E32D1 Series

- Voltage Controlled Crystal Oscillators (VCXO)
- LVPECL Output
- +3.3V Supply Voltage
- Complementary Output
- Tri-State Output Function (Pad 2)
- External Voltage Control Function
- 6 Pad Ceramic SMD Package
- RoHS Compliant (Pb-Free)

ELECTRICAL SPECIFICATIONS

Frequency Range (MHz)	50, 51.84, 52, 52.08, 54, 57.1429, 61.44, 63.36, 65.536, 76.8, 77.76, 100, 104, 106.25, 122.88, 125, 126.72, 128, 153.6, 155.52, 156.25, 159.375, 161.1328, 166.6286, 167.3315, 184.32, 186.666, 200MHz	
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%
Input Current	With Load	100mA 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})		V_{CC}-1.025V_{DC} Minimum
Output Voltage Logic Low (V_{OL})		V_{CC}-1.620V_{DC} Maximum
Rise Time / Fall Time	20% to 80% of waveform	1.5 nSeconds Maximum
Duty Cycle	at 50% of waveform	50 ±10(%) 50 ±5(%)
Load Drive Capability		50 Ohms into V_{CC}-2.0V_{DC}
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 Low / Complementary Output
Tri-State Input Voltage	V_{IH} of 70% of V_{CC} Minimum No Connection V_{IL} of 30% of V_{CC} Maximum	Disables Outputs: High Impedance Enables Output Enables Output
RMS Phase Jitter	FJ = 12kHz to 20MHz	0.4pSec Typical, 1pSec 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		10 mSeconds Maximum

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	E32D1	CERAMIC	3.3V	OS3Y	01/11

PART NUMBERING GUIDE

E32D1 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 & Reel

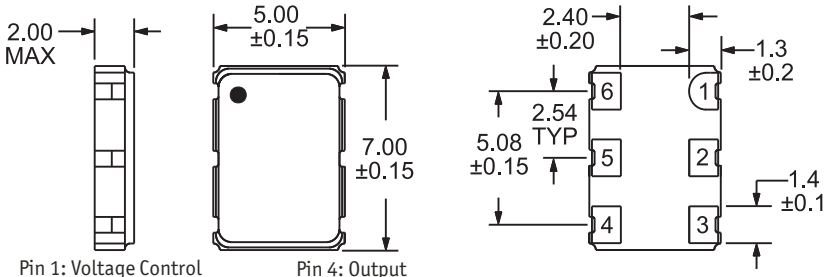
FREQUENCY

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

DUTY CYCLE
1=50% ±10%
2=50% ±5%

MECHANICAL DIMENSIONS

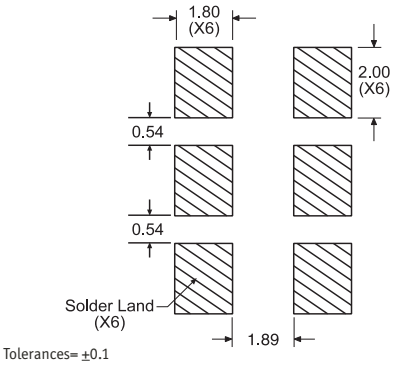
ALL DIMENSIONS IN MILLIMETERS



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

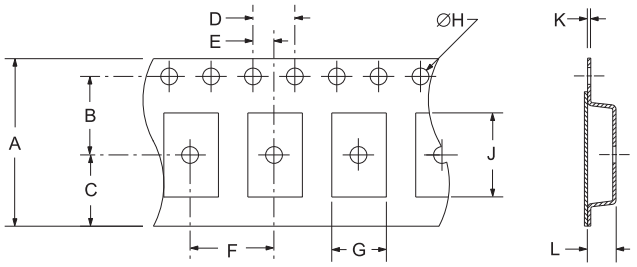
ALL DIMENSIONS IN MILLIMETERS

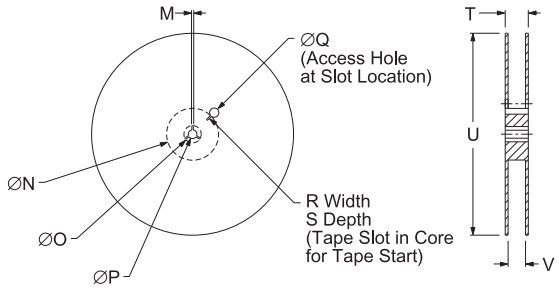


Tolerances= ±0.1

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	E32D1	CERAMIC	3.3V	OS3Y	01/11