



PECL Compatible SJ-2870 Series

Description

The **SJ-2870 Series** of quartz crystal oscillators provide MECL 10K and 10KH series compatible signals in a ceramic SMD package. Systems designers may now specify space-saving, cost-effective packaged PECL oscillators to meet their timing requirements.

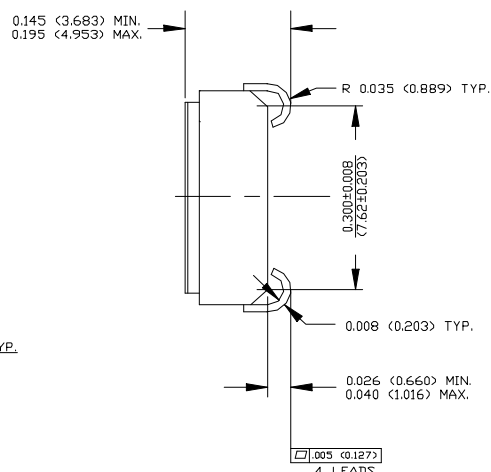
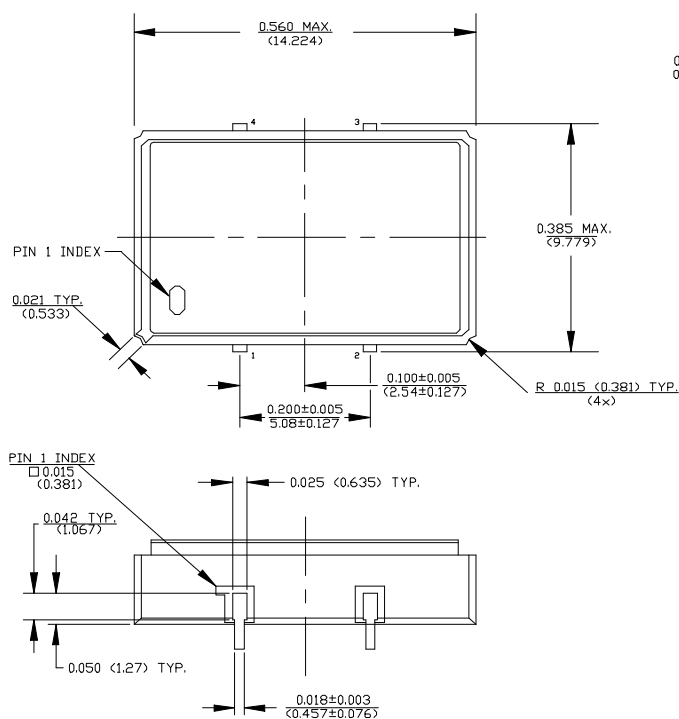
Features

- Wide frequency range—18.0MHz to 250.0MHz
- User specified tolerance from ± 20 ppm
- Will withstand vapor phase temperatures of 253°C for 4 minutes maximum
- MECL 10K and 10KH series compatible output on Pin 3, complement on Pin 1
- Space-saving alternative to discrete component oscillators
- High shock resistance, to 3000g
- Metal lid electrically connected to ground to reduce EMI
- Gold plated leads—Solder dipped leads available upon request

Pin Connection

JEDEC XTAL Industry

6	1	Output Complement
10	2	V_{EE} Ground
20	3	Output
24	4	$V_{CC} +5.0V$



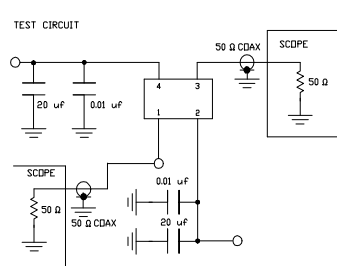
DIMENSIONS ARE IN INCHES & (MM)

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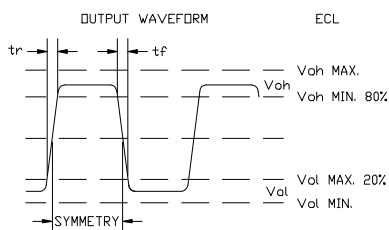
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Operating Conditions and Output Characteristics

	PARAMETER	CONDITIONS	MINIMUM	MAXIMUM
General Characteristics	Supply voltage (V_{CC})	-----	4.75V	5.25V
	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)	-----	-----	420 mW
	Lead temperature (T_L)	Soldering, 10 sec.	-----	300°C
Output Characteristics	Frequency	-----	18.0MHz	250.0MHz
	Symmetry	@ V_{CC} -1.29V	45/55%	55/45%
	Logic 0 (V_{OL}) ⁽¹⁾	-----	V_{CC} -1.95V	V_{CC} -1.60V
	Logic 1 (V_{OH}) ⁽¹⁾	-----	V_{CC} -1.02V	V_{CC} -0.74V
	Rise & fall time (t_r, t_f)	20-80% V_O	-----	2.25 ns
	T_{pd} ⁽²⁾	-----	-0.5 ns	+0.5 ns
	Footnote: ⁽¹⁾ V_{OL} , V_{OH} , referenced to ground (V_{EE}) with V_{CC} =5.0V ⁽²⁾ T_{pd} is phase shift between the falling edge of pin 3 at V_{CC} -1.29V and the rising edge of pin 1 at V_{CC} -1.29V			



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 SJ-2879 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.