

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 at 50% of waveform (≤50.000MHz Only)	50 ±10(%) 50 ±5(%)
Load Drive Capability	≤50.000MHz >50.000MHz	30pF Maximum 15pF Maximum
Output Logic Type		CMOS
Output Control Function	TS PD	Tri-State Power Down
Output Control Function Input Voltage	V_{IH} : No Connection or ≥70% of V_{DD} V_{IL} : (TS Option) ≤20% of V_{DD} V_{IL} : (PD Option) ≤20% of V_{DD}	Enables Output Disable Output: High Impedance Disable Output: Logic Low
Aging (at 25°C)		±5ppm / year Maximum
Start Up Time		10 mSeconds Maximum
Period Jitter: Absolute	≤33.000MHz >33.000MHz	±250pSec Maximum, ±100pSec Typical ±125pSec Maximum, ±75pSec Typical
Period Jitter: One Sigma	≤33.000MHz >33.000MHz	±50pSec Maximum ±40pSec Maximum

MANUFACTURER ECLIPTEK CORP.	CATEGORY OSCILLATOR	SERIES EP36	PACKAGE CERAMIC	VOLTAGE 3.3V	CLASS OS89	REV. DATE 10/11
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PART NUMBERING GUIDE

EP36 00 ET TS - 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

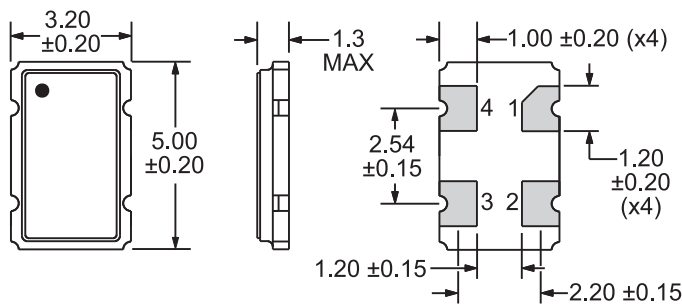
Blank = Bulk
TR = Tape & Reel

FREQUENCY

OUTPUT CONTROL FUNCTION

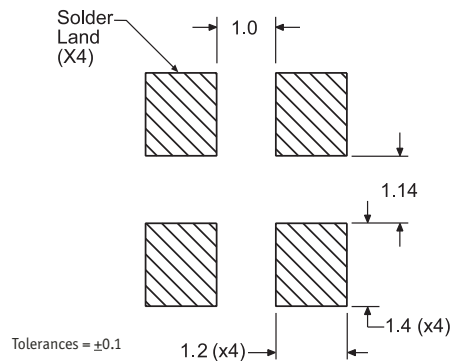
TS = Tri-State
PD = Power Down

MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS

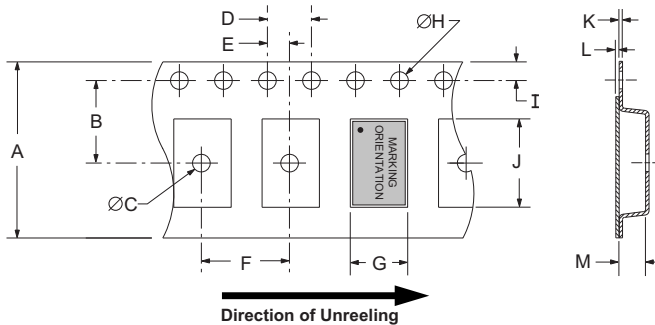


Pin 1: Tri-State or Power Down
Pin 2: Case Ground
Pin 3: Output
Pin 4: Supply Voltage

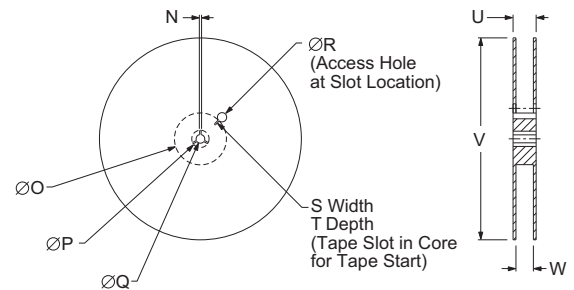
SUGGESTED SOLDER PAD LAYOUT ALL DIMENSIONS IN MILLIMETERS



TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



TAPE	A	B	C	D	E	F
	16.0 ±0.3	7.5 ±0.1	1.50 MIN	4.0 ±0.1	2.0 ±0.1	8.0 ±0.1
G	H	I	J	K	L	M
A0	1.5 +0.1/-0.0	1.75 ±0.10	B0	0.60 MAX	0.10 MAX	K0



REEL	N	O	P	Q	R
	1.5 MIN	50 MIN	20.2 MIN	13.0 ±0.2	40 MIN
S	T	U	V	W	QTY/REEL
2.5 MIN	10 MIN	22.4 MAX	180 MAX	16.4 +2.0/-0.0	1,000

Note: Compliant to EIA-481

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)
 — Ecliptek Designator

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EP36	CERAMIC	3.3V	OS89	10/11

Mouser Electronics

Authorized Distributor

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Ecliptek:

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[EP3600ETTS](#) [EP3600TTS](#) [EP3600TPD](#) [EP3600ETTPD](#) [EP3600ETTTS](#) [EP3600TS-66.000M](#) [EP3600ETTS-](#)
[9.8304M](#) [EP3645ETTPD-25.000M](#) [EP3645ETPD-25.000M](#)