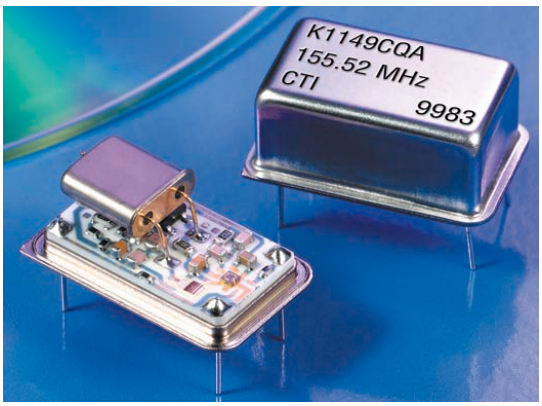
- **Applications:** Optic Transmission Equipment; Digital Cross Connect Equipment, WDM, DWDM and SONET Backbone Equipment
- Very Low Phase Noise Characteristics
- Uses Champion's Proprietary I-Mesa Crystal Technology
- PECL Output
- 0ºC to 70ºC Operating Temperature
- 45/55% Symmetry Standard
- Complementary Output Standard




## ELECTRICAL SPECIFICATIONS

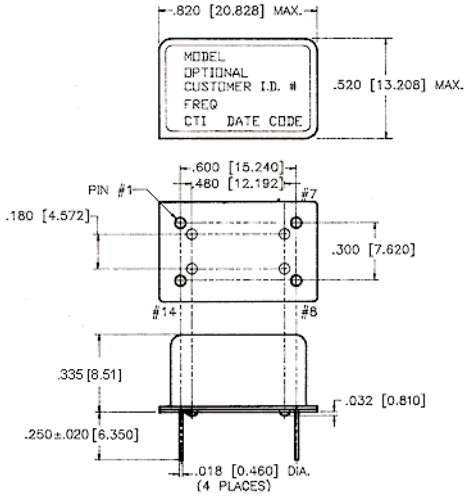
| **Model** | **K1149CQA** |
|---|---|
| **Frequency Range (MHz)** | 139.264MHz, 155.520MHz |
| **Input Current (mA)** | < 50 |
| **Frequency Stability (ppm)** | |
| Overall | Inclusive of Calibration, Temperature, Voltage, Load and Aging |
| $0^{O}$C to +$70^{O}$C | ±20 |
| **Temperature Range ($^{O}$C)** | |
| Operating | $0^{O}$C to +$70^{O}$C |
| Storage | -$40^{O}$C to +$85^{O}$C |
| **Supply Voltage (V)** | +5.0V ±5% |
| **Symmetry (%)** | 45/55 (Refer to Page 2) |
| **Jitter (fj > 1KHz)** | < 1ps |
| **Start Up Time (ms)** | <10 |

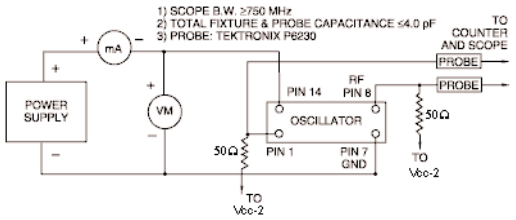
## PART NUMBERING GUIDE

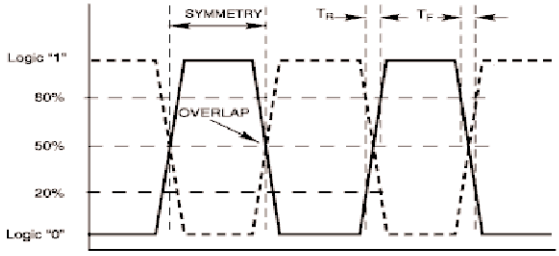
**K1149CQA -** Specify Frequency

2553 N. Edgington Street, Franklin Park, IL 60131 • Phone: 847.451.1000 • Fax: 847.451.7585

**800-888-1499 or www.champtech.com**




Notes:
1. Internally there are 5Ω resistors in Series with each output
2. PECL: Output pulldown resistors of 50Ω to VTT = 3.0V

| PIN | FUNCTION |
|---|---|
| 1 | Output |
| 7 | Vss / Ground |
| 8 | Output |
| 14 | + $V_{CC}$ |

| Output Specifications | PECL | | | | | |
|---|---|---|---|---|---|---|
| **Parameter** | **Symbol** | **Units** | **Test Condition** | **Min.** | **Typ.** | **Max.** |
| Ground Reference | $V_{SS}$ | Volts | Reference | | 0 | |
| Power Supply | $V_{CC}$ | Volts | Reference | 4.75 | 5.0 | 5.25 |
| "0" Level | $V_{OL}$ | Volts | 50Ω into $V_{CC}$-2 | $V_{CC}$-1.95 | | $V_{CC}$-1.55 |
| "1" Level | $V_{OH}$ | Volts | 50Ω into $V_{CC}$-2 | $V_{CC}$-1.1 | | $V_{CC}$-0.88 |
| Rise Time | $T_R$ | ps | 50Ω into, 20% to 80% | | | 450 |
| Fall Time | $T_F$ | ps | 50Ω into, 80% to 20% | | | 450 |
| Overlap | $T_{OL}$ | ps | 50% | | | 50 |
| Symmetry | S | % | $V_{CC}$ -1.3 | 45 | | 55 |

## MECHANICAL AND ENVIRONMENTAL SPECIFICATIONS

| TEST METHODS | REFERENCE PROCEDURES | DESCRIPTION |
|---|---|---|
| Temperature Cycle | MIL-STD-833, Mtd 1010, Cond. B | -55°C to +125°C; Air-to-Air; 100 cycles; 10 min. dwell |
| Mechanical Shock | MIL-STD-883, Mtd 2002, Cond. B | 1500 g's |
| Vibration | MIL-STD 883, Mtd 2007, Cond. B | 20-2000 Hz; 0.06 inch; 15g's; 3 planes |
| Humidity Steady State | MIL-STD-202, Mtd 103 | 40°C; 90%-95% R.H.; 56 days |
| Thermal Shock | MIL-STD-883, Mtd 1011.7 Cond. B | 100°C to 0°C; Water-to-Water; 15 cycles |
| Electrostatic Discharge | MIL-STD-883, Mtd 3015 Class II | 2 KV to 4 KV Threshold |
| Solderability | MIL-STD-883, Mtd 2022.2 | Solder dip; Meniscograph Criteria |
| Hermeticity | MIL-STD-883, Mtd 1014.8, Cond. A1 | Mass spectro. 2 x 10-8 atmos. CC/sec He |
| Resistance to Soldering | MIL-STD-202, Mtd 210A, Cond. C | 260°C; 10 seconds: 1 inch/sec. |
| Lead Integrity | MIL-STD-883, Mtd 2004.5, Cond. A, B1 | Lead tension & bend stress |
| Marking Permanence | MIL-STD-883, Mtd 2015.8 | Resistance to solvents |
| Life Test | MIL-STD-883, Mtd 1005.6 | 125°C, powered, 1000 hours minimum |