# VFHS85
## XO, HCMOS
## 12.6 x 12.6 mm SMD

CTS Valpey Corporation

### Features

- 1 MHz to 70MHz
- Operating temperature -55°C to +125°C available
- 3.0V and 5.0V supply voltage
- Tight duty cycle
- Tristate option available


### Applications

- Industrial
- Military

### Electrical Specifications

| Parameter | Symbol | Condition | Min | Typ | Max | Unit | Note |
|---|---|---|---|---|---|---|---|
| **Frequency Range** | F | | 1 | | 70 | MHz | |
| **Frequency Stability** | ΔF/F | Overall conditions including calibration , temperature, aging 10 years, shock, vibration | | | ± 100 | ppm | See "How to Order" for other options |
| **Operating Temperature Range** | Ta | | 0° | | +70° | °C | See "How to Order" for other options |
| **Supply Voltage** | $V_{CC}$ | | 4.75<br>3.15 | 5.00<br>3.30 | 5.25<br>3.45 | V | See "How to Order" |
| **Input Current** | $I_{CC}$ | No load | | | 50 | mA | Current is load and frequency dependent |
| **Phase Jitter** | | 1σ | | | 1.0 | ps | fj >1kHz |

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### Electrical Specifications

| Parameter | Symbol | Condition | Min | Typ | Max | Unit | Note |
|---|---|---|---|---|---|---|---|
| **Load** | 15pF or 10 LSTTL gates | | | | | | |
| **Duty Cycle** | | @50% $V_{CC}$ | 40 | 50 | 60 | % | See "How to Order" for other options |
| **Rise / Fall Time** | $T_r$/ $T_f$ | | | | 3 | ns | |
| **Logic "1" Level** | $V_{OH}$ | Max load | 0.9 $V_{CC}$ | | | V | |
| **Logic "0" Level** | $V_{OL}$ | | | | 0.1 $V_{CC}$ | | |
| **Start up time** | $T_S$ | | | 2 | 10 | ms | |
| **Enable / Disable Function** | Input HIGH (>2.5V) or floating: ACTIVE<br>Input LOW (<0.5V): INFINITE IMPEDANCE | | | | | | |
| **Enable / Disable Time** | $T_e$/ $T_d$ | | | | 100 | ns | |

### Absolute Maximum Ratings

| Parameter | Symbol | Condition | Min | Typ | Max | Unit | Note |
|---|---|---|---|---|---|---|---|
| **Supply Break Down Voltage** | $V_{CC}$ | | -0.5 | | 7.0 | V | |
| **Storage Temperature** | Ts | | -55 | | +125° | °C | |

### How to Order

**VFHS85** □□□ — □□□ — **FREQUENCY, MHz**

**Stability**

| Code | Specification |
|---|---|
| B | ±50ppm |
| A | ±25ppm |
| S | ±20ppm |
| | ±100ppm (std.) |
| C | ±500ppm |

**Duty Cycle**

| Code | Specification |
|---|---|
| HH | ±2.5% |
| H | ±5% |
| | ±10% (std.) |

**Supply Voltage**

| Code | Output |
|---|---|
| L | 3.3V ±5% |
| | 5.0V ±5% (std.) |

**Temperature Range**

| Code | Specification |
|---|---|
| | 0°C to 70°C (std.) |
| 1 | -40°C to 85°C |
| 2 | -55°C to 125°C |

**Output**

| Code | Output |
|---|---|
| T | Tristate |
| | Non-tristate |

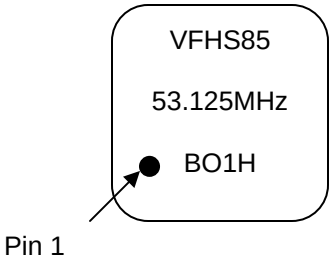
**Lead Configuration**

| Code | Specification |
|---|---|
| GR | Gull wing  |
| G | Gull wing  |
| | Through hole (std.) |

## Environmental and Mechanical

| Parameter | Specification |
|---|---|
| **Mechanical Shock** | Per MIL-STD-202, Method 213, Condition E |
| **Thermal Shock** | Per MIL-STD-883, Method 1011, Condition A |
| **Vibration** | Per MIL-STD-883, Method 2007, Condition A |
| **Soldering Conditions** | 260°C for 10s max |
| **Hermetic Seal** | Leak rate less than $5x10^{-8}$ atm.cc/s of helium |

## Marking Specifications




| Pin # | Connection |
|---|---|
| **1** | NC |
| **4** | GND, Case |
| **5** | Output |
| **8** | Vcc |

## Mechanical Outline