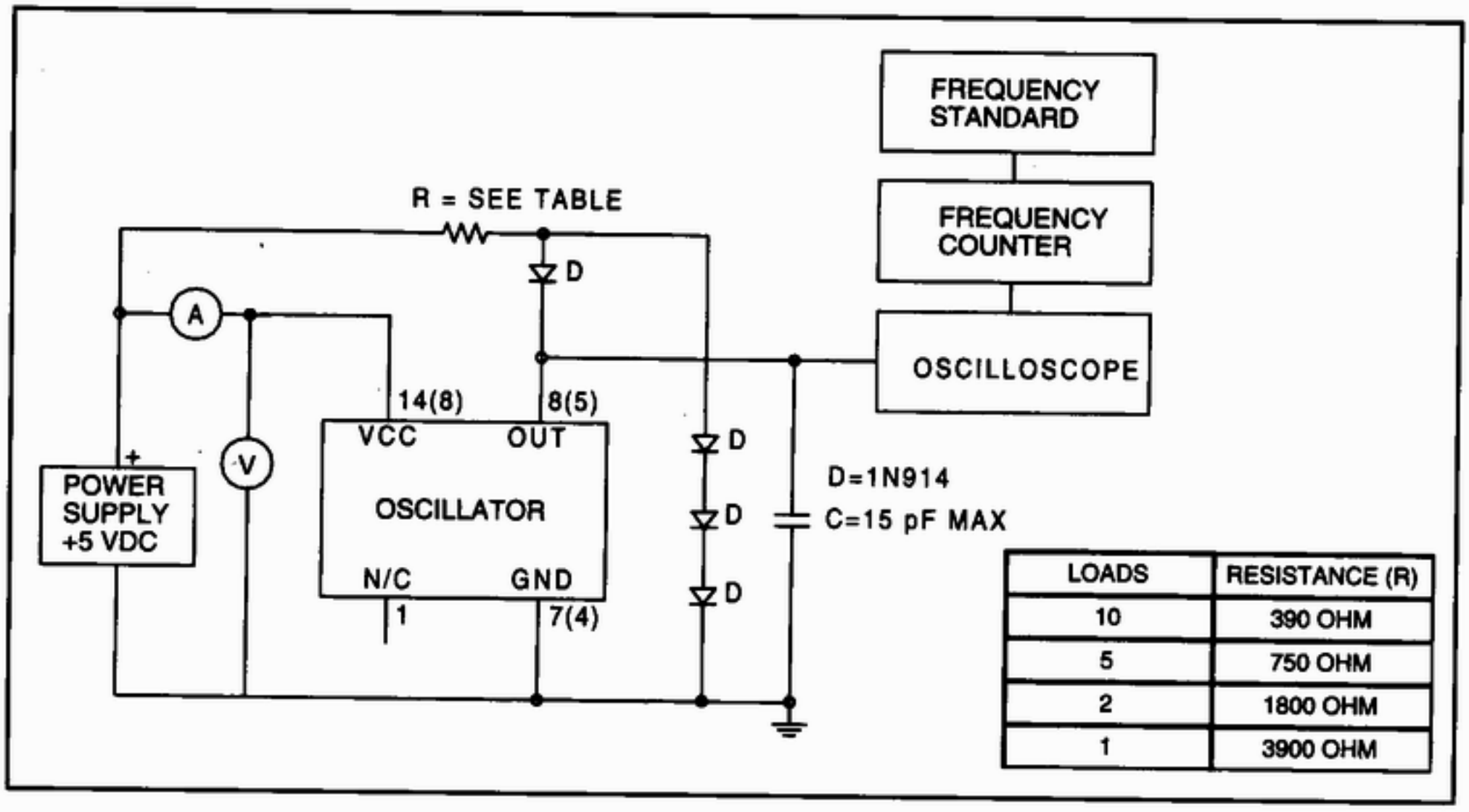
| SERIES | | – | FREQUENCY STABILITY | | – | FREQUENCY | – | EXTENDED TEMPERATURE | – | SYMMETRY | | – | OPTIONS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LTF<br>LTH | (14 PIN DIP)<br>(8 PIN DIP) | | 100<br>50<br>25 | ±100PPM<br>±50PPM<br>±25PPM | | IN MHz | | EXT | | T | TIGHT SYMMETRY | | TR<br>GW<br>3.3V | TAPE AND REEL<br>GULL WING<br>+3.3V |

EXAMPLE:LTF 100-20.000-EXT-T,LTH50-32.000-T-TR

## ● ENVIRONMENTAL AND TECHNICAL CONDITIONS

| ENVIRONMENTAL | |
|---|---|
| TEMPERATURE CYCLE | MIL-STD 883,METHOD 1010, 10 CYCLES-20℃ TO 85℃ |
| SHOCK | MIL-STD-202,METHOD 213,TEST CONDITION C |
| VIBRATION | MIL-STD-202,METHOD 204,TEST CONDITION A |
| RESISTANCE TO SOLDERING HEAT | MIL-STD-202,METHOD 210,TEST CONDITION B |
| HUMIDITY | 85% RELATIVE HUMIDITY AT 85℃ 250 HOURS |
| MECHANICAL | |
| GROSS LEAK TEST | MIL-STD-883,METHOD 1014,TEST CONDITION C |
| FINE LEAK TEST | MIL-STD-883,METHOD 1014,TEST CONDITION A |
| TERMINAL STREGHTH | MIL-STD-202,METHOD 211,TEST CONDITION A AND C |
| MARKING INK | EPOXY,HEAT CURED. |
| MOISTURE RESISTANCE | MIL-STD-202,METHOD 106,OMIT STEP 7B |
| SOLDERABILITY | MIL-STD-202,METHOD 208,95% COVERAGE |
| SOLVENT RESISTANCE | MIL-STD-202,METHOD 2020,METHOD 215 |

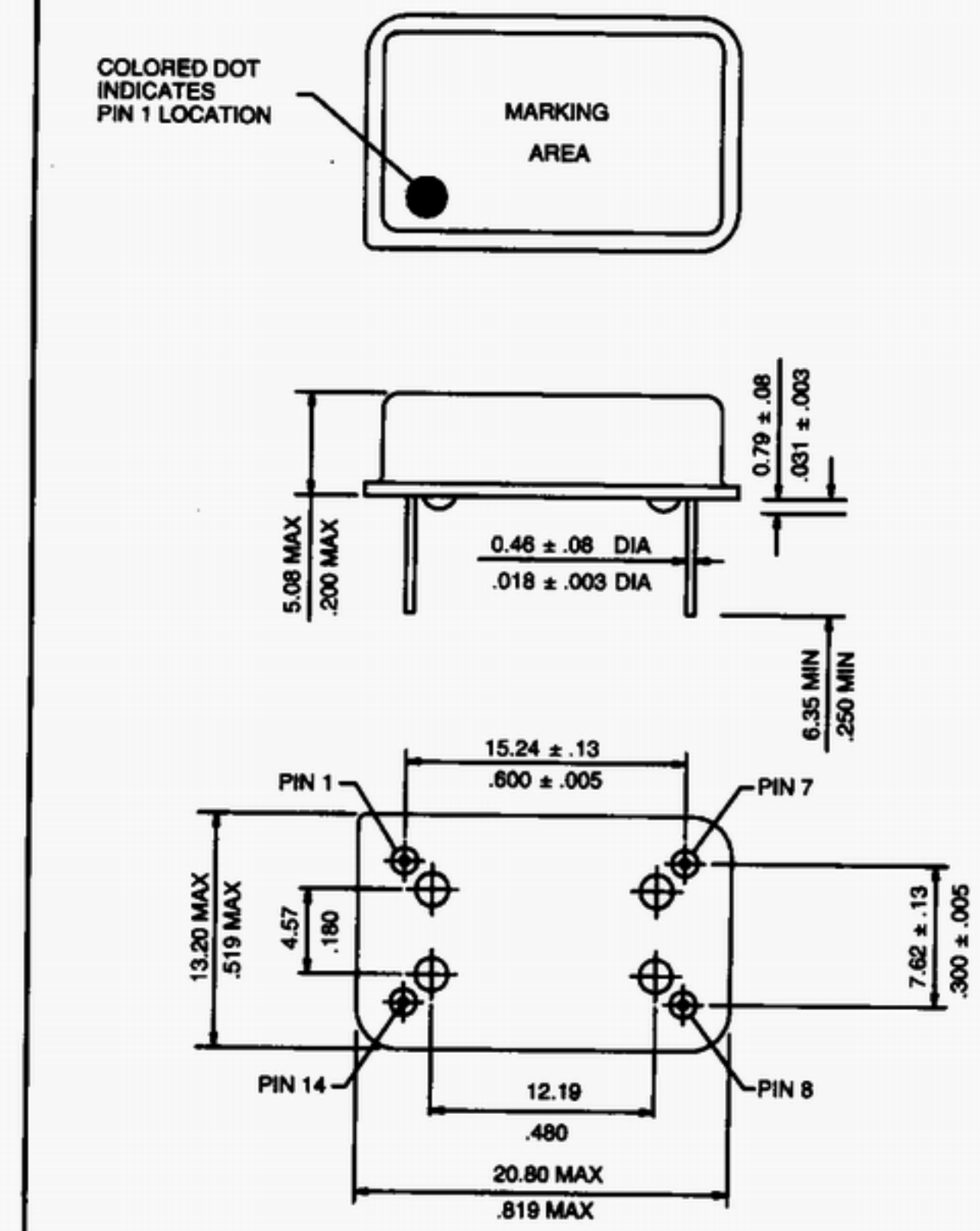
## ●TEST CIRCUIT




| LOADS | RESISTANCE (R) |
|---|---|
| 10 | 390 OHM |
| 5 | 750 OHM |
| 2 | 1800 OHM |
| 1 | 3900 OHM |

# OUTLINE DRAWINGS

LTF PACKAGE (FULL SIZE 14 PIN DIP) Scale none Dimension in Mm / inch




PIN CONNECTION

| PIN | FUNCTION |
|---|---|
| 1 | N/C |
| 7 | GROUND |
| 8 | OUTPUT |
| 14 | VCC |

NOTE: PIN 7 IS INTERNAL TO HEADER