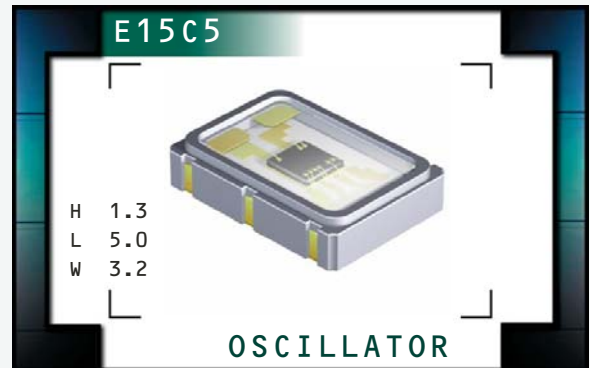


# E15C5 Series



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

- Crystal Clock Oscillators
- LVPECL Output
- +2.5V Supply Voltage
- Complementary Output
- Tri-State Output Function
- 6 Pad Ceramic SMD Package
- Low Stand-by Current
- RoHS Compliant (Pb-Free)



## ELECTRICAL SPECIFICATIONS

|   |  |
|---|--|
| <b>Nominal Frequency (MHz)</b>                    | 74.25MHz, 77.76MHz, 78.125MHz, 80MHz, 80.157MHz, 85MHz, 87.125MHz, 90MHz, 100MHz, 106.25MHz, 110MHz, 119MHz, 120MHz, 122.888MHz, 124.4MHz, 125MHz, 127MHz, 128MHz, 131.072MHz, 133MHz, 133.33MHz, 133.333MHz, 135MHz, 137.472MHz, 150MHz, 155.52MHz, 156.25MHz, 159.375MHz, or 161.1328MHz |
| <b>Operating Temperature Range</b>                | 0°C to 70°C, or -40°C to +85°C   |
| <b>Storage Temperature Range</b>                  | -55°C to 125°C   |
| <b>Supply Voltage (V<sub>CC</sub>)</b>            | 2.5V <sub>DC</sub> ±5%   |
| <b>Input Current</b>                              | 75mA Maximum   |
| <b>Frequency Tolerance / Stability</b>            | 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 at 25°C, Shock, and Vibration<br>±100ppm, ±50ppm, ±25ppm, or ±20ppm Maximum                                |
| <b>Output Voltage Logic High (V<sub>OH</sub>)</b> | 0°C to 85°C<br>-40°C to 0°C<br>V <sub>CC</sub> -1.025V <sub>DC</sub> Minimum<br>V <sub>CC</sub> -1.085V <sub>DC</sub> Minimum  |
| <b>Output Voltage Logic Low (V<sub>OL</sub>)</b>  | 0°C to 85°C<br>-40°C to 0°C<br>V <sub>CC</sub> -1.405V <sub>DC</sub> Maximum<br>V <sub>CC</sub> -1.305V <sub>DC</sub> Maximum  |
| <b>Rise Time / Fall Time</b>                      | 20% to 80% of waveform<br>300pSec Typical, 700pSec Maximum   |
| <b>Duty Cycle</b>                                 | at 50% of waveform<br>50 ±5(%)   |
| <b>Load Drive Capability</b>                      | 50 Ohms into V <sub>CC</sub> -2.0V <sub>DC</sub>   |
| <b>Logic Control / Additional Output</b>          | Complementary Output and Tri-State   |
| <b>Tri-State Input Voltage</b>                    | V <sub>IH</sub> of 70% of V <sub>CC</sub> Minimum<br>No Connection<br>V <sub>IL</sub> of 30% of V <sub>CC</sub> Maximum<br>Enables Output<br>Enables Output<br>Disables Output: High Impedance   |
| <b>Standby Current</b>                            | Without Load<br>30µA Maximum   |
| <b>Start Up Time</b>                              | 10 mSeconds Maximum  |
| <b>RMS Phase Jitter</b>                           | FJ = 12kHz to 20MHz<br>0.4pSec Typical, 1 pSec Maximum   |
| <b>Typical Phase Noise</b>                        | Fo=156.250MHz<br>-60dBc/Hz at 10Hz Offset<br>-95dBc/Hz at 100Hz Offset<br>-125dBc/Hz at 1kHz Offset<br>-143dBc/Hz at 10kHz Offset<br>-145dBc/Hz at 100kHz Offset<br>-145dBc/Hz at 1MHz Offset<br>-146dBc/Hz at 10MHz Offset  |

MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
OSCILLATOR

SERIES  
E15C5

PACKAGE  
CERAMIC

VOLTAGE  
2.5V

CLASS  
OS6W

REV. DATE  
07/09

# PART NUMBERING GUIDE

## E15C5 E 2 F - 155.520M TR

### FREQUENCY TOLERANCE & STABILITY/ OPERATING TEMPERATURE RANGE

C=±100ppm Maximum over 0°C to +70°C  
 D=±50ppm Maximum over 0°C to +70°C  
 E=±25ppm Maximum over 0°C to +70°C  
 F=±20ppm Maximum over 0°C to +70°C  
 G=±100ppm Maximum over -40°C to +85°C  
 H=±50ppm Maximum over -40°C to +85°C  
 J=±25ppm Maximum over -40°C to +85°C

### AVAILABLE OPTIONS

Blank=Bulk  
 TR=Tape & Reel

### FREQUENCY

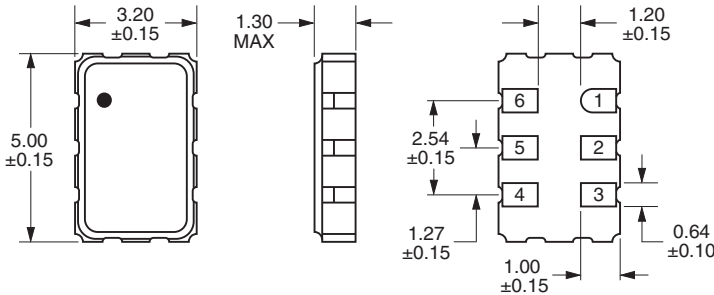
### LOGIC CONTROL/ADDITIONAL OUTPUT

F=Complementary Output and Tri-State

### DUTY CYCLE

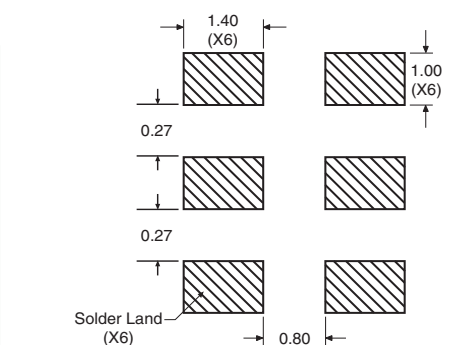
2=50±5(%)

### MECHANICAL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS

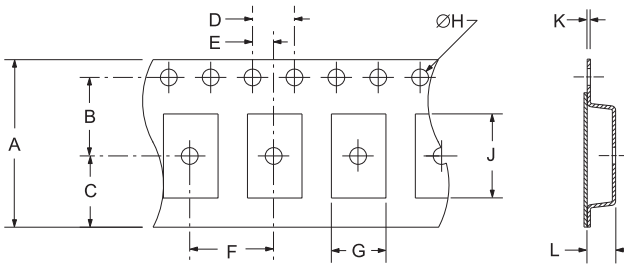


Pin 1: Tri-State  
 Pin 2: No Connect  
 Pin 3: Case Ground  
 Pin 4: Output  
 Pin 5: Complementary Output  
 Pin 6: Supply Voltage

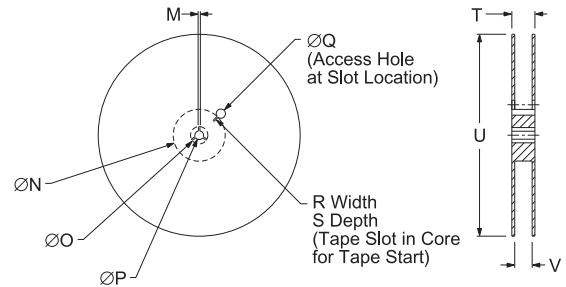
### SUGGESTED SOLDER PAD LAYOUT ALL DIMENSIONS IN MILLIMETERS



### TAPE AND REEL DIMENSIONS ALL DIMENSIONS IN MILLIMETERS



| TAPE | A       | B       | C           | D       | E       |
|------|---------|---------|-------------|---------|---------|
|      | 16±0.3  | 7.5±0.1 | 6.75±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*     | 0.3±0.1 |



| 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 | 22.4 MAX | 360 MAX  | 16.4+2/-0 |

\*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: EXX.XXX — Frequency in MHz (5 Digits Maximum + Decimal)

Line 2: XX Y ZZ  
 — Week of Year  
 — Last Digit of Year  
 — Ecliptek Manufacturing Identifier

| MANUFACTURER   | CATEGORY   | SERIES | PACKAGE | VOLTAGE | CLASS | REV. DATE |
|----------------|------------|--------|---------|---------|-------|-----------|
| ECLIPTEK CORP. | OSCILLATOR | E13C5  | CERAMIC | 2.5V    | OS6W  | 07/09     |