

PECL Compatible HA-A2870 Series

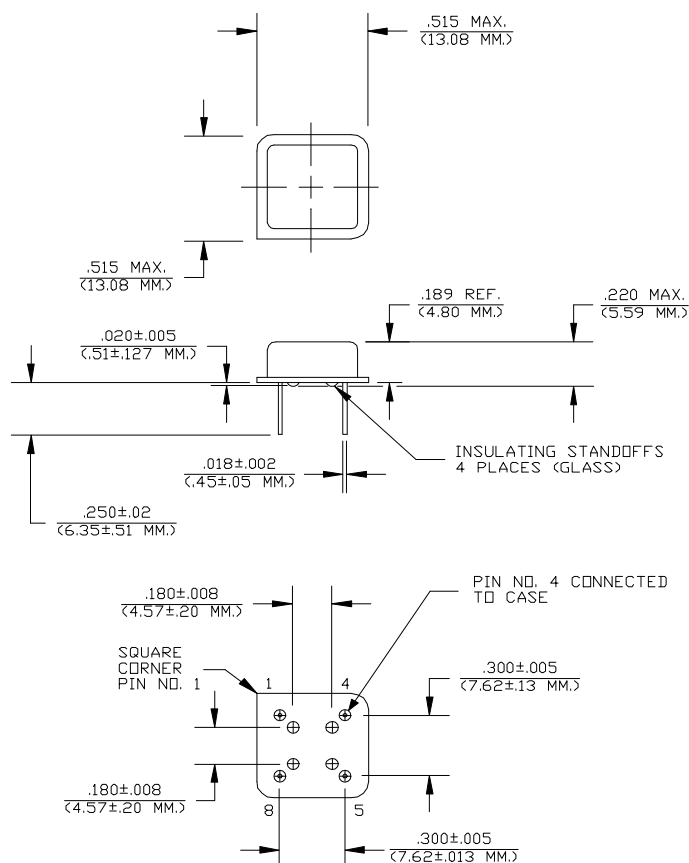
Description

The HA-A2870 Series of quartz crystal oscillators provide MECL 10K and 10KH series compatible signals in industry standard four-pin DIP hermetic packages. Systems designers may now specify space-saving, cost-effective packaged PECL oscillators to meet their timing requirements.

Pin	Connection
1	Output Complement
4	V_{EE} Grd & Case
5	Output
8	V_{CC}

Features

- Wide frequency range—18.0MHz to 250.0MHz
- User specified tolerance from ± 20 ppm
- Case at electrical ground
- Will withstand vapor phase temperatures of 253°C for 4 minutes maximum
- MECL 10K and 10KH series compatible output on Pin 5, complement on Pin 1
- All metal, resistance weld, hermetically sealed package
- High shock resistance, to 3000g
- 3.3 volt operation



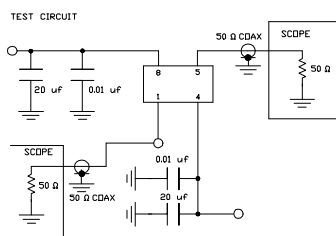
**FREQUENCY
CONTROLS, INC.**

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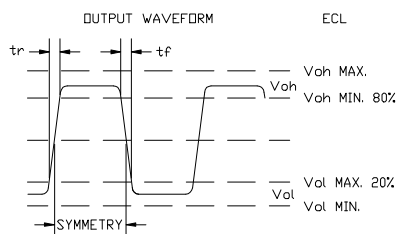
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Operating Conditions and Output Characteristics

	PARAMETER	CONDITIONS	MINIMUM	MAXIMUM
General Characteristics	Supply voltage (V_{CC})	-----	3.15V	3.45V
	Supply current (I_{CC})	V_{CC} or ground current	0.0 mA	80 mA
	Output current (I_O)	Low level output current	0.0 mA	± 50.0 mA
	Tolerance	User specified	± 20 ppm	-----
	Operating temperature (T_A)	-----	0°C	70°C
	Storage temperature (T_S)	-----	-55°C	125°C
	Power dissipation (P_D)	-----	-----	276 mW
	Lead temperature (T_L)	Soldering, 10 sec.	-----	300°C
Output Characteristics	Frequency	-----	18.0MHz	250.0MHz
	Symmetry	@ 2.01V level	45/55%	55/45%
	Logic 0 (V_{OL}) ⁽²⁾	-----	1.35V	1.70V
	Logic 1 (V_{OH}) ⁽²⁾	-----	2.28V	2.56V
	Rise & fall time (t_r, t_f)	20-80% V_O	-----	2.25 ns
	T_{pd} ⁽³⁾	-----	-0.5 ns	+0.5 ns
Footnote: ⁽²⁾ V_{OL} , V_{OH} , referenced to ground (V_{EE}) with $V_{CC}=3.3V$ ⁽³⁾ T_{pd} is phase shift between the falling edge of pin 5 at 2.0V and the rising edge of pin 1 at 2.01V				



TEST CIRCUIT USES A SPLIT SUPPLY OF +2V AND -1.3V FOR EASE OF TESTING.



Specialty Oscillators for Unique Requirements

If the characteristics listed above do not meet your specific requirements, specialty solutions are often available.

For example, if you need better stability, extended temperature range, or tighter symmetry, NEL can provide a HA-A2879 series oscillator to serve your needs.

To let us know your special requirements, complete our **Specialty Oscillator** sheet. We will respond with the desired specialty oscillator, or discuss with you a solution that most closely meets your needs.

This information has been carefully prepared and is believed to be entirely reliable. However, no responsibility is assumed for inaccuracies. NEL reserves the right to make changes at any time in order to improve design and supply the best product possible.