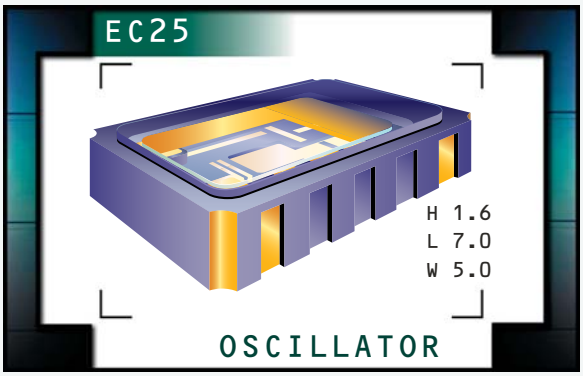
EC25 Series

- Ceramic SMD package
- 5.0V supply voltage
- HCMOS/TTL output
- Stability to 20ppm
- Available on tape and reel



ELECTRICAL SPECIFICATIONS

Frequency Range		1.544MHz to 106.250MHz
Operating Temperature Range	±100ppm, ±50ppm or ±25ppm	-10°C to 70°C or -40°C to 85°C
	±20ppm	-10°C to 70°C
Storage Temperature Range		-55°C to 125°C
Supply Voltage (V_{DD})		5.0V_{DC} ±10%
Input Current	1.544MHz to 36.000MHz	20mA Maximum
	36.001MHz to 70.000MHz	55mA Maximum
	70.001MHz to 106.250MHz	70mA Maximum
Frequency Tolerance / Stability*	Inclusive of Operating Temperature Range,	±100ppm, ±50ppm, ±25ppm or
	Supply Voltage, and Load	±20ppm Maximum
Output Voltage Logic High (V_{OH})	w/TTL Load	2.4V_{DC} Minimum
	w/HCMOS Load	V_{DD}-0.5V_{DC} Minimum
Output Current (I_{OH})	Load Drive Option "Blank"	-4mA ≤32.000MHz, -16mA >32.000MHz
	Load Drive Option "Y"	-16mA ≤70.000MHz
Output Voltage Logic Low (V_{OL})	w/TTL Load	0.4V_{DC} Maximum
	w/HCMOS Load	0.5V_{DC} Maximum
Output Current (I_{OL})	Load Drive Option "Blank"	+4mA ≤32.000MHz, +16mA >32.000MHz
	Load Drive Option "Y"	+16mA ≤70.000MHz
Rise / Fall Time	10% to 90% of Waveform w/30pF HCMOS Load; 0.4V_{DC} to 2.4V_{DC} w/10LSTTL Load	10nSec Max. ≤70.000MHz
	10% to 90% of Waveform w/15pF HCMOS Load; 0.4V_{DC} to 2.4V_{DC} w/10LSTTL Load	5nSec Max. >70.000MHz
	10% to 90% of Waveform w/50pF HCMOS Load; 0.4V_{DC} to 2.4V_{DC} w/10TTL Load	5nSec Max. ≤70.000MHz
Duty Cycle	at 50% of Waveform w/HCMOS Load or 1.4V_{DC} w/TTL Load	50 ±10(%) (Standard) ≤70.000MHz
	at 50% of Waveform w/TTL Load or w/HCMOS Load	50 ±10(%) (Standard) >70.000MHz
	at 50% of Waveform w/TTL Load or w/HCMOS Load	50 ±5(%) (Optional) ≤70.000MHz
	at 50% of Waveform w/HCMOS Load	50 ±5(%) (Optional) >70.000MHz
Load Drive Capability	≤70.000MHz	10LSTTL Load or 30pF HCMOS Load
	>70.000MHz	10LSTTL Load or 15pF HCMOS Load
	≤70.000MHz (Option "Y")	10TTL Load or 50pF HCMOS Load
Tri-State Input Voltage	No Connection	Enables Output
	V_{IH}: ≥2.0V_{DC}	Enables Output
	V_{IL}: ≤0.8V_{DC}	Disables Output: High Impedance
Aging (at 25°C)		±5ppm / year Maximum
Start Up Time		10mSeconds Maximum
Period Jitter: Absolute		±100pSeconds Maximum
Period Jitter: One Sigma		±25pSeconds Maximum

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EC25	CERAMIC	5.0V	OS29	03/02

PART NUMBERING GUIDE

EC25 00 ET T TS Y - 40.000M TR

FREQUENCY TOLERANCE / STABILITY
00=±100ppm Maximum (Standard)
45=±50ppm Maximum, 25=±25ppm Maximum
20=±20ppm Maximum

OPERATING TEMPERATURE RANGE
Blank=-10°C to 70°C (Standard)
ET=-40°C to 85°C

DUTY CYCLE
Blank=50 ±10(%) (Standard), T=50 ±5(%)

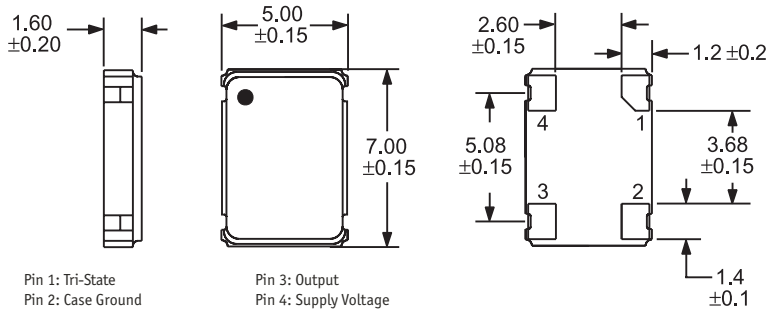
PACKAGING OPTIONS
Blank=Bulk (Standard)
TR=Tape and Reel

FREQUENCY

LOAD DRIVE CAPABILITY
Blank=10LSTTL
or 15pF/30pF HCMOS Load Maximum
Y=10TTL or 50pF HCMOS Load Maximum

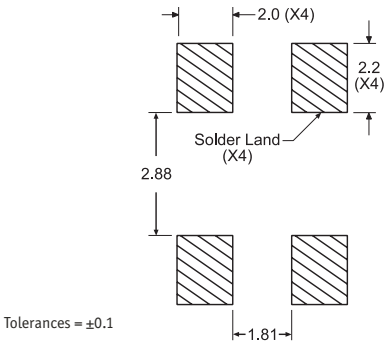
OUTPUT CONTROL FUNCTION
TS=Tri-State

MECHANICAL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS



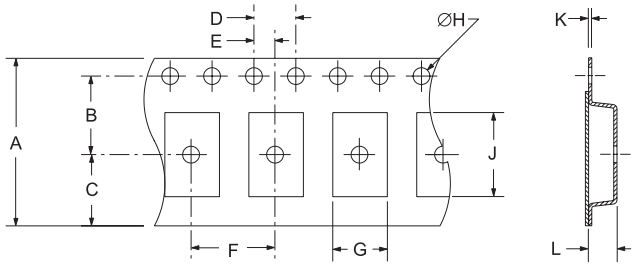
Pin 1: Tri-State
Pin 2: Case Ground
Pin 3: Output
Pin 4: Supply Voltage

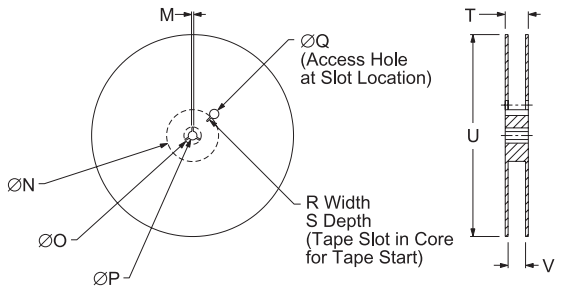
SUGGESTED SOLDER PAD LAYOUT
ALL DIMENSIONS IN MILLIMETERS



Tolerances = ±0.1

TAPE AND REEL DIMENSIONS
ALL DIMENSIONS IN MILLIMETERS





TAPE	A	B	C	D	E
	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
Seal Integrity	Bubble test in Perfluorocarbon at +125°C ±5°C for 60 seconds minimum.
Solderability	Sn63 Solder dip at +230°C ±5°C for 5 seconds/95% coverage.
Marking Permanency	10 Strokes with brush after 1 minute soak in solvent, 3 times.
Shock	Random drop on hard wooden plate 3 times from a height of 50cm.
Thermal Shock	300 cycles from -55°C to 125°C.

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	EC25	CERAMIC	5.0V	OS29	03/02