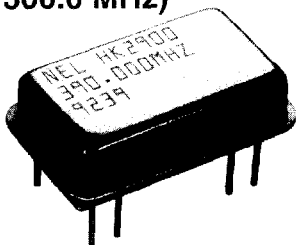


NEL Crystal Clock Oscillators

**PECL (Positive True ECL)
COMPATIBLE
(ECLIPS)**

**HK-2900 Series
(Available from
300.0 MHz to
500.0 MHz)**

**HK-2910 Series
(Available from
122.0 MHz to
300.0 MHz)**



HK-2900 Series

Description

The HK-2900 & HK-2910 Series of quartz crystal oscillators provide 10E compatible signals. These devices are to operate using positive voltage and multiple ground pins for improved signal integrity.

All units are resistance welded in an all metal package, offering RFI shielding, and are designed to survive standard wave soldering operations without damage. Insulated standoffs to enhance board cleaning are standard.

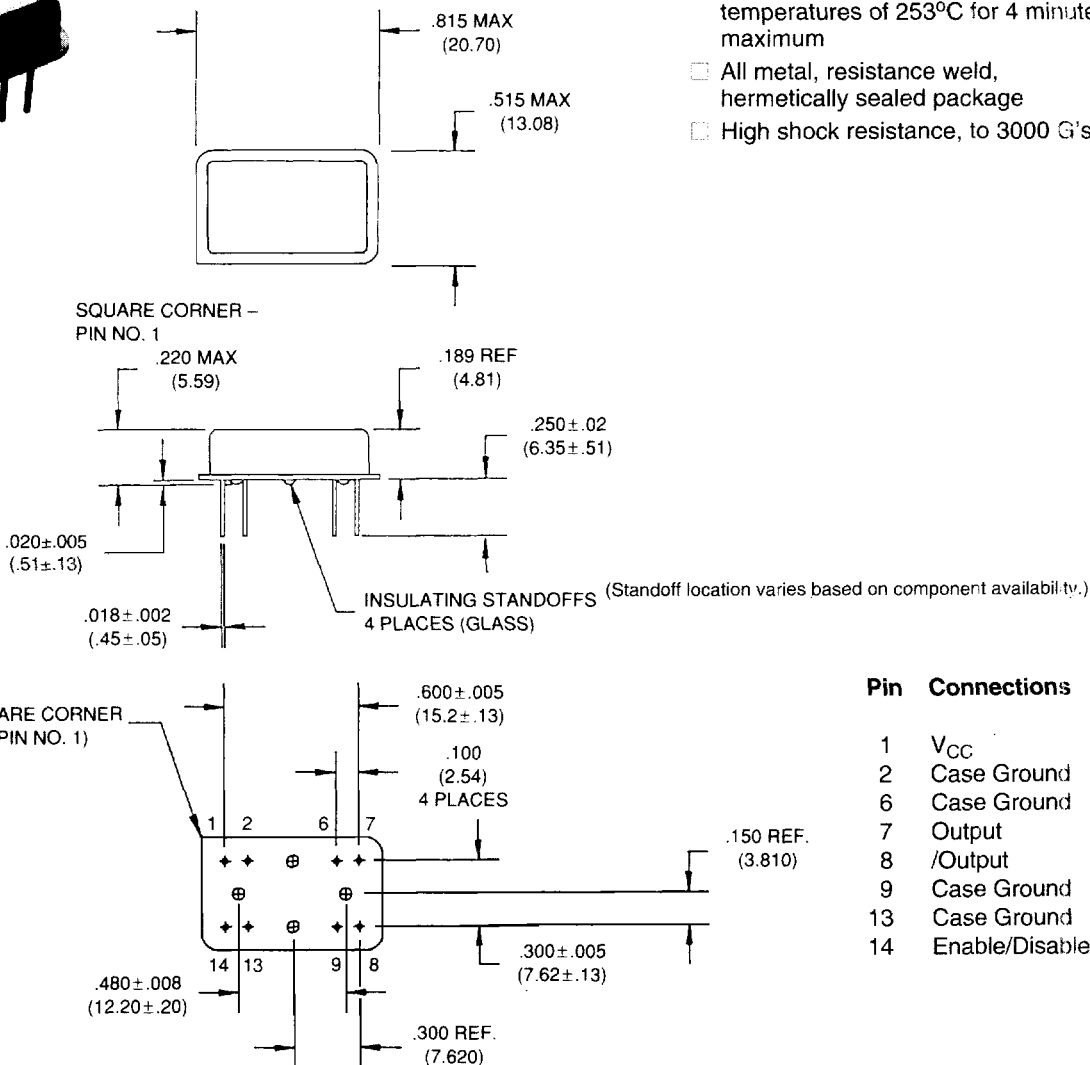
Suggested Applications

- High speed μ P
- High Resolution Video
- RF Frequency Source

Features

- Wide frequency range -
HK-2900:300.0 MHz to 500.0 MHz
HK-2910:122.0 MHz to 300.0 MHz
- User specified tolerance from $\pm 0.01\%$ (Consult factory for tighter tolerance requirements)
- Will withstand vapor phase temperatures of 253°C for 4 minutes maximum
- All metal, resistance weld, hermetically sealed package
- High shock resistance, to 3000 G's

**Dimensions
inches (mm)**



Crystal Clock Oscillators



PECL Operating Conditions and Output Characteristics

PECL (Positive True ECL)
COMPATIBLE
(ECLIPS)

PARAMETER	CONDITIONS	HK-2900 Series		HK-2910 Series	
		MINIMUM	MAXIMUM	MINIMUM	MAXIMUM
General Characteristics					
Supply voltage (V_{EE})	+5.0V	+4.75V	+5.25V	+4.75V	+5.25V
	Breakdown	-0.5V	+8.0V	-0.5V	+8.0V
Supply current (I_{EE})	-----	-----	120 mA	-----	120 mA
Output current (I_O)	-----	-----	50 mA	-----	50 mA
Operating temperature (T_A)	-----	0°C	70°C	0°C	70°C
Storage temperature (T_S)	-----	-55°C	+125°C	-55°C	+125°C
Output Characteristics ⁽¹⁾					
Frequency	-----	300.0 MHz	500.0 MHz	122.0 MHz	300.0 MHz
Overall Tolerance ⁽²⁾	0-70°C	±0.01%	-----	±0.01%	-----
Symmetry ⁽³⁾	(50% Points)	40/60%	60/40%	40/60%	60/40%
Logic 0 (V_{OL}) ⁽⁴⁾	-----	-----	3.41V	-----	3.41V
Logic 1 (V_{OH}) ⁽⁴⁾	-----	3.98V	-----	3.98V	-----
Rise & fall time (t_r, t_f) ⁽⁵⁾	(20-80% Points)	-----	600 psec	-----	600 psec
Jitter ⁽⁶⁾	-----	-----	30 psec	-----	30 psec

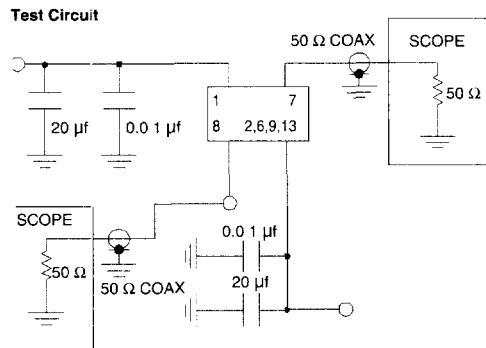
HK-2900 Series
(Available from
300.0 MHz to
500.0 MHz)

HK-2910 Series
(Available from
122.0 MHz to
300.0 MHz)

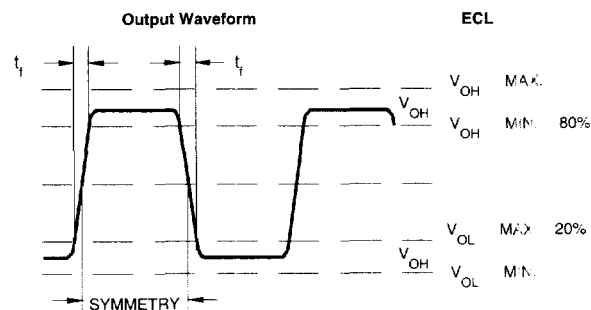
NOTE 1 - Limits are for +5.0V ±0.01V @ 25°C unless otherwise specified.

Footnotes:

1. Tested per test circuit diagram
2. Unless otherwise specified by customer
3. Reference test circuit below
4. V_{OL}, V_{OH} referenced to ground
5. Measured between 20% and 80% of output
6. From rising edge to next rising edge



TEST CIRCUIT USES A SPLIT SUPPLY OF +2V AND -3V FOR EASE OF TESTING



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.