

ES52W4C30N-10.000M TR

[Click part number to visit Part Number Details page](#)

REGULATORY COMPLIANCE (Data Sheet downloaded on Apr 29, 2016)



ITEM DESCRIPTION

Temperature Compensated Quartz Crystal Clock Oscillators TCXO Clipped Sinewave 3.3Vdc 4 Pad 11.7mm x 21.3mm x 4.5mm PCB Surface Mount Metal (SMD) 10.000MHz ± 3.0 ppm Maximum -20°C to +70°C

ELECTRICAL SPECIFICATIONS

Nominal Frequency	10.000MHz
Frequency Stability	± 3.0 ppm Maximum (Inclusive of Operating Temperature Range)
Frequency Stability vs. Input Voltage	± 0.3 ppm Maximum ($\pm 5\%$)
Frequency Stability vs. Load	± 0.2 ppm Maximum (± 2 pF)
Aging at 25°C	± 1 ppm/Year Maximum
Operating Temperature Range	-20°C to +70°C
Supply Voltage	3.3Vdc $\pm 5\%$
Input Current	2.0mA Maximum
Output Voltage	0.7Vp-p Minimum
Load Drive Capability	10kOhms//10pF
Output Logic Type	Clipped Sinewave
Control Voltage	None (No Connect on Pin 1)
Internal Trim	± 3 ppm Minimum (Top of Can)
Modulation Bandwidth	10kHz Minimum (Measured at -3dB with a Control Voltage of 1.65Vdc)
Input Impedance	10kOhms Typical
Phase Noise	-70dBc at 10Hz Offset, -100dBc at 100Hz Offset, -130dBc at 1kHz Offset, -140dBc at 10kHz Offset, -145dBc at 100kHz Offset (Typical Values Fo=19.200MHz at 25°C at Nominal Vdd and Vc)
Storage Temperature Range	-40°C to +85°C

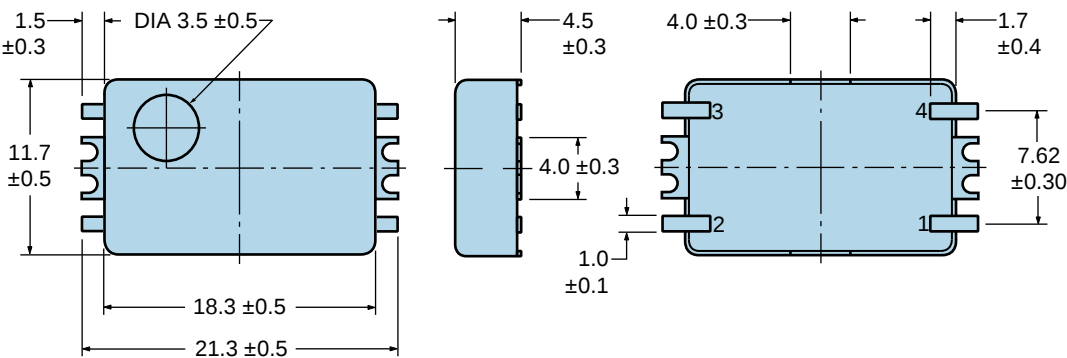
ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

Fine Leak Test	MIL-STD-883, Method 1014 Condition A (Internal Crystal Only)
Gross Leak Test	MIL-STD-883, Method 1014 Condition C (Internal Crystal Only)
Lead Integrity	MIL-STD-883, Method 2004
Mechanical Shock	MIL-STD-202, Method 213 Condition C
Resistance to Soldering Heat	MIL-STD-202, Method 210
Resistance to Solvents	MIL-STD-202, Method 215
Solderability	MIL-STD-883, Method 2003
Temperature Cycling	MIL-STD-883, Method 1010
Vibration	MIL-STD-883, Method 2007 Condition A

ES52W4C30N-10.000M TR

 Click part number to visit
Part Number Details page

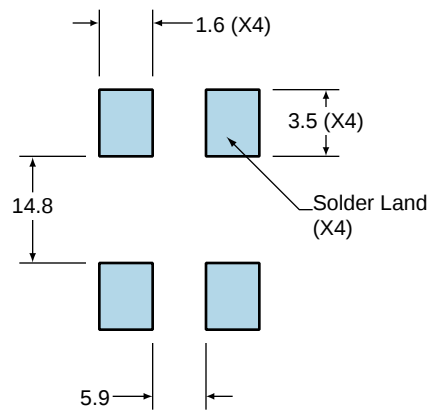
MECHANICAL DIMENSIONS (all dimensions in millimeters)



LINE	MARKING
1	ECLIPTEK
2	10.000M <i>M=Nominal Frequency Unit of Measure</i>
3	XXYYZ <i>XX=Ecliptek Manufacturing Code Y=Last Digit of the Year ZZ=Week of the Year</i>

Suggested Solder Pad Layout

All Dimensions in Millimeters

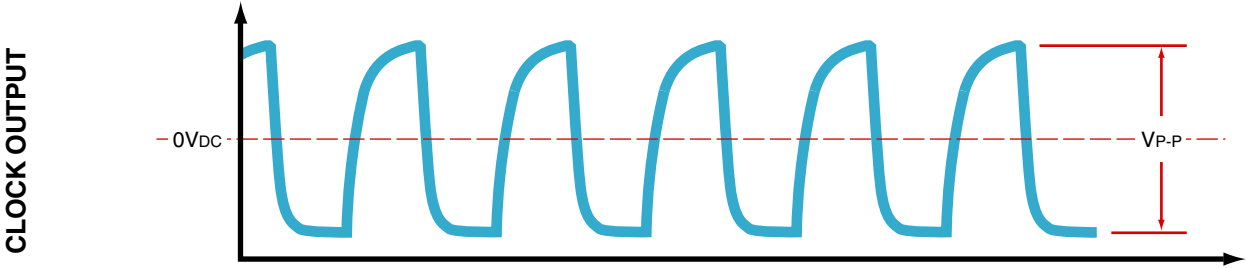


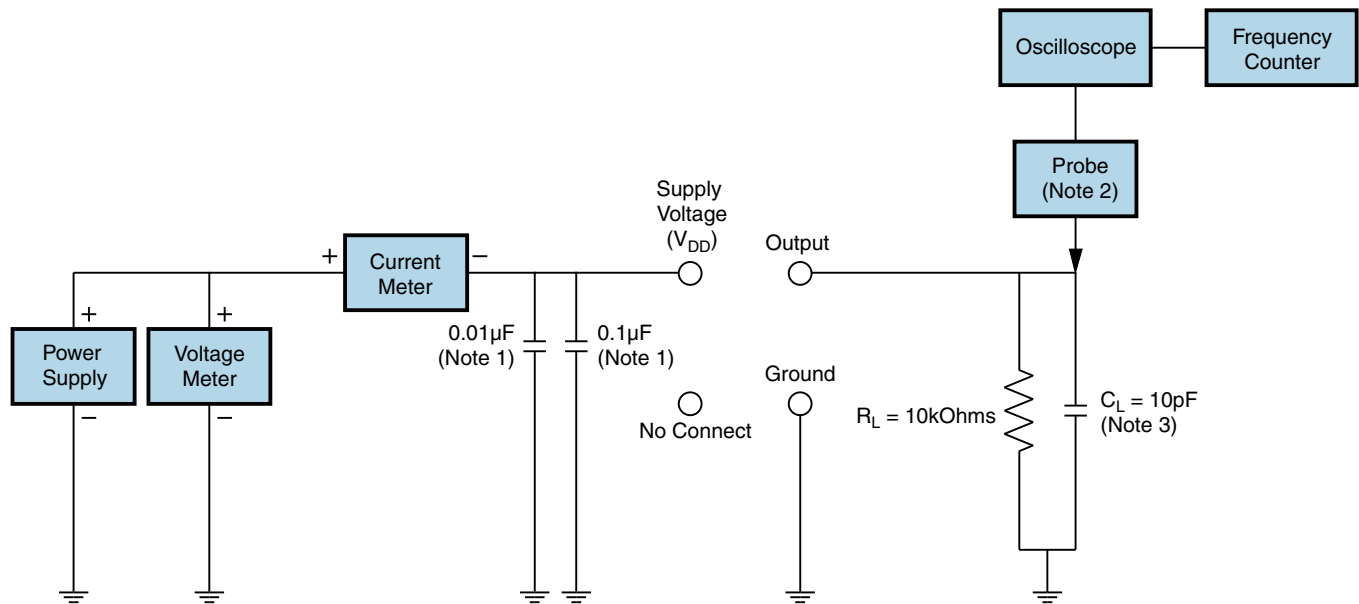
All Tolerances are ±0.1

ES52W4C30N-10.000M TR [Click part number to visit Part Number Details page](#)



OUTPUT WAVEFORM



ES52W4C30N-10.000M TR
[Click part number to visit Part Number Details page](#)
Test Circuit for No Connect Option

Note 1: An external 0.01µF bypass capacitor in parallel with a 0.1µF high frequency ceramic bypass capacitor close (less than 2mm) to the package ground and supply voltage pin is required.

Note 2: A low input capacitance (<12pF), 10X attenuation factor, high impedance (>10Mohms), and high bandwidth (>300MHz) passive probe is recommended.

Note 3: Capacitance value C_L includes sum of all probe and fixture capacitance.

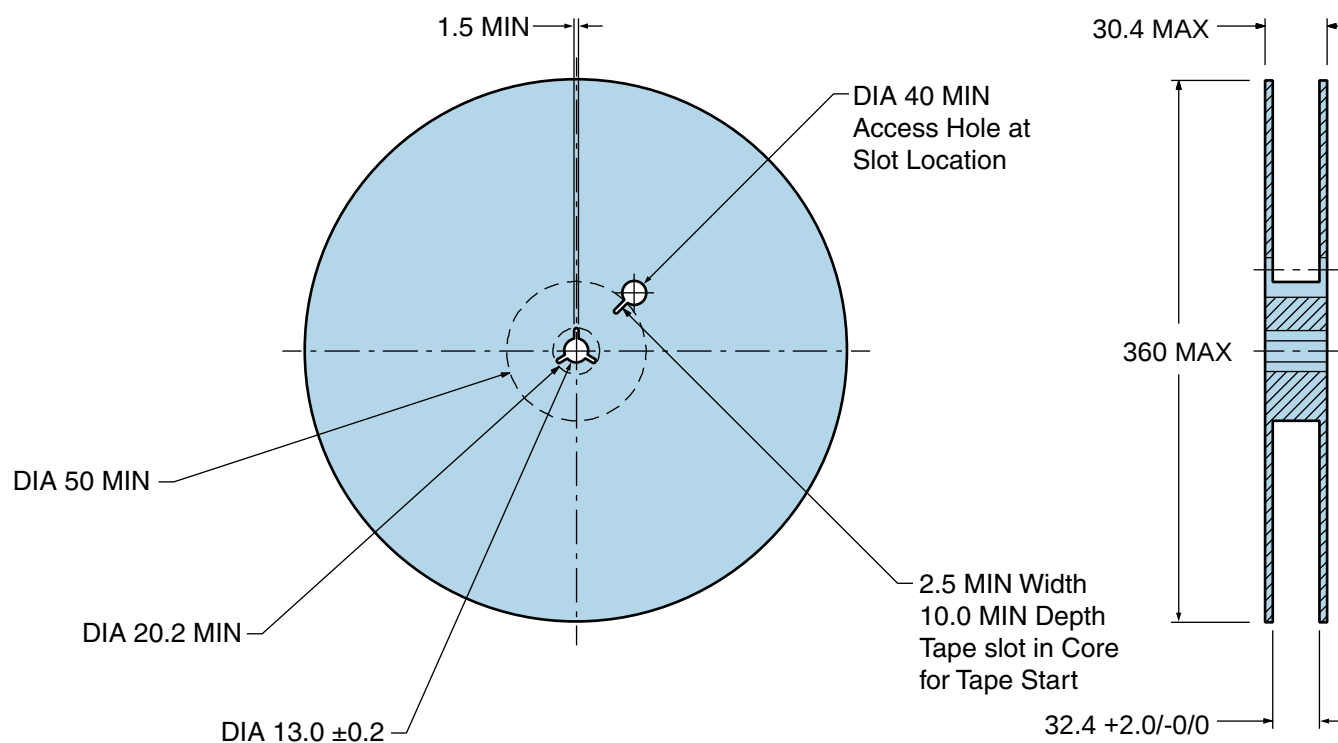
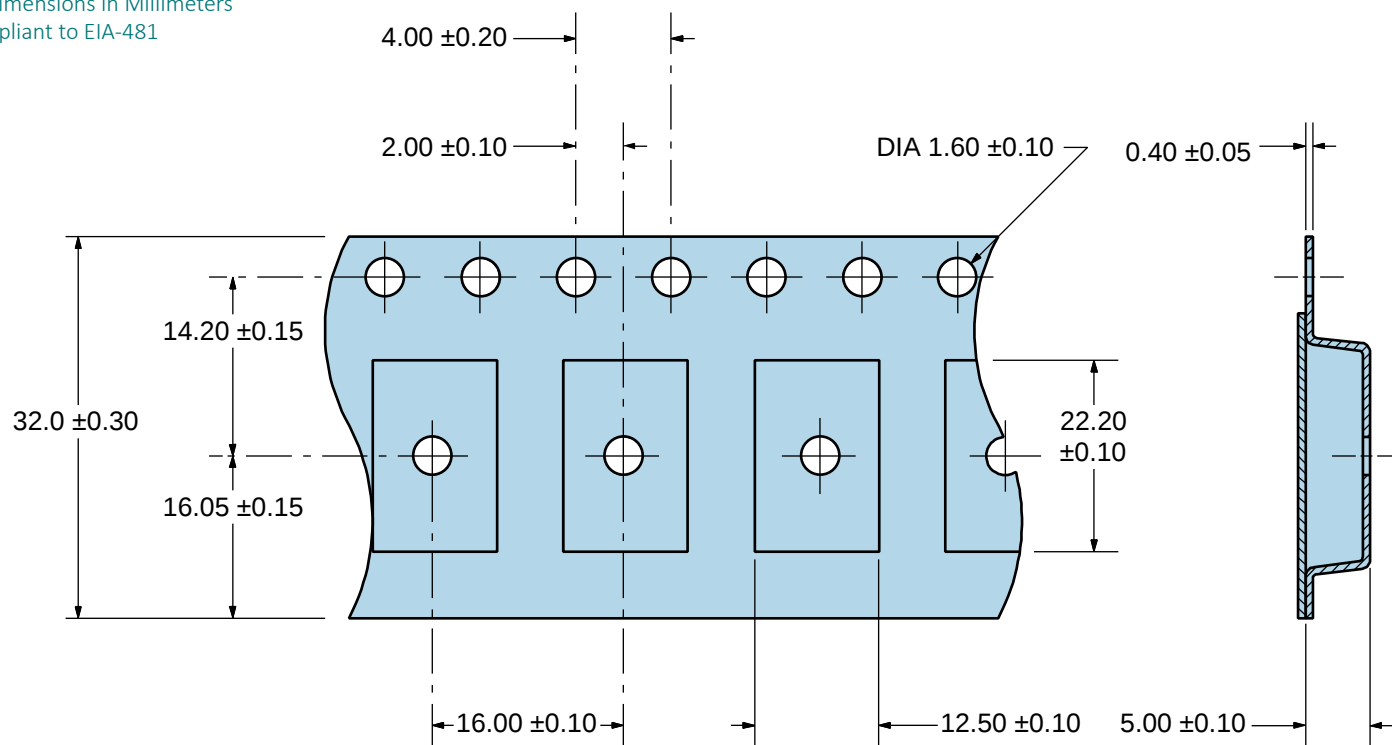
ES52W4C30N-10.000M TR

Tape & Reel Dimensions

1,000 pieces per reel

All Dimensions in Millimeters

Compliant to EIA-481



ES52W4C30N-10.000M TR [Click part number to visit Part Number Details page](#)



Recommended Solder Reflow Methods



Low Temperature Infrared/Convection 240°C

$T_S \text{ MAX}$ to T_L (Ramp-up Rate)	5°C/Second Maximum
Preheat	
- Temperature Minimum ($T_S \text{ MIN}$)	N/A
- Temperature Typical ($T_S \text{ TYP}$)	150°C
- Temperature Maximum ($T_S \text{ MAX}$)	N/A
- Time ($t_s \text{ MIN}$)	60 - 120 Seconds
Ramp-up Rate (T_L to T_P)	5°C/Second Maximum
Time Maintained Above:	
- Temperature (T_L)	150°C
- Time (t_L)	200 Seconds Maximum
Peak Temperature (T_P)	240°C Maximum
Target Peak Temperature ($T_P \text{ Target}$)	240°C Maximum 2 Times / 230°C Maximum 1 Time
Time within 5°C of actual peak (t_p)	10 Seconds Maximum 2 Times / 80 Seconds Maximum 1 Time
Ramp-down Rate	5°C/Second Maximum
Time 25°C to Peak Temperature (t)	N/A
Moisture Sensitivity Level	Level 1

Low Temperature Manual Soldering

185°C Maximum for 10 Seconds Maximum, 2 times Maximum.

High Temperature Manual Soldering

260°C Maximum for 5 Seconds Maximum, 2 times Maximum.