

● FEATURES

- WIDE FREQUENCY RANGE
- STABILITY TO ± 5 PPM
- CUSTOM SPECIFICATIONS



● SPECIFICATIONS

| | |
|---|---|
| FREQUENCY RANGE | 1.00 MHZ TO 100.00 MHZ |
| FREQUENCY STABILITY OVER TEMPERATURE RANGE (REFERENCED TO 25°C) | ± 5 PPM TO ± 5 PPM AT VCC = +5.0 VDC AND STANDARD LOAD (SEE TABLE 1 FOR STABILITY OVER TEMPERATURE RANGE) |
| OPERATING TEMPERATURE RANGE | 0°C TO +50°C (NARROW) 0°C TO +70°C (STANDARD) -40°C TO +85°C (EXTENDED) AT VCC = +5.0 VDC AND STANDARD LOAD |
| STORAGE TEMPERATURE RANGE | -40°C TO +85°C |
| AGING CHARACTERISTICS | ± 4 PPM MAX FOR THE FIRST YEAR ± 2 PPM MAX PER YEAR THEREAFTER |
| OUTPUT WAVEFORM OPTIONS | TTL, HCMOS, OR ACMOS (SEE TABLE 2) |
| SYMMETRY | NORMAL: 40% TO 60%, TIGHT: 45% TO 55% |
| FREQUENCY STABILITY OVER LOAD VARIATION | ± 3 PPM MAX FOR 10% VARIATION AT VCC = +5.0 VDC AT 25°C |
| SUPPLY VOLTAGE | +5.0 VDC $\pm 5\%$ AND 3.3 VDC $\pm 5\%$ |
| FREQUENCY STABILITY OVER SUPPLY VOLTAGE VARIATION | ± 5 PPM MAX FOR 5% VARIATION AT VCC = +5.0 VDC AT 25°C AND STANDARD LOAD AT 25°C |
| SUPPLY CURRENT | 35 mA MAX AT VCC = +5.0 VDC AND STANDARD LOAD AT 25°C |
| ABSOLUTE VOLTAGE RANGE | -0.5 TO +7.0 VDC FOR VCC AND VC (NON DESTRUCTIVE) |
| ENABLE/DISABLE FUNCTION | CONTROL PIN 2: HIGH OR OPEN (+2.0 VDC MIN) OUTPUT PIN 4: ENABLED CONTROL PIN 2: LOW OR GRN (+0.8 VDC MAX) OUTPUT PIN 4: DISABLED |
| PHASE NOISE (TYPICAL) | SEE GRAPH FOR PHASE NOISE CHARACTERISTICS |

● TEMPERATURE RANGE DESIGNATIONS

| CODE | TEMPERATURE RANGE | TEMPERATURE STABILITY |
|------|-------------------|-----------------------|
| A | 0°C TO +50°C | ± 5 PPM |
| B | 0°C TO +50°C | ± 10 PPM |
| C | 0°C TO +50°C | ± 15 PPM |
| D | 0°C TO +50°C | ± 20 PPM |
| E | 0°C TO +50°C | ± 25 PPM |
| F | 0°C TO +70°C | ± 10 PPM |
| G | 0°C TO +70°C | ± 15 PPM |
| H | 0°C TO +70°C | ± 20 PPM |
| I | 0°C TO +70°C | ± 25 PPM |
| J | 0°C TO +70°C | ± 35 PPM |
| K | 0°C TO +70°C | ± 50 PPM |
| L | -40°C TO +85°C | ± 20 PPM |
| M | -40°C TO +85°C | ± 25 PPM |
| O | -40°C TO +85°C | ± 30 PPM |
| P | -40°C TO +85°C | ± 35 PPM |
| Q | -40°C TO +85°C | ± 50 PPM |

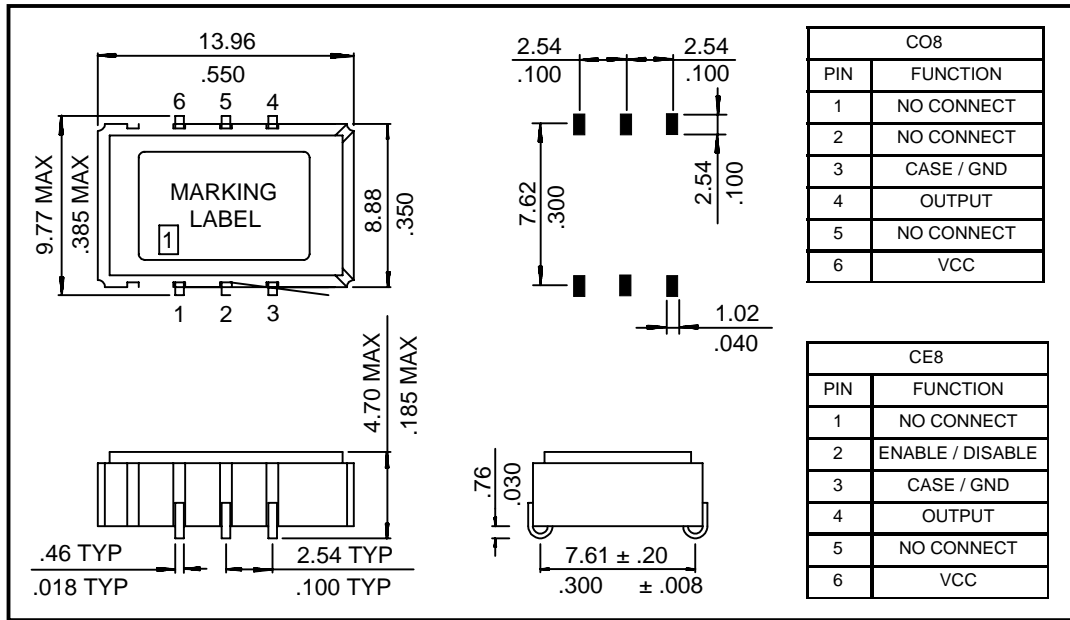
● OUTPUT AND LOAD CHARACTERISTICS

| | |
|------------------------------------|--|
| TTL - 10 TTL LOADS | TTL/HCMOS COMPATIBLE SYMMETRY: 40/60% TO 60/40% AT +1.4 VDC VOH: +2.4 VDC MIN VOL: +0.4 VDC MAX RISE/FALL TIME: 10ns WITH STANDARD LOAD (20% TO 80%) |
| HCMOS -15pF MAX (+3.3V AND +5.0 V) | TTL/HCMOS COMPATIBLE SYMMETRY: 40/60% TO 60/40% AT 50% LEVEL VOH: +4.5 VDC MIN OR +2.97 VDC MIN VOL: +0.5 VDC MAX OR +0.33 VDC MAX RISE/FALL TIME: 5ns WITH STANDARD LOAD (20% TO 80%) |
| ACMOS -15pF MAX | ACMOS TO DRIVE 3 GATES AT TTL LEVELS SYMMETRY: 40/60% TO 60/40% AT 50% LEVEL VOH: +4.5 VDC MIN VOL: +0.5 VDC MAX RISE/FALL TIME: 5ns WITH 30 pF LOAD (20% TO 80%) |

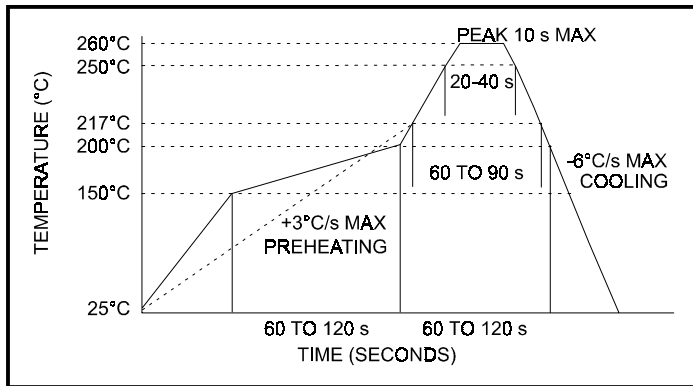
● MECHANICAL CHARACTERISTICS

| | |
|----------------------|---|
| MECHANICAL SHOCK | MIL-STD-202, METHOD 213, CONDITION E |
| THERMAL SHOCK | MIL-STD-883, METHOD 1011, CONDITION A |
| RANDOM VIBRATION | MIL-STD-883, METHOD 2007, CONDITION A |
| GROSS LEAK | 100% LEAK TESTED IN DEIONIZED WATER |
| HERMETIC SEAL | LEAK RATE LESS THAN 0.05 PPM ATM x cc/s OF HELIUM |
| SOLDERING CONDITIONS | 260° C ± 5 s MAXIMUM FOR 10 s |
| MECHANICAL | SURFACE MOUNT, 6 PIN PER OUTLINE DRAWING |

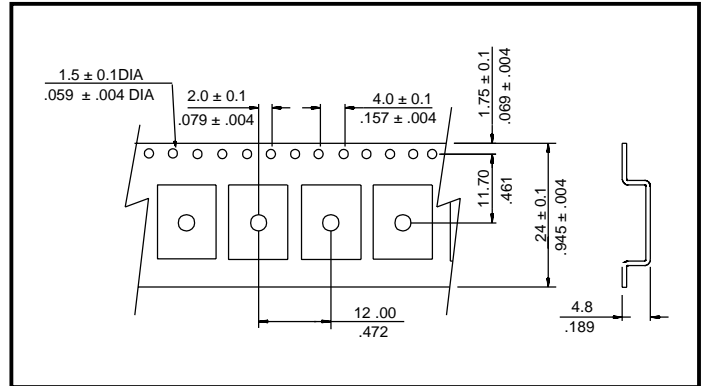
● OUTLINE DRAWINGS



● SOLDER REFLOW PROFILE



● CARRIER TAPE DIMENSIONS



● PART NUMBERING SYSTEM

| SERIES | OUTPUT (TABLE 2) | | CODE (TABLE 1) | FREQUENCY | SYMMETRY | TAPE AND REEL |
|------------|------------------|---------------|----------------|-----------|----------|---------------|
| | 1 | 2 | | | | |
| CO8 CE8 | 1 | TTL | A THROUGH Q | IN MHZ | T: TIGHT | TR |
| | 2 | HCMOS | | | | |
| | 3 | ACMOS | | | | |
| | 4 | HCMOS (3.3 V) | | | | |

EXAMPLE: CE821-16M384-TR,
CLOCK, ENABLE/DISABLE,
HCMOS, ±25 PPM, 0°C TO 70°C

● PHASE NOISE CHARACTERISTICS

