# PROGRAMMABLE OSCILLATOR

14 Pin and 8 Pin DIP ***EP13*** Series 3.3V$_{DC}$

ECLIPTEK® CORPORATION

## PART NUMBERING GUIDE

**EP13 00 HS ET T TS - 24.000M - CL125 TR**

**FREQUENCY TOLERANCE / STABILITY**
00=±100ppm Maximum (Standard)
45=±50ppm Maximum

**PACKAGE**
Blank=Full Size 14 Pin DIP
HS=Half Size 8 Pin DIP

**OPERATING TEMP. RANGE**
Blank=-20°C to 70°C or ET=-40°C to 85°C

**DUTY CYCLE**
Blank=50 ±10(%) (Standard), T=50 ±5(%)

**PACKAGING OPTIONS**
Blank=Bulk (Standard)
TR=Tape & Reel (only offered with Half Size G and Half Size G2 Options)

**AVAILABLE OPTIONS**
Blank=None (Standard)
CLXXX=Custom Lead Length (pg. F1)
G=Full Size Gull Wing (pg. F2), G=Half Size Gull Wing (pg. F2)
G2=Half Size Gull Wing (pg. F2)

**FREQUENCY**

**PIN 1 CONNECTION**
TS=Tri-State, PD=Power Down

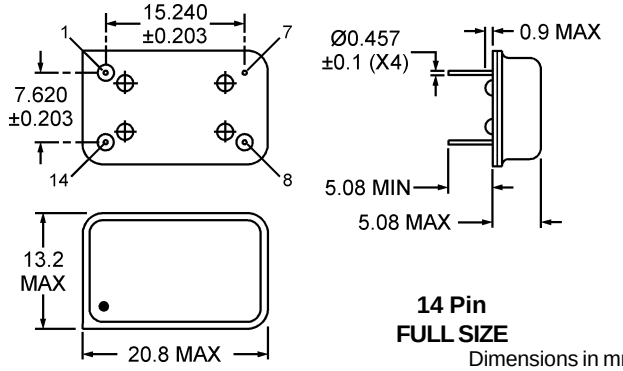
## ELECTRICAL SPECIFICATIONS

**Marking Specifications See pg. G2, Group F**

| | | | |
|---|---|---|---|
| **Frequency Range** | | 1.000MHz to 106.250MHz | |
| **Operating Temperature Range** | | -20°C to 70°C or -40°C to 85°C | |
| **Storage Temperature Range** | | -55°C to 125°C | |
| **Supply Voltage ($V_{DD}$)** | | 3.3$V_{DC}$ ±0.3$V_{DC}$ | |
| **Input Current** | | 28mA Maximum (Unloaded) | |
| **Disable Current (TS Option)** | | 16mA Maximum (Pin 1=Ground) | |
| **Standby Current (PD Option)** | | 20uA Maximum (Pin 1=Ground) | |
| **Frequency Tolerance / Stability** | Inclusive of Operating Temp Range, Supply Voltage, and Load | ±100ppm or ±50ppm Maximum | |
| **Output Voltage Logic High ($V_{OH}$)** | w/HCMOS Load | $V_{DD}$-0.4$V_{DC}$ Minimum | $I_{OH}$=-8mA |
| **Output Voltage Logic Low ($V_{OL}$)** | w/HCMOS Load | 0.4$V_{DC}$ Maximum | $I_{OL}$=+8mA |
| **Rise Time / Fall Time** | 20% to 80% of waveform w/HCMOS Load | 4 nSeconds Maximum | |
| **Duty Cycle** | at 50% of waveform w/HCMOS Load | 50 ±10(%) (Standard) | |
| | at 50% of waveform w/HCMOS Load (≤ 50.000MHz Only) | 50 ±5(%) (Optional) | |
| **Load Drive Capability** | ≤ 50.000MHz | 30pF HCMOS Load Maximum | |
| | >50.000MHz | 15pF HCMOS Load Maximum | |
| **Pin 1 Connection** | TS | Tri-State | |
| | PD | Power Down | |
| **Pin 1 Input Voltage** | $V_{IH}$: No Connection or ≥70% of $V_{DD}$ | Enables Output | |
| | $V_{IL}$: (TS Option) ≤20% of $V_{DD}$ | Disable Output: High Impedance | |
| | $V_{IL}$: (PD Option) ≤20% of $V_{DD}$ | Disable Output: Logic Low | |
| **Aging (at 25°C)** | | ±5ppm / year Maximum | |
| **Start Up Time** | | 10 mSeconds Maximum | |
| **Period Jitter (Absolute)** | ≤ 33.000MHz | ±250pSec Max, ±100pSec Typical | |
| | >33.000MHz | ±125pSec Max, ±75pSec Typical | |
| **Period Jitter (One Sigma)** | ≤33.000MHz | ±50pSeconds Maximum | |
| | >33.000MHz | ±40pSeconds Maximum | |

## MECHANICAL DIMENSIONS

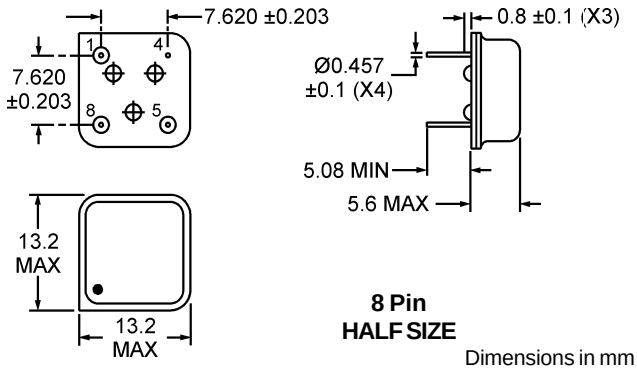
**Environmental / Mechanical Specifications See pg. H1, Group C**




**14 Pin**
**FULL SIZE**

Dimensions in mm

| | |
|---|---|
| Pin 1: Tri-State or Power Down | Pin 8: Output |
| Pin 7: Ground/Case Ground | Pin 14: Supply Voltage |




**8 Pin**
**HALF SIZE**

Dimensions in mm

| | |
|---|---|
| Pin 1: Tri-State or Power Down | Pin 5: Output |
| Pin 4: Ground/Case Ground | Pin 8: Supply Voltage |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Specifications subject to change without notice. • Contact factory for latest revision • 1/99 • (OS44)(OS45)