

### ● FEATURES

- STANDARD 8 AND 14 PIN DIP PACKAGE
- TOLERANCE AND STABILITY TO  $\pm 25$  PPM
- LOW COST
- AVAILABLE IN 3.3 VOLT

### ● SPECIFICATIONS

| SERIES                      |                                       | CO1                                                  | CO13                                                 |
|-----------------------------|---------------------------------------|------------------------------------------------------|------------------------------------------------------|
| PACKAGE                     |                                       | 14 PIN DIP                                           | 8 PIN DIP                                            |
| FREQUENCY RANGE             |                                       | 500.00 KHz TO 125.00 MHz                             | 500.00 KHz TO 125.00 MHz                             |
| FREQUENCY STABILITY†        |                                       | CO1100 : $\pm 100$ ppm                               | CO13100 : $\pm 100$ ppm                              |
|                             |                                       | CO1050 : $\pm 50$ ppm                                | CO13050 : $\pm 50$ ppm                               |
|                             |                                       | CO1025 : $\pm 25$ ppm                                | CO13025 : $\pm 25$ ppm                               |
| OPERATING TEMPERATURE RANGE |                                       | 0° C TO +70° C STANDARD<br>-40° C TO +85° C EXTENDED | 0° C TO +70° C STANDARD<br>-40° C TO +85° C EXTENDED |
| STORAGE TEMPERATURE RANGE   |                                       | -55° C TO +125° C                                    | -55° C TO +125° C                                    |
| INPUT                       | VOLTAGE††                             | +5 VDC $\pm 0.5$ VDC                                 | +5 VDC $\pm 0.5$ VDC                                 |
|                             | CURRENT (MAX)                         | 500.00 KHz TO 2.999 MHz: 30 mA                       | 500.00 KHz TO 2.999 MHz: 30 mA                       |
|                             |                                       | 3.00 MHz TO 31.999 MHz: 50 mA                        | 3.00 MHz TO 31.999 MHz: 50 mA                        |
|                             |                                       | 32.00 MHz TO 79.999 MHz: 70 mA                       | 32.00 MHz TO 79.999 MHz: 70 mA                       |
|                             |                                       | 80.00 MHz TO 125.00 MHz: 80 mA                       | 80.00 MHz TO 125.00 MHz: 80 mA                       |
| 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 : $\pm 15$ ns MAX                        | UNDER 9 MHz : $\pm 15$ ns MAX                        |
|                             |                                       | 9 MHz TO 32 MHz : $\pm 10$ ns MAX                    | 9 MHz TO 32 MHz : $\pm 10$ ns MAX                    |
|                             |                                       | 32 MHz TO 80 MHz : $\pm 6$ ns MAX                    | 32 MHz TO 80 MHz : $\pm 6$ ns MAX                    |
|                             |                                       | 80 MHz TO 125 MHz : $\pm 4$ ns MAX                   | 80 MHz TO 125 MHz : $\pm 4$ ns 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 0.4 mA                            | +2.4 V MIN, SOURCE 0.4 mA                            |
| LOAD†††                     |                                       | 1 TO 10 TTL STANDARD                                 | 1 TO 10 TTL STANDARD                                 |

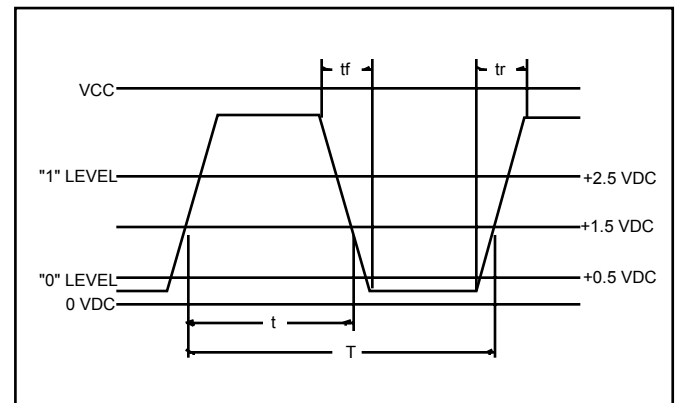


† FREQUENCY STABILITY INCLUSIVE OF ROOM TOLERANCE, FREQUENCY STABILITY OVER TEMPERATURE, 10% POWER SUPPLY VARIATION, AGING, SHOCK, AND VIBRATION  
 †† +3.3 VOLT VERSION IS AVAILABLE. CONSULT RALTRON FOR SPECIFICATIONS  
 ††† OUTPUT LOADS ALSO AVAILABLE AT 15 pF, 30 pF AND 50 pF. CONSULT RALTRON FOR SPECIFICATIONS

### ● ENVIRONMENTAL AND TECHNICAL CONDITIONS

| ENVIRONMENTAL                |                                                     |
|------------------------------|-----------------------------------------------------|
| TEMPERATURE CYCLE            | MIL-STD 883, METHOD 1010, 10 CYCLES -20° C TO 85° C |
| 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° C 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 STRENGTH            | 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 2002, METHOD 215                |

### ● OUTPUT WAVEFORM



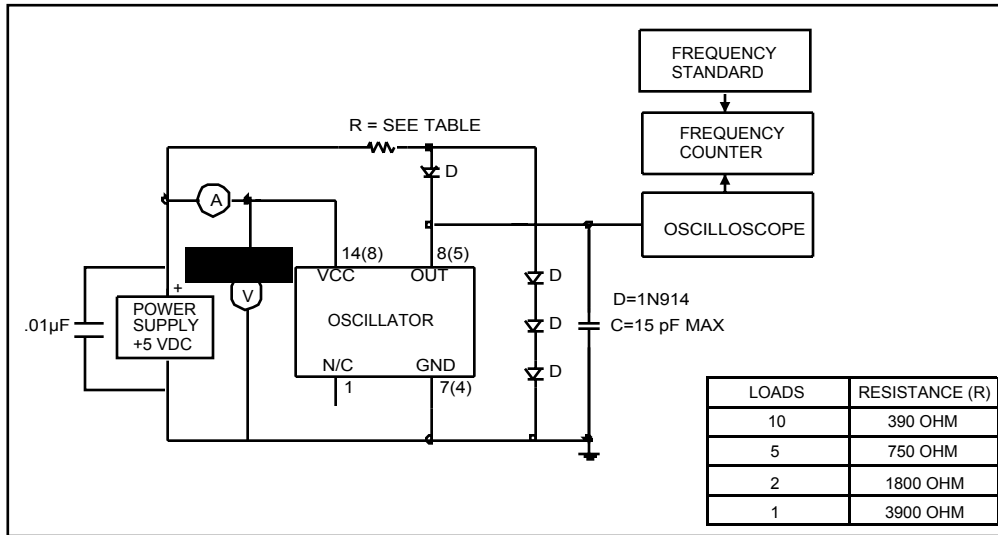
### ● PART NUMBERING SYSTEM

| S E R I E S |              | F R E Q U E N C Y<br>S T A B I L I T Y |          | - | F R E Q U E N C Y | -   | E X T E N D E D<br>T E M P E R A T U R E | -         | S Y M M E T R Y |                | - | O P T I O N S |                 |
|-------------|--------------|----------------------------------------|----------|---|-------------------|-----|------------------------------------------|-----------|-----------------|----------------|---|---------------|-----------------|
| CO1         | (14 PIN DIP) | 100                                    | ±100 PPM |   | IN MHz            |     | EXT                                      |           | T               | TIGHT SYMMETRY |   | TR            | TAPE AND REEL * |
| CO13        | (8 PIN DIP)  | 050                                    | ±50 PPM  |   |                   | GW  |                                          | GULL WING |                 |                |   |               |                 |
|             |              | 025                                    | ±25 PPM  |   |                   | 3.3 |                                          | +3.3 V    |                 |                |   |               |                 |

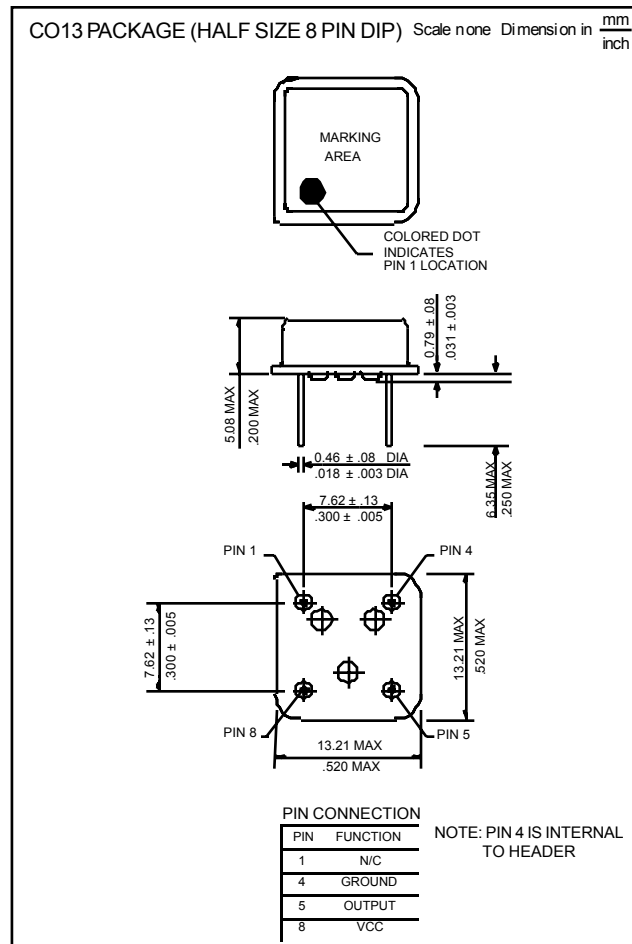
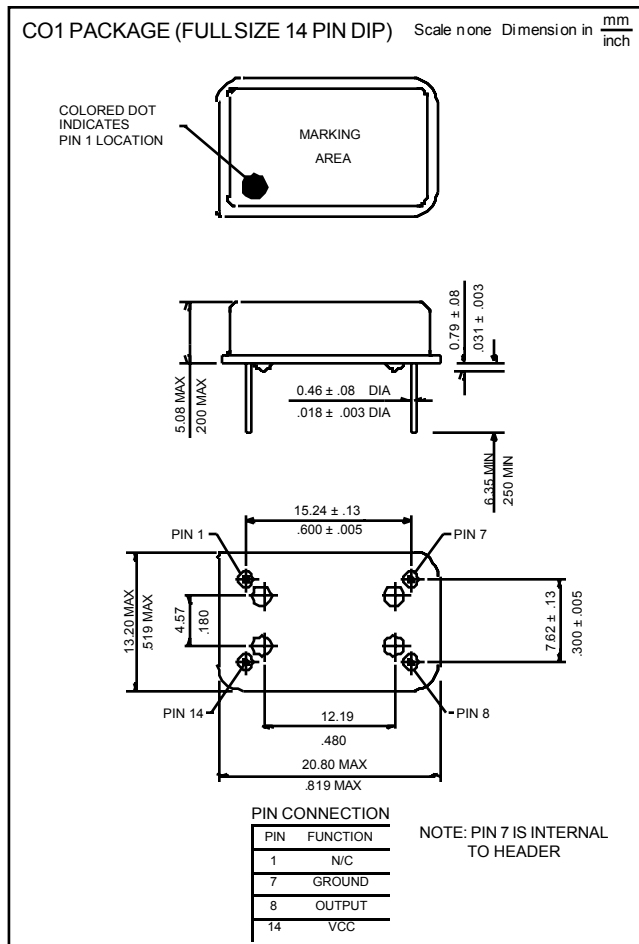
EXAMPLE: CO1100-20.000-EXT-T, CO13050-32.000-T-TR

\* Available for Gull Wing only

#### ● TEST CIRCUIT



#### ● OUTLINE DRAWINGS



#### ● PACKAGING

14 PIN DIP: 25 PIECES PER ELECTROSTATIC TUBE  
8 PIN DIP: 40 PIECES PER ELECTROSTATIC TUBE