

PECL/LVDS/CMOS OUTPUT SMD CRYSTAL CLOCK OSCILLATOR



5.0 x 7.0 x 1.8mm

ALD SERIES



RoHS
Compliant

FEATURES:

- Based on a proprietary digital multiplier
- Tri-State Output
- Low Phase Noise and Jitter
- 2.5V to 3.3V +/- 5% operation
- Ceramic SMD, low profile package
- 156.25MHz, 187.5MHz, and 212.5MHz applications

APPLICATIONS:

- SONET, xDSL
- SDH, CPE
- STB

STANDARD SPECIFICATIONS:

PARAMETERS

ABRACON P/N:	ALD Series
Frequency range:	750 kHz to 800 MHz
Operating temperature:	0° C to + 70° C (see options)
Storage temperature:	- 55° C to + 125° C
Overall frequency stability:	± 50 ppm max. (see options)
Supply voltage (Vdd):	3.3V ±10% (see options)
Jitter:	RMS phase jitter 3ps typ., <5ps max. (12KHz - 20MHz) Period jitter peak to peak ,35ps typical
Low Phase Noise:	-109 dBc/Hz @ 1kHz Offset from 622.08MHz -110 dBc/Hz @ 10kHz Offset from 622.08MHz -109 dBc/Hz @ 100KHz Offset from 622.08MHz -112 dBc/Hz @ 1kHz Offset from 155.52MHz -125 dBc/Hz @ 10kHz Offset from 155.52MHz -123 dBc/Hz @ 100KHz Offset from 155.52MHz
Tristate Function:	"1" (V _{IH} ≥ 0.7*Vdd) or open: Oscillation "0" (V _{IL} < 0.3*Vdd): No Oscillation / Hi Z
PECL:	Supply current (I _{DD}): 65mA max (for 750kHz < Fo < 96MHz), 100mA max (96MHz ≤ Fo < 800MHz) Output Logic High: V_{dd}-1.025V min, V_{dd}-0.880V max. Output Logic Low: V_{dd}-1.810V min. V_{dd}-1.620V max. Symmetry (Duty Cycle): 45% min, 50% typ, 55% max, Rise time: 0.85ns Fall time: 0.85ns
LVDS	Supply current (I _{DD}): 65mA max (for 750kHz < Fo < 96MHz), 100mA max (96MHz ≤ Fo < 800MHz) Output Clock Duty Cycle @ 1.25V: 45% min, 50% typical, 55% max Output Differential Voltage (V _{OD}): 247mV min, 355mV typical, 454mV max VDD Magnitude Change (ΔV _{OD}): -50mV min, 50mV max Output High Voltage : V_{OH} = 1.4V typical, 1.6V max. Output Low Voltage : V_{OL} = 0.9V min, 1.1V typical Offset Voltage [R _L = 100Ω]: V_{OS} = 1.125V min, 1.2V typical, 1.375V max Offset Magnitude Change [R _L = 100Ω]: ΔV_{OS} = 0mV min, 3mV typical, 25mV max Power-off Leakage (I _{OXD}) [Vout=VDD or GND, VDD=0V] = ±1μA typical, ±10μA max. Differential Clock Rise Time (t _r) [R _L =100Ω, CL=10pF]: 0.2nS min, 0.7nS typical, 1.0nS,max Differential Clock Fall Time (t _f) [R _L =100Ω, CL=10pF]: 0.2nS min, 0.7nS typical, 1.0nS max
CMOS:	Supply current (I _{DD}): 15mA max (for 750kHz < Fo < 24MHz), 30mA max (for 24MHz ≤ Fo < 96MHz), 65mA max (96MHz ≤ Fo < 800MHz) Output Clock Rise/ Fall Time [10%~90% VDD with 10pF load]: 5.0ns max (for 750kHz < Fo < 24MHz) 5.0ns max (for 24MHz ≤ Fo < 800MHz) Output Clock Duty Cycle [Measured @ 50% VDD]: 45% min, 50% typical, 55% max

PECL/LVDS/CMOS OUTPUT SMD CRYSTAL CLOCK OSCILLATOR



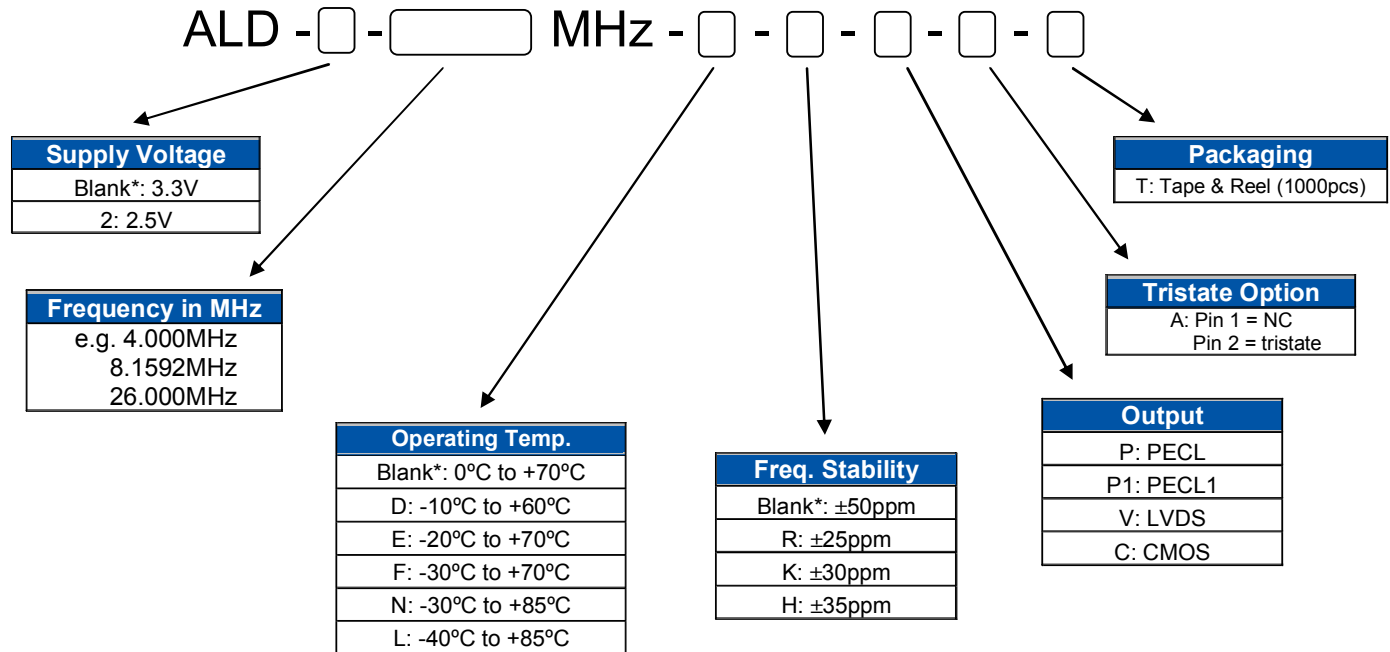
5.0 x 7.0 x 1.8mm

ALD SERIES



OPTIONS AND PART IDENTIFICATION

(Left blank if standard)



*Standard specification

TRI-STATE PIN OUT DESCRIPTION:

OUTPUT TYPE OPTION		PIN 1 logic level*	Output State
P	PECL	0 (Default)	Enabled
		1	Tri-state
P1	PECL1	1 (Default)	Enabled
		0	Tri-state
V	LVDS	0	Tri-state
		1(Default)	Enabled
C	CMOS	0	Tri-state
		1(Default)	Enabled

*Connect to VDD for logic level "1", connect to ground for logic level "0".

PECL/LVDS/CMOS OUTPUT SMD CRYSTAL CLOCK OSCILLATOR



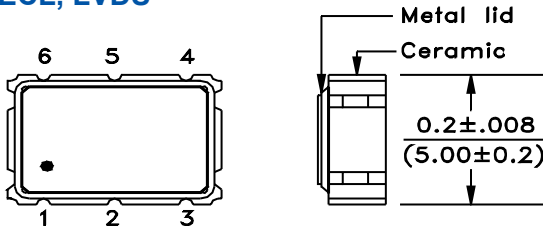
5.0 x 7.0 x 1.8mm

ALD SERIES



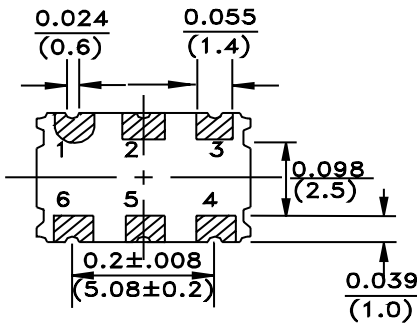
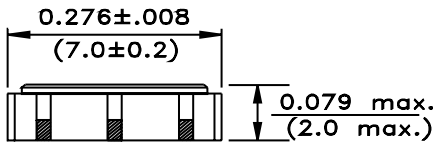
OUTLINE DIMENSIONS:

PECL, LVDS



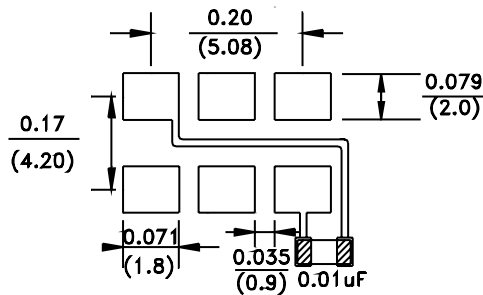
PIN #	Name	DESCRIPTION
1	Tri-state / NC	Tristate or No Connect
2	NC / Tristate	No Connect / Tristate
3	GND	Ground
4	Q	PECL, LVDS
5	\bar{Q}	Complimentary PECL, LVDS
6	V _{DD}	VDD Connection.

Note: Recommend using an approximately 0.01uF bypass capacitor between PIN 3 and 6.

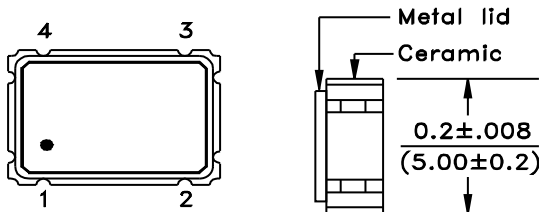


Bottom view

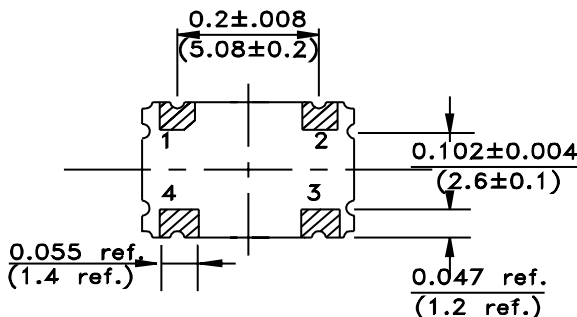
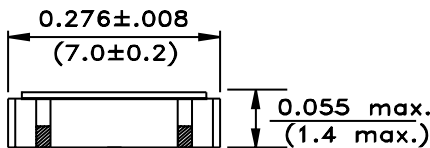
Recommended land pattern



CMOS

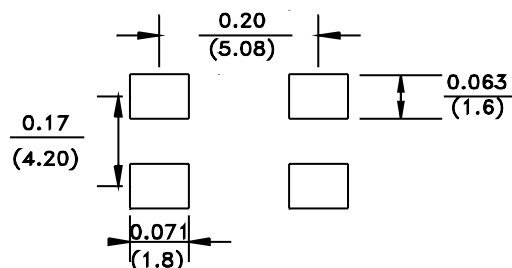


PIN #	Name
1	Tri-state
2	GND
3	OUTPUT
4	Vdd



Bottom view

Recommended land pattern



Dimensions: inches (mm)

PECL/LVDS/CMOS OUTPUT SMD CRYSTAL CLOCK OSCILLATOR



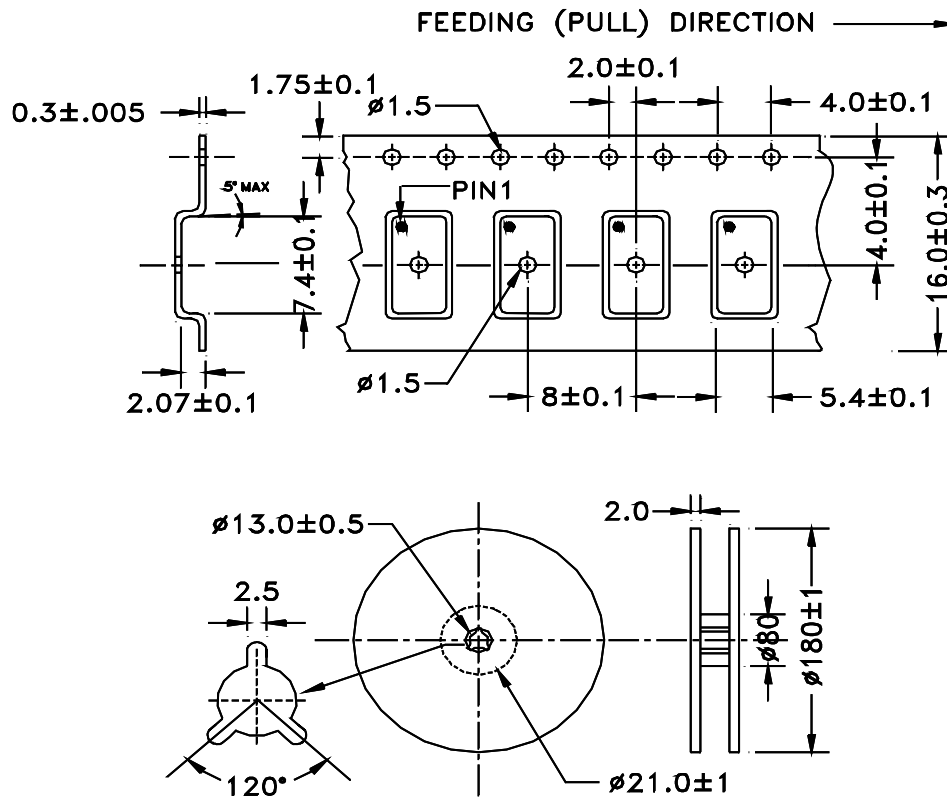
5.0 x 7.0 x 1.8mm

ALD SERIES

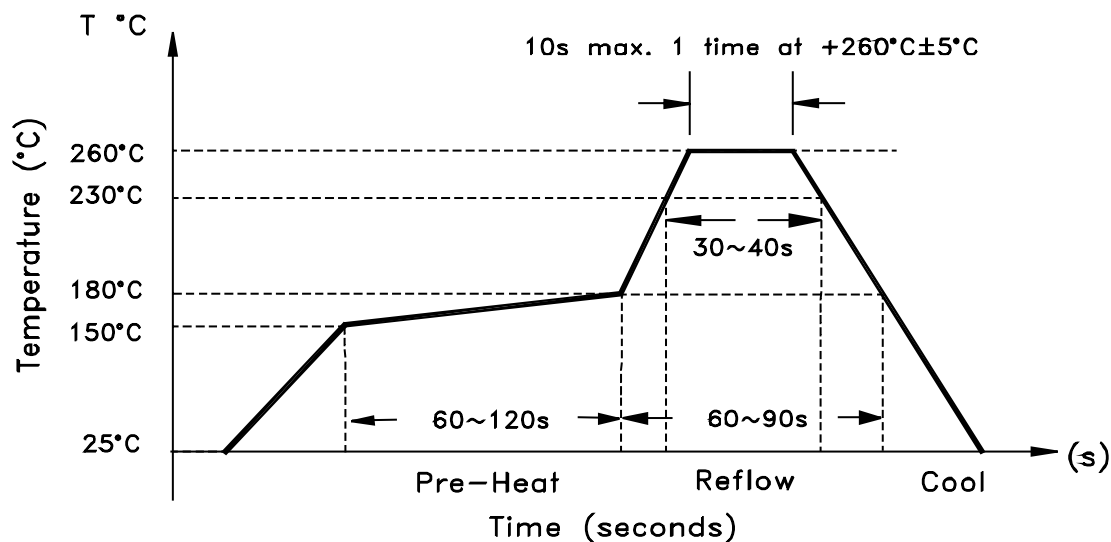
Pb **RoHS**
Compliant

➤ **TAPE AND REEL:** T= tape and reel (1,000pcs/reel)

Dimension : mm



➤ **REFLOW PROFILE:**



NOTE: Abracon manufactured products are intended for general commercial and industrial use. For applications requiring high reliability and/or presenting extreme operating environment, written consent & authorization from Abracon is required.

ABRACON IS
ISO9001:2008
CERTIFIED



Visit www.abracon.com for Terms & Conditions of Sale **Revised: 05.14.10**
30332 Esperanza, Rancho Santa Margarita, California 92688
tel 949-546-8000 | fax 949-546-8001 | www.abracon.com