EL32D1 Series

- RoHS Compliant (Pb-Free)
- LVDS Output Oscillators
- 3.3V supply voltage
- Ceramic 6-pad SMD Package
- Stability to ±25ppm
- Tri-State Output
- Complementary Output
- Available on Tape and Reel

ELECTRICAL SPECIFICATIONS

Frequency Range	61.440MHz, 76.800MHz, 80.000MHz, 125.000MHz, 128.000MHz, 155.520MHz, 156.250MHz, 161.1328MHz, 167.3315MHz	
Operating Temperature Range		0°C to 70°C -40°C to 85°C
Storage Temperature Range		-55°C to 125°C
Supply Voltage (V_{CC})		3.3V_{DC} ±5%
Differential Output Voltage (V_{OD})		247mV Minimum, 355mV Typical, 454mV Maximum
Input Current		80mA Maximum
Frequency Tolerance / Stability	Inclusive of all conditions: Calibration Tolerance at 25°C, Frequency Stability over the Operating Temperature Range, Supply Voltage Change, Output Load Change, 1st Year Aging, Shock, and Vibration	±50ppm or ±25ppm Maximum
Output Voltage Logic High (V_{OH})		1.43V_{DC} Typical, 1.6V_{DC} Maximum
Output Voltage Logic Low (V_{OL})		1.1V_{DC} Typical, 0.9V_{DC} Minimum
V_{DD} Magnitude Change ($_{D}V_{OD}$)		-50mV Minimum, +50mV Maximum
Offset Voltage (V_{OS})		1.125V Minimum, 1.20V Typical, 1.375V Maximum
Rise Time / Fall Time	20% to 80% of waveform	1 nSeconds Maximum
Duty Cycle	at 50% of waveform	50 ±10(%) 50 ±5(%)
Offset Voltage Magnitude Change ($_{D}V_{OS}$)		25mV Maximum
Load Drive Capability	Between Output and Complementary Output	100 Ohms and 10pF
Control Voltage (V_C)	Test Conditions for Frequency Deviation	1.65V_{DC} ±1.65V_{DC}
Control Voltage Range (V_{CR})		0.0V_{DC} to V_{CC} +0.5V_{DC}
Frequency Deviation	Inclusive of Operating Temperature Range, Supply Voltage Change, and Output Load Change	±75ppm Minimum
Linearity		20%, 15%, or 10% Maximum
Transfer Function		Positive Transfer Characteristic
Modulation Bandwidth (MBW)	Measured at -3dB with Contol Voltage of +1.65V_{DC}	10kHz Minimum
Input Impedance (Z_I)		50kOhms Typical
Typical Phase Noise (Fo = 155.520MHz)	at 10Hz Offset at 100Hz Offset at 1kHz Offset at 10kHz Offset at 100kHz Offset at 1MHz Offset	-55dBc/Hz -90dBc/Hz -120dBc/Hz -140dBc/Hz -145dBc/Hz -148dBc/Hz
Logic Control/Additional Output		Tri-State Enable High / Complementary Output
Tri-State Input Voltage	V_{IH} of 70% of V_{CC} Minimum No Connection V_{IL} of 30% of V_{CC} Maximum	Enables Output Enables Output Disables Outputs: High Impedance
RMS Phase Jitter	FJ = 12kHz to 20MHz	0.4pSec Typical, 1 pSec Maximum
Accumulated Period Jitter (t_{acc})	Sigma of Total Jitter Distribution	4pSec Typical, 5pSec Maximum
Period Jitter (t_{rj})	Sigma of Random Jitter	3pSec Typical, 5pSec Maximum
Period Jitter (t_{rms})	Sigma of Total Jitter Distribution	3pSec Typical, 5pSec Maximum
Period Jitter (t_{dj})	Deterministic Jitter	4pSec Typical, 10pSec Maximum
Period Jitter (t_{p-p})	Peak to Peak of Jitter Distribution	27pSec Typical, 40pSec Maximum
Start Up Time		10mSec Maximum

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EL32D1	CERAMIC	3.3V	OS3Z	10/07

PART NUMBERING GUIDE

EL32D1 E E A 2 K - 155.520M TR

FREQUENCY TOLERANCE & STABILITY/ OPERATING TEMPERATURE RANGE
D=±50ppm Maximum over 0°C to +70°C
E=±25ppm Maximum over 0°C to +70°C
H=±50ppm Maximum over -40°C to +85°C

FREQUENCY DEVIATION
E=±75ppm Minimum

LINEARITY
A=20% Maximum
B=15% Maximum
C=10% Maximum

AVAILABLE OPTIONS
Blank=Bulk
TR=Tape and Reel (Standard)

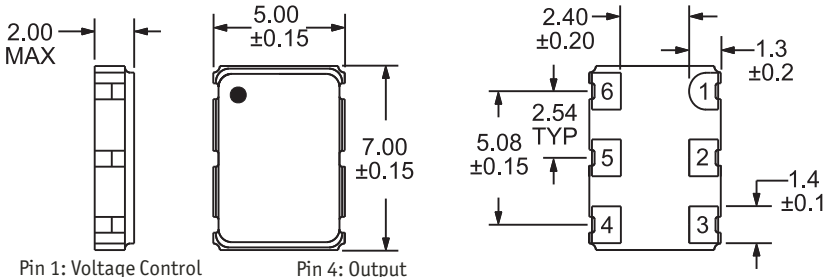
FREQUENCY

LOGIC CONTROL / ADDITIONAL OUTPUT
K=Tri-State (Enable High) / Complementary Output

DUTY CYCLE
1=50% ±10%
2=50% ±5%

MECHANICAL DIMENSIONS

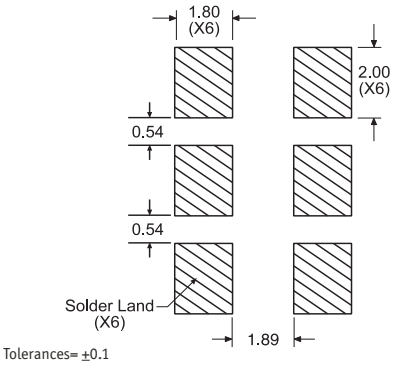
ALL DIMENSIONS IN MILLIMETERS



Pin 1: Voltage Control
Pin 2: Tri-State
Pin 3: Case Ground
Pin 4: Output
Pin 5: Complementary Output
Pin 6: Supply Voltage

SUGGESTED SOLDER PAD LAYOUT

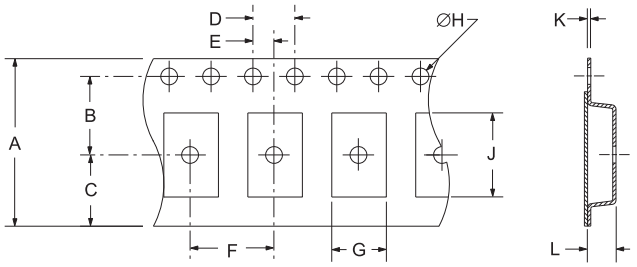
ALL DIMENSIONS IN MILLIMETERS

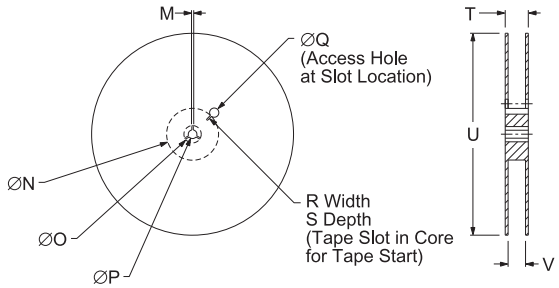


Tolerances= ±0.1

TAPE AND REEL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS





TAPE	A	B	C	D	E
	16±.3-.1	7.5±.1	6.75±.1	4±.1	2±.1
F	G	H	J	K	L
8±.1	B0*	1.5 +.1-0	A0*	.3±.05	K0*

REEL	M	N	O	P	Q
	1.5 MIN	50 MIN	20.2 MIN	13±.2	40 MIN
R	S	T	U	V	QTY/REEL
2.5 MIN	10 MIN	22.4 MAX	360 MAX	16.4+2-0	1,000

*Compliant to EIA 481A

ENVIRONMENTAL/MECHANICAL SPECIFICATIONS

Characteristic	Specification
Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Mechanical Shock	MIL-STD-202, Method 213, Condition C
Vibration	MIL-STD-883, Method 2007, Condition A
Solderability	MIL-STD-883, Method 2002
Temperature Cycling	MIL-STD-883, Method 1010
Resistance to Soldering Heat	MIL-STD-202, Method 210
Resistance to Solvents	MIL-STD-202, Method 215

MARKING SPECIFICATIONS

Line 1: ECLIPTEK

Line 2: XX.XXX M
Frequency in MHz (5 Digits Maximum + Decimal)

Line 3: XX Y ZZ
Week of Year
Last Digit of Year
Ecliptek Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EL32D1	CERAMIC	3.3V	OS3Z	10/07