

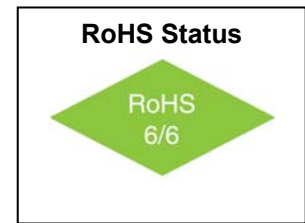
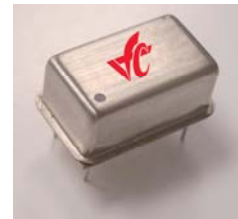
Miniature OCXO

DIL-14, HCMOS/TTL



Features

- Low Cost Dual-In-Line 14 pin package
- Low Power Consumption
- Fast Warm-up Time
- Stratum 3 or better Stability
- Very Low Phase Noise (-160dBc/Hz TYP)
- HCMOS/TTL output
- 10 MHz to 100 MHz Frequencies Available
- Voltage Control Standard



Applications

- Telecommunications
- Data Communications
- Instrumentation

Electrical Specifications

| Parameter | Symbol | Condition | Min | Typ | Max | Unit | Note |
|-----------------------------|--------------|---|--------------|---------------------|--------------|--------|--|
| Frequency Range | F | | 10.0 | | 100.0 | MHz | |
| Frequency Stability | $\Delta F/F$ | Vs. Operating Temperature | | ± 100 | ± 500 | ppb | See "How to Order" Chart |
| | | Vs. Supply Voltage | | 10 | 50 | ppb | |
| | | per day first year 15 years | | 5E-9 1E-6 | 4E-6 | | after 30 days |
| Operating Temperature Range | T | | -20° | | +70° | °C | See "How to Order" Chart for Available Options |
| SSB Phase Noise | | 10 Hz 100 Hz 10 KHz | | -90 -120 -160 | | dBc/Hz | Performance dependent on frequency |
| Supply Current | Icc | steady state, 25°C steady state, -20°C start-up current | | 100 200 400 | 120 | mA | 5.0V supply Still air |
| | | steady state, 25°C steady state, -20°C start-up current | | 150 300 500 | 180 | | 3.3V supply Still air |
| Supply Voltage | Vcc | | 4.75 3.14 | 5.0 3.3 | 5.25 3.46 | V | |



Miniature OCMO

DIL-14, HCMOS/TTL

Electrical Specifications

| Parameter | Symbol | Condition | Min | Typ | Max | Unit | Note |
|----------------------|--------|-----------------------------------|--------------|-----|------------|------|----------------------------|
| Output Waveform/Load | | HCMOS/TTL Compatible Square Wave | 10KOhm//15pF | | | | |
| Symmetry | | | 45 | | 55 | % | |
| Rise/Fall Time | Tr, Tf | 10KOhm // 15pf load | | 1.2 | | ns | |
| Control voltage | Vc | | 0 0 | | 4.0 3.3 | V | 5.0V Supply 3.3V Supply |
| Pull range | | from nominal F | ±5 | | | ppm | |
| Warm-up time | τ | to 0.3 ppm of 30 minute frequency | | | 2 | min | at +25°C |

Absolute Maximum Ratings

| Parameter | Symbol | Condition | Min | Typ | Max | Unit | Note |
|---------------------------|--------|-----------|--------------|-----|------------|------|----------------------------|
| Supply Break Down Voltage | Vcc | | -0.5 -0.5 | | 4.0 6.0 | V | 3.3V Supply 5.0V Supply |
| Storage Temperature | Ts | | -40 | | 100 | °C | |
| Control Voltage | Vc | | -1 | | 6 | V | |

Environmental and Mechanical

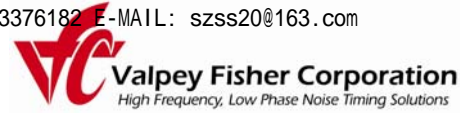
| Parameter | Specification |
|----------------------|--|
| Mechanical Shock | Per MIL-STD-202, 30G, 11ms |
| Vibration | Per MIL-STD-202, 5G to 2000 Hz |
| Soldering Conditions | 450° Soldering iron for 8s max |
| Hermetic Seal | Leak rate less than 1x10 ⁻⁸ atm.ccm/s of helium |



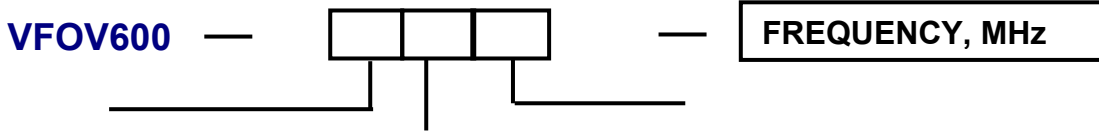
VFOV600

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How to Order



Temperature Stability

| Code | Specification |
|------|----------------------|
| L | 5×10^{-7} |
| M | 3×10^{-7} |
| 28 | 2.8×10^{-7} |
| N | 2.5×10^{-7} |
| Q | 1.5×10^{-7} |
| R | 1×10^{-7} |

Temperature Range

| Code | Specification |
|------|---------------|
| A | 0°C to 50°C |
| B | 0°C to 70°C |
| C | -10°C to 60°C |
| D | -20°C to 70°C |

Supply Voltage

| Code | Specification |
|------|---------------|
| D | 5.0V \pm 5% |
| E | 3.3V \pm 5% |

Available Frequency Stabilities over Operating Temperature Ranges

| Order Code | Temperature Range | Stability | | | | | |
|------------|-------------------|--------------------|--------------------|----------------------|----------------------|----------------------|--------------------|
| | | 5×10^{-7} | 3×10^{-7} | 2.8×10^{-7} | 2.5×10^{-7} | 1.5×10^{-7} | 1×10^{-7} |
| A | 0°C to 50°C | * | * | * | * | * | * |
| B | 0°C to 70°C | * | * | * | * | * | ◇ |
| C | -10°C to 60°C | * | * | * | * | * | ◇ |
| D | -20°C to 70°C | * | * | * | * | ◇ | ◇ |

* Available

◇ Consult factory for availability



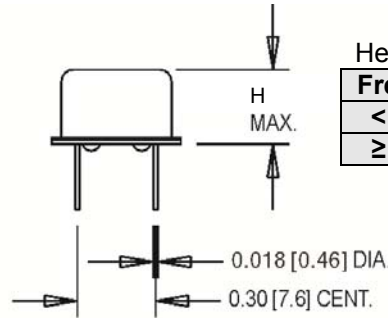
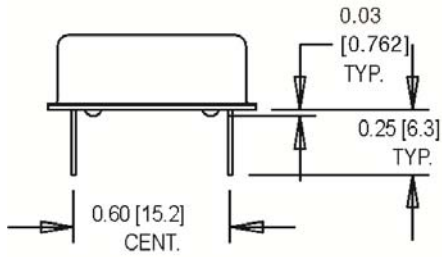
VFOV600

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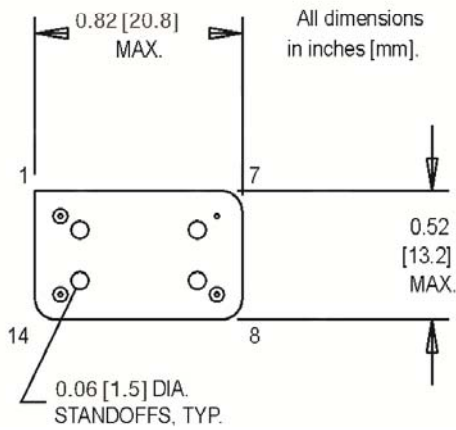
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Outline Drawing



| Height (H) | |
|------------|-------|
| Frequency | H(mm) |
| < 40MHz | 10 |
| ≥ 40MHz | 8.7 |



| Pin # | Connection |
|-------|------------|
| 1 | Vc |
| 7 | GND |
| 8 | Output |
| 14 | Vcc |

