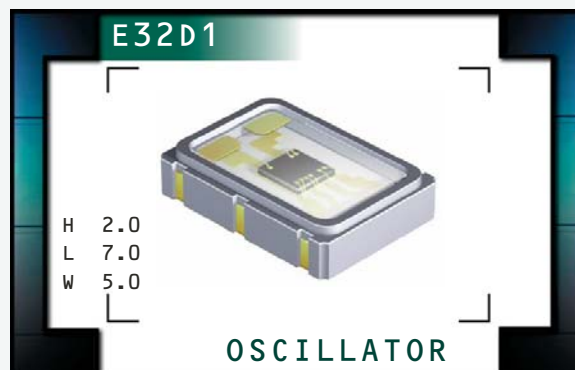


E32D1 Series

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



ECLIPTEK
CORPORATION



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} $\pm 5\%$	
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	± 50 ppm or ± 25 ppm 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} $\pm 1.65V_{DC}$
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	± 75 ppm Minimum
Linearity	20%, 15%, or 10% Maximum	
Transfer Function	Positive Transfer Characteristic	
Modulation Bandwidth (MBW)	Measured at -3dB with Control 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_{ri})	Sigma of Random Jitter	3pSec Typical, 5pSec Maximum
Period Jitter (t_{rms})	Sigma of Total Jitter Distribution	3pSec Typical, 5pSec Maximum
Period Jitter (t_{ji})	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
ECLIPTEK CORP.

CATEGORY
OSCILLATOR

SERIES
E32D1

PACKAGE
CERAMIC

VOLTAGE
3.3V

CLASS
OS3Y

REV. DATE
10/07

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 and Reel (Standard)

FREQUENCY

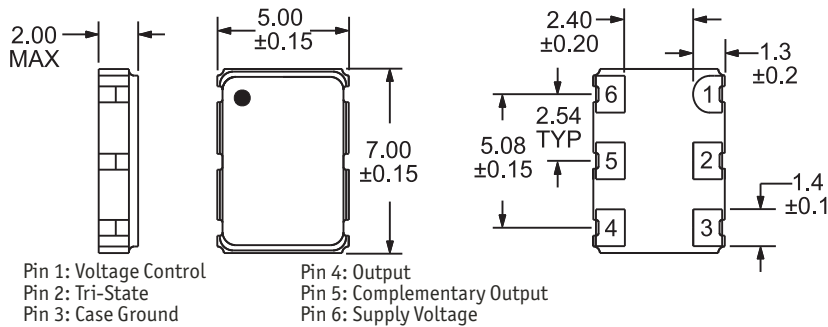
LOGIC CONTROL / ADDITIONAL OUTPUT

K=Tri-State (Enable Low) / Complementary Output

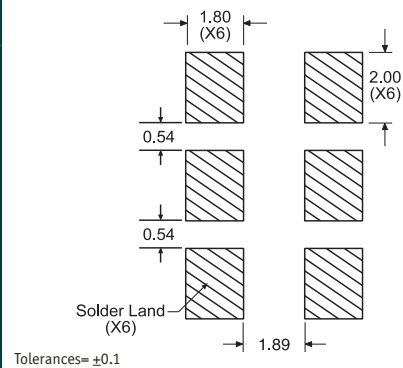
DUTY CYCLE

1=50% ±10%
2=50% ±5%

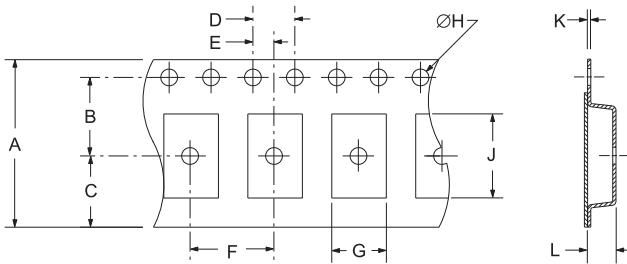
MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



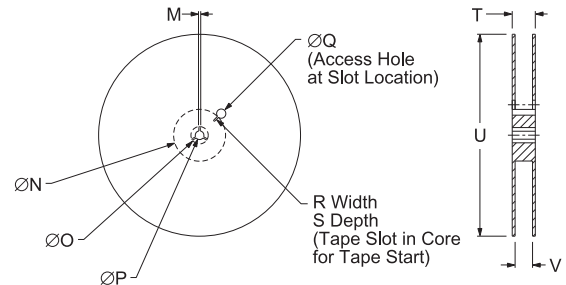
SUGGESTED SOLDER PAD LAYOUT ALL DIMENSIONS IN MILLIMETERS



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

Fine Leak Test
Gross Leak Test
Mechanical Shock
Vibration
Solderability
Temperature Cycling
Resistance to Soldering Heat
Resistance to Solvents

Specification

MIL-STD-883, Method 1014, Condition A
MIL-STD-883, Method 1014, Condition C
MIL-STD-202, Method 213, Condition C
MIL-STD-883, Method 2007, Condition A
MIL-STD-883, Method 2002
MIL-STD-883, Method 1010
MIL-STD-202, Method 210
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
Eclipse Manufacturing Identifier

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	E32D1	CERAMIC	3.3V	OS3Y	10/07