

EP36 Series

- Programmable Crystal Oscillators
- LVCMOS Output
- +3.3V Supply Voltage
- Tri-State and Power Down Options
- 4 Pad Ceramic SMD Package
- RoHS Compliant (Pb-Free)



ELECTRICAL SPECIFICATIONS

Frequency Range	1.000MHz to 106.250MHz	
Operating Temperature Range	-20°C to 70°C or -40°C to 85°C	
Storage Temperature Range	-55°C to 125°C	
Supply Voltage (V_{DD})	3.3V _{DC} ±0.3V _{DC}	
Input Current	28mA Maximum (Unloaded)	
Disable Current (TS Option)	16mA Maximum (Pin 1=Ground)	
Standby Current (PD Option)	20µA Maximum (Pin 1=Ground)	
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, First Year Aging at 25°C, Shock, and Vibration	±100ppm or ±50ppm Maximum
Output Voltage Logic High (V_{OH})	V _{DD} -0.4V _{DC} Minimum I _{OH} =-8mA	
Output Voltage Logic Low (V_{OL})	0.4V _{DC} Maximum I _{OL} =+8mA	
Rise Time / Fall Time	20% to 80% of waveform	4 nSeconds Maximum
Duty Cycle	at 50% of waveform	50 ±10(%)
	at 50% of waveform (≤50.000MHz Only)	50 ±5(%)
Load Drive Capability	≤50.000MHz	30pF Maximum
	>50.000MHz	15pF Maximum
Output Control Function	TS	Tri-State
	PD	Power Down
Output Control Function Input Voltage	V _{IH} : No Connection or ≥70% of V _{DD}	Enables Output
	V _{IL} : (TS Option) ≤20% of V _{DD}	Disable Output: High Impedance
	V _{IL} : (PD Option) ≤20% of V _{DD}	Disable Output: Logic Low
Aging (at 25°C)	±5ppm / year Maximum	
Start Up Time	10 mSeconds Maximum	
Period Jitter: Absolute	≤33.000MHz	±250pSec Maximum, ±100pSec Typical
	>33.000MHz	±125pSec Maximum, ±75pSec Typical
Period Jitter: One Sigma	≤33.000MHz	±50pSec Maximum
	>33.000MHz	±40pSec Maximum

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES EP36	PACKAGE CERAMIC	VOLTAGE 3.3V	CLASS OS89	REV. DATE 01/04
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PART NUMBERING GUIDE

EP36 00 ETTTS - 24.000M TR

FREQUENCY TOLERANCE / STABILITY

00=±100ppm Maximum
45=±50ppm Maximum

OPERATING TEMP. RANGE

Blank=-20°C to 70°C
ET=-40°C to 85°C

DUTY CYCLE

Blank=50 ±10(%)
T=50 ±5(%)

AVAILABLE OPTIONS

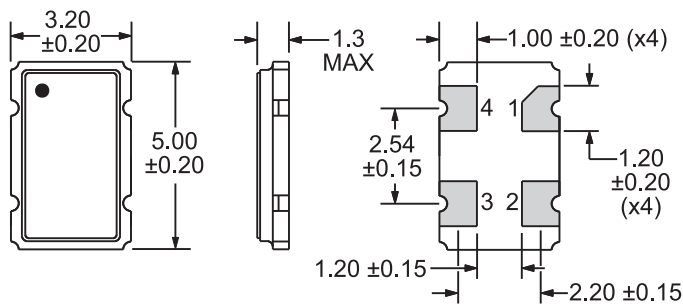
Blank=Bulk
TR=Tape & Reel

FREQUENCY

OUTPUT CONTROL FUNCTION

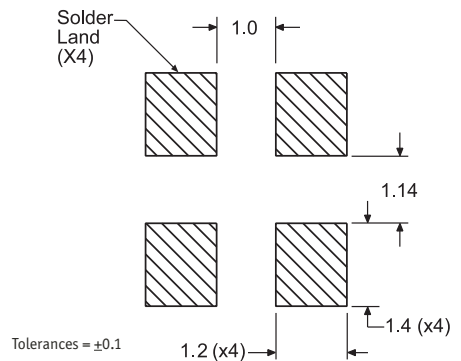
TS=Tri-State
PD=Power Down

MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



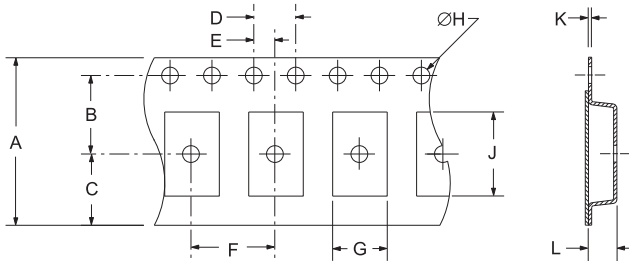
Pin 1: Tri-State or Power Down
Pin 2: Case Ground
Pin 3: Output
Pin 4: Supply Voltage

SUGGESTED SOLDER PAD LAYOUT ALL DIMENSIONS IN MILLIMETERS

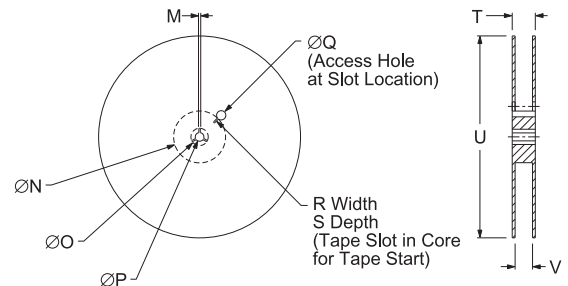


Tolerances = ±0.1

TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



TAPE	A	B	C	D	E
	12.0±0.2	5.5±0.1	6.5±0.1	4.0±0.1	2.0±0.1
F	G	H	J	K	L
8.0±0.1	B0*	1.5 +0.1-0.0	A0*	0.30 ±0.05	K0*



REEL	M	N	O	P	Q
	1.5 MIN	50 MIN	20.2 MIN	13.0±0.2	40 MIN
R	S	T	U	V	QTY/REEL
2.5 MIN	10 MIN	18.4 MAX	180 MAX	12.4+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: E XX.XXX — Frequency in MHz (5 Digits Maximum + Decimal)

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EP36	CERAMIC	3.3V	OS89	01/04