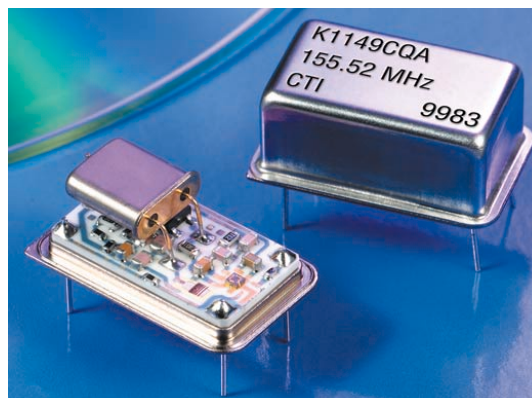


- ♦ **Applications:** Optic Transmission Equipment; Digital Cross Connect Equipment, WDM, DWDM and SONET Backbone Equipment
- ♦ Very Low Phase Noise Characteristics
- ♦ Uses Champion's Proprietary I-Mesa Crystal Technology
- ♦ PECL Output
- ♦ 0°C to 70°C Operating Temperature
- ♦ 45/55% Symmetry Standard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

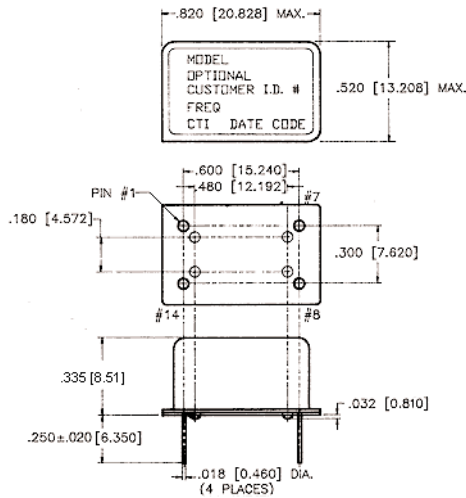


### ELECTRICAL SPECIFICATIONS

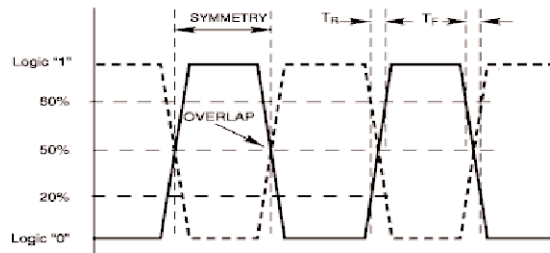
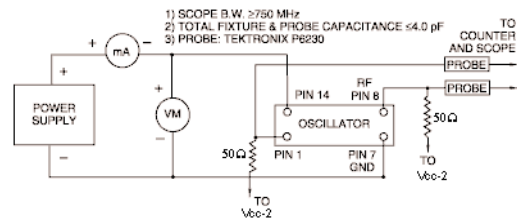
Model	K1149CQA
Frequency Range (MHz)	139.264MHz, 155.520MHz
Input Current (mA)	< 50
Frequency Stability (ppm)	
Overall	Inclusive of Calibration, Temperature, Voltage, Load and Aging
0°C to +70°C	±20
Temperature Range (°C)	
Operating	0°C to +70°C
Storage	-40°C to +85°C
Supply Voltage (V)	+5.0V ±5%
Symmetry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

### PART NUMBERING GUIDE

**K1149CQA** - Specify Frequency



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



Output Specifications		PECL				
Parameter	Symbol	Units	Test Condition	Min.	Typ.	Max.
Ground Reference	V <sub>SS</sub>	Volts	Reference		0	
Power Supply	V <sub>CC</sub>	Volts	Reference	4.75	5.0	5.25
"0" Level	V <sub>OL</sub>	Volts	50Ω into V <sub>CC-2</sub>	V <sub>CC</sub> -1.95		V <sub>CC</sub> -1.55
"1" Level	V <sub>OH</sub>	Volts	50Ω into V <sub>CC-2</sub>	V <sub>CC</sub> -1.1		V <sub>CC</sub> -0.88
Rise Time	T <sub>R</sub>	ps	50Ω into, 20% to 80%			450
Fall Time	T <sub>F</sub>	ps	50Ω into, 80% to 20%			450
Overlap	T <sub>OL</sub>	ps	50%			50
Symmetry	S	%	V <sub>CC</sub> -1.3	45		55

PIN	FUNCTION
1	Output
7	V <sub>SS</sub> / Ground
8	Output
14	+ V <sub>CC</sub>

## 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 <sup>-8</sup> 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