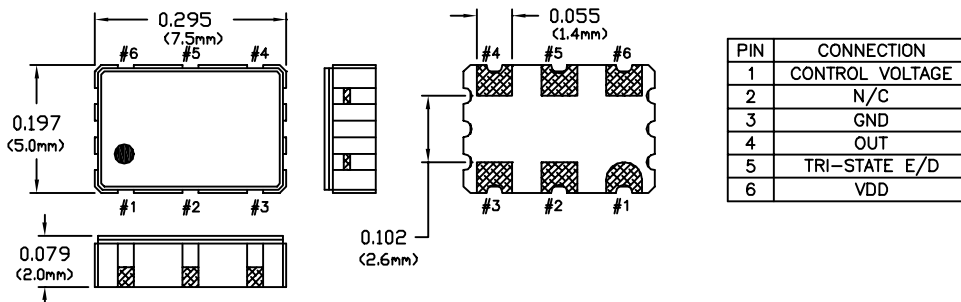


**5V SM HCMOS VCXO WITH TRI-STATE**

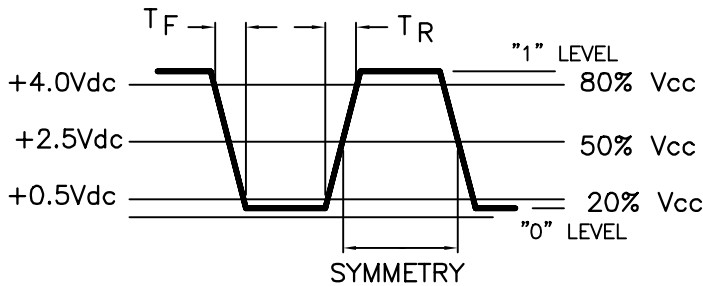
| SPECIFICATIONS   | VKA51A5   | VKA52A5       | VKA53A5 | VKA62A5        | VKA63A5 |
|--|---|---------------|---------|----------------|---------|
| Frequency Range  | 1.0MHz to 52MHz   |               |         |                |         |
| Frequency Stability (See note 1)                         | ±25ppm  | ±50ppm        | ±100ppm | ±50ppm         | ±100ppm |
| Temperature Range  | 0°C to +70°C  |               |         | -40°C to +85°C |         |
| Waveform   | HCMOS/TTL Compatible Squarewave   |               |         |                |         |
| Load   | 10NTTL/15pF   |               |         |                |         |
| Voltage  | Voh   | 4.5V Minimum  |         |                |         |
|  | Vol   | 0.5V Maximum  |         |                |         |
| Current  | Ioh   | -4.0mA        |         |                |         |
|  | Iol   | 16.0mA        |         |                |         |
| Duty Cycle   | 45/55 Maximum @ 2.5V  |               |         |                |         |
| Rise/Fall Time   | 5nS Maximum   |               |         |                |         |
| Jitter   | 1.0ps RMS Maximum over 12kHz to 20MHz bandwidth<br>5.0ps RMS Maximum over 10Hz to 20MHz bandwidth |               |         |                |         |
| Tri-State Input  | Output E/D Time   | 100nS Typical |         |                |         |
|  | Enable (Vih)  | 2.7V Minimum  |         |                |         |
|  | Disable (Vil)   | 0.3V Maximum  |         |                |         |
| Oscillator output is enabled with no connection on pin 5 |   |               |         |                |         |
| Frequency Control Input                                  |   |               |         |                |         |
| Pullability  | ±100ppm Minimum   |               |         |                |         |
| Control Voltage (Vc)                                     | 0.5Vdc to 4.5Vdc  |               |         |                |         |
| Slope  | Positive  |               |         |                |         |
| Monotonic Linearity                                      | < ±10%  |               |         |                |         |
| Input Impedance  | 50K ohms Nominal  |               |         |                |         |
| Modulation Bandwidth                                     | 10KHz Minimum   |               |         |                |         |
| Supply Voltage   | +5Vdc ±5%   |               |         |                |         |
| Supply Current   | 1.0 to 18 MHz, 20 mA Maximum<br>18 to 36 MHz, 30 mA Maximum<br>36 to 52 MHz, 40 mA Maximum        |               |         |                |         |
| Package  | Hermetically sealed, leadless ceramic package   |               |         |                |         |

NOTE 1- Inclusive of calibration tolerance at 25°C, operating temperature range, supply voltage change, load change, and aging, with Vc= 2.5Vdc.

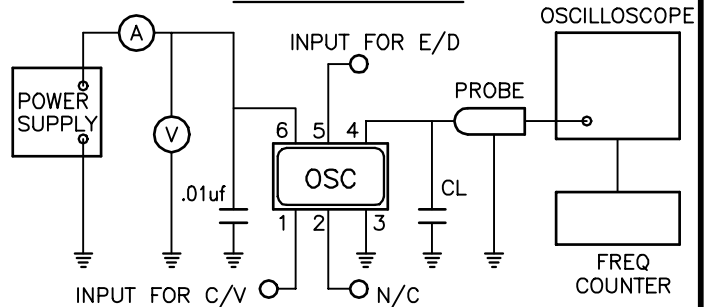
NOTE 2- A bypass capacitor of .01uF must be used between Vdd and Gnd.



**OUTPUT WAVEFORM**



**TEST CIRCUIT**



**MECHANICAL CHARACTERISTICS**

**FREE DROP:**

The specimen shall meet electrical characteristics after tested 3 times Free Drop testing on the hard wooden board from a height of 75cm.

**VIBRATION:**

The specimen shall meet electrical characteristics after tested by the following conditions;  
10-55Hz 1.5mm Amplitude, 55-2000Hz 20G's, 2 hours for each phase.

**THERMAL SHOCK:**

After applied Thermal Shock of 245°C max x 10 sec max x 2 times, or 215°C max x 180 sec max, the specimen shall meet electrical characteristics.

**SOLDERABILITY: (EIAJ-RCX-0102/101 Condition 1a)**

1. Flux: MIL-F-14256 (WW Rosin=25%, Isopropyl alcohol=75%)
2. Solder: QQ-S-571 (Sn=63%, Pb=37%)
3. Solder bath temperature: 235°C ±5°C.
4. Depth of immersion: Up to electrical terminal.
5. Immersing time: Within 2 sec ±0.5 sec into solder bath.

After performing the above procedures, a newly soldered coverage shall be greater than 90%.

**ENVIRONMENTAL CHARACTERISTICS**

**TEMPERATURE CYCLE:**

The specimen shall meet electrical characteristics after tested 5 cycles of -55°C/30 min & +125°C/30 min.

**HERMETICAL**

No bubbles appear in Flourinert (FC-43) at 125°C ±5°C, for 5 minutes.

**SOLVENT RESISTANCE:**

Marking will withstand immersion in Isopropyl Alcohol or Trichloroethylene.

**SOLDERING**

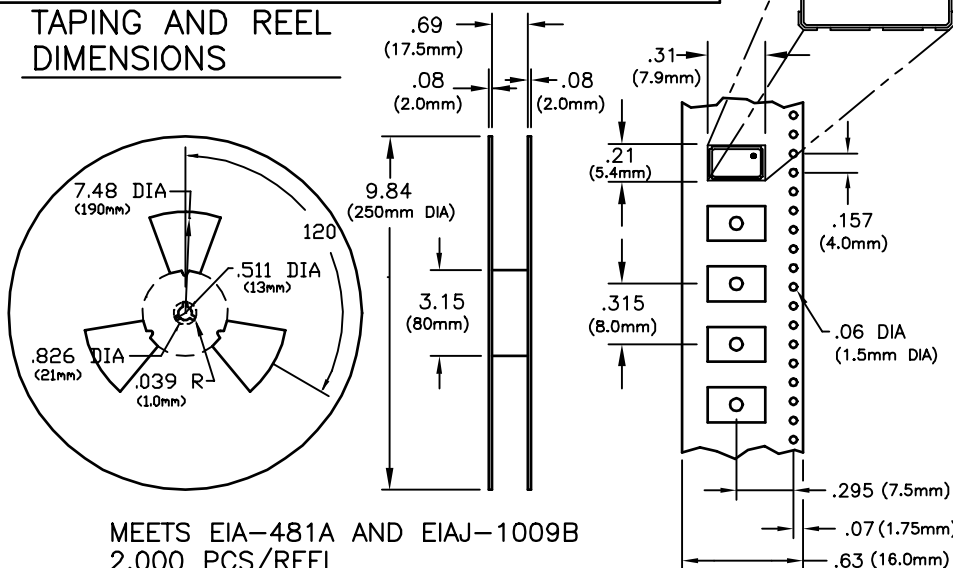
**GENERAL CONDITIONS:**

245°C max x 10 sec max x 2 times max or 215°C max x 180 sec max x 1 time.

**TYPICAL OPERATION DATA (Vapor phase reflow)**

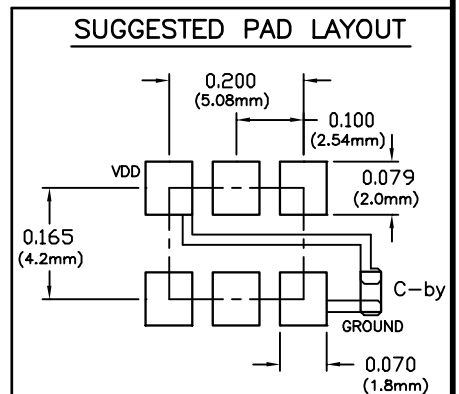
20 to 100 sec up to 215°C, 50 sec at 215°C then down to room temperature per 1 to 5°C/sec

**TAPING AND REEL DIMENSIONS**



MEETS EIA-481A AND EIAJ-1009B  
2,000 PCS/REEL

**SUGGESTED PAD LAYOUT**



Bypass capacitor, C-by, should be ceramic capacitor ≥ .01uf.

BULLETIN #: VX276

REV: 03

Specifications subject to change without notice.

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PAGE 2 OF 2

DATE: 9/17/01

ISSUED BY: \_\_\_\_\_

Dimensional Tolerance: ±.02" (±0.5mm)  
±.008" (±0.2mm)