

# EB52C5 Series



**ECLIPTEK**<sup>®</sup>  
CORPORATION

- Temperature Compensated Crystal Oscillators (TCXO)
- LVCMOS Output
- +3.3V Supply Voltage
- Tri-State Output Function
- 4 Pad Ceramic SMD Package
- RoHS Compliant (Pb-Free)



## NOTES

### ELECTRICAL SPECIFICATIONS

<b>Nominal Frequency (MHz)</b>	12.800MHz, 14.7456MHz, 16.384MHz, 19.200MHz, 19.440MHz, 25.000MHz, 26.000MHz, 32.000MHz, and 40.000MHz	
<b>Frequency Stability</b>	vs. Frequency Tolerance (25°C ±2°C, V <sub>DD</sub> = 3.3V <sub>DC</sub> )	±3.0ppm Maximum
	vs. Temperature (V <sub>DD</sub> = 3.3V <sub>DC</sub> )	±2.5ppm Maximum (-20°C to +70°C only)
	vs. Input Voltage (±5%)	±5.0ppm Maximum
	vs. Aging (at 25°C)	±0.5ppm Maximum
	vs. Load (±1pF)	±1.0ppm / Year Maximum
	vs. Reflow (at 25°C, 1 hour after reflow, 2 times)	±0.2ppm Maximum
		±1.0ppm Maximum
<b>Operating Temperature Range</b>	-20°C to +70°C, -40°C to +85°C	
<b>Supply Voltage (V<sub>DD</sub>)</b>	3.3V <sub>DC</sub> ±5%	
<b>Input Current</b>	12.800MHz to 19.440MHz	3mA Maximum
	19.440001MHz to 40.000MHz	5mA Maximum
<b>Output Voltage Logic High (V<sub>OH</sub>)</b>	I <sub>OH</sub> = -4mA	90% of V <sub>DD</sub> Minimum
<b>Output Voltage Logic Low (V<sub>OL</sub>)</b>	I <sub>OL</sub> = +4mA	10% of V <sub>DD</sub> Maximum
<b>Rise/Fall Time</b>	Measured at 20% to 80% of Waveform	6nSec Maximum
<b>Duty Cycle</b>	Measured at 50% of Waveform	50 ±5(%)
<b>Load Drive Capability</b>		15pF Maximum
<b>Phase Noise (at 25°C)</b>	At offset of 100Hz	-100dBc/Hz
	At offset of 1kHz	-125dBc/Hz
	At offset of 10kHz	-143dBc/Hz
<b>Tri-State Input Voltage (V<sub>IH</sub> and V<sub>IL</sub>)</b>	90% of V <sub>DD</sub> Minimum or No Connect	Enables Output
	10% of V <sub>DD</sub> Maximum	Disables Output: High Impedance
<b>Standby Current</b>	Disabled Output: High Impedance	10µA Maximum
<b>RMS Phase Jitter</b>	F <sub>J</sub> = 12kHz to 20MHz	1pSec Maximum
<b>Start Up Time</b>		3mSec Maximum
<b>Storage Temperature Range</b>		-55°C to +125°C

MANUFACTURER	CATEGORY	SERIES	PACKAGE	VOLTAGE	CLASS	REV. DATE
ECLIPTEK CORP.	OSCILLATOR	EB52C5	CERAMIC	3.3V	057Y	05/10

## PART NUMBERING GUIDE

### EB52C5 C 25 C H - 25.000M TR

#### FREQUENCY STABILITY VS. FREQUENCY TOLERANCE

C=±3.0ppm Maximum

#### FREQUENCY STABILITY VS. TEMPERATURE

25=±2.5ppm Maximum

50=±5.0ppm Maximum

#### OPERATING TEMPERATURE RANGE

C=-20°C to +70°C

G=-40°C to +85°C

#### PACKAGING OPTIONS

Blank=Bulk

TR=Tape & Reel

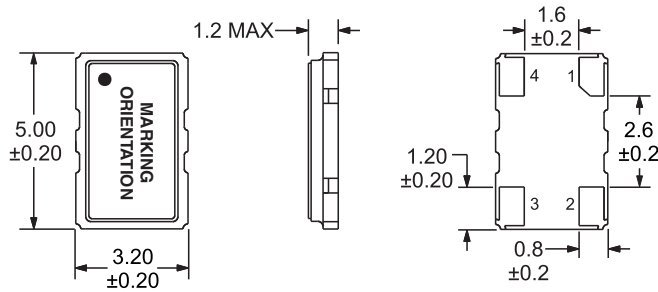
#### FREQUENCY

#### PIN 1 CONNECTION

H=Tri-State (High Impedance)

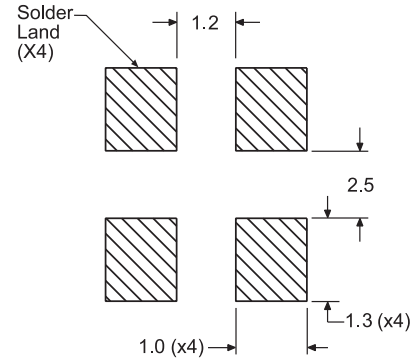
#### MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



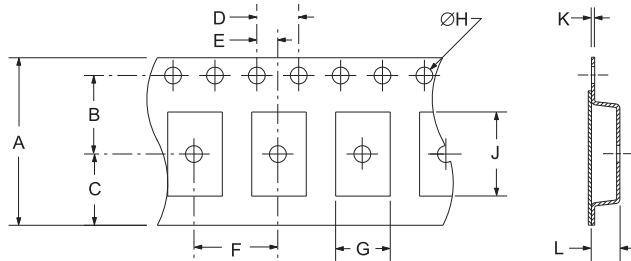
#### SUGGESTED SOLDER PAD LAYOUT

ALL DIMENSIONS IN MILLIMETERS

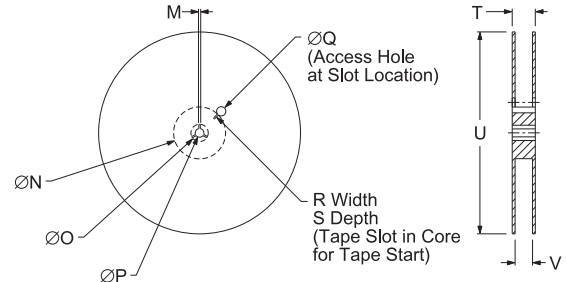


#### TAPE AND REEL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



TAPE	A	B	C	D	E
	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
ESD Susceptibility	MIL-STD-883, Method 3015, Class 1, HBM: 1500V
Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Flammability	UL94-V0
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Mechanical Shock	MIL-STD-883, Method 2002, Condition B
Moisture Resistance	MIL-STD-883, Method 1004
Moisture Sensitivity	J-STD-020, MSL 1
Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K
Resistance to Solvents	MIL-STD-202, Method 215
Solderability	MIL-STD-883, Method 2003
Temperature Cycling	MIL-STD-883, Method 1010, Condition B
Vibration	MIL-STD-883, Method 2007, Condition A

#### MARKING SPECIFICATIONS

Line 1: E XX.XXX  
Frequency in MHz (5 Digits Maximum + Decimal)

Line 2: XXXXX  
Ecliptek Manufacturing Identifier

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