

Issued Date : 04, Mar, 2011

Issued No. : K1104-11101-591

Messrs : Digi-Key

RoHS Compliant

Temperature Compensated Crystal Oscillator
(TCXO)

KT2016A26000ACW18TLG

Technical Specification

Preliminary

KYOCERA KINSEKI Corporation

Revision History

| Revision No. | Revision Date | Revision Content and reason | Prepared By | Approved By |
|--------------|---------------|-----------------------------|-------------|--------------|
| 1 | 04.Mar.2011 | The first edition | T.Miyahara | M.Matsushita |
| | | | | |

KT2016 Parts Number

KT2016A26000ACW18TLG

A : Product Specification Code

26000 : Nominal Frequency

A : Freq. Stability vs Temp. +/-0.5 ppm

C : Bottom Temperature Limit -30 deg.C

W : Upper Temperature Limit +85 deg.C

18 : Power Supply Voltage 1.8V

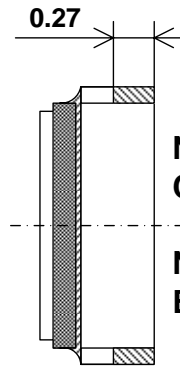
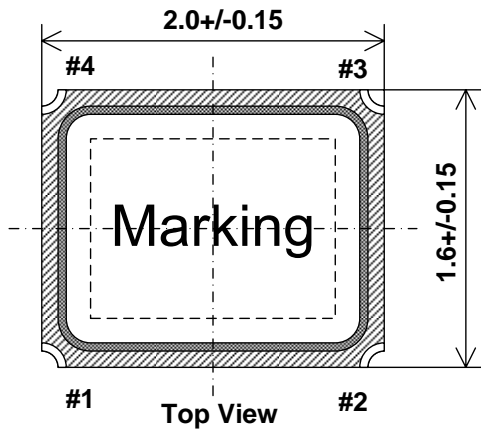
T : TCXO

KT2016 Electrical Characteristics

Ta= -30deg.C to +85deg.C, Vcc=1.8V Vc=Enable/Disable control , Load 10kohm//10pF

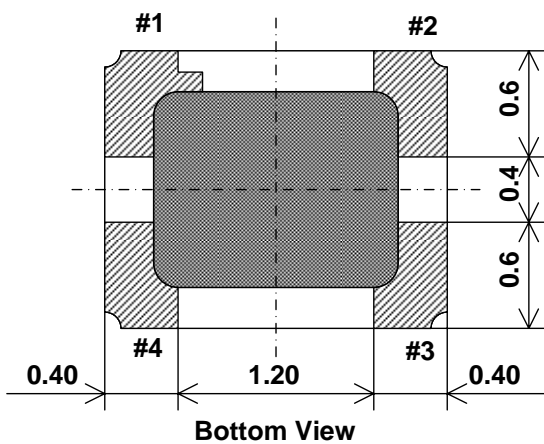
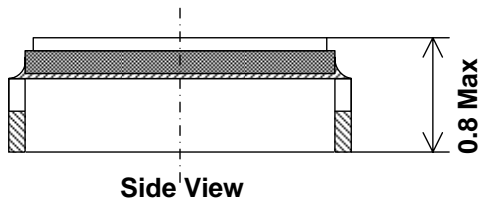
| Symbol | Item | Condition | Specification | Unit | Remarks |
|--------|--------------------------------|--|---------------|-----------|------------------------------|
| Vcc | Power Supply Voltage | | 1.8+/-0.1 | V | |
| F0 | Nominal Frequency | | 26.000000 | MHz | |
| Topr | Operating Temperature | | -30 to +85 | deg.C | |
| Tstg | Storage Temperature | | -40 to +85 | deg.C | |
| Vout | Output Voltage | Load:10pF/10Kohm | 0.8(min) | Vp-p | Ta=-30 to 85deg.C DC Bias |
| Icc | Power Supply Current | | 1.5(max) | mA | |
| f0 | Frequency Tolerance | Preset Frequency and after 2 times reflow soldering | +/-2.0 | ppm | Ta=25+/-2deg.C |
| df/F | Frequency Stability | vs Temp -30 to +85deg.C | +/-0.5 | ppm | ref:Ta=25+/-2deg.C |
| | | vs Load 10pF+/-10% 10Kohm+/-10% | +/-0.2 | ppm | |
| | | vs Vcc=1.8 +/-0.1V | +/-0.1 | ppm | |
| --- | Freq. Stability vs temp.change | vs Temp -30 to +85deg.C | +/-0.1 | ppm/deg.C | |
| --- | Hysteresis | Measured at 25deg.C,TCXO cycled from 25deg.C to -30deg.C,to 85deg.C, back to 25deg.C | +/-0.6 | ppm | |
| dfag | Frequency Aging Rate | Ta=25+/-2deg.C | +/-1.0 | ppm/Y | One Year |
| --- | Allan Variance | tau=1sec | 1.0(max) | ppb | |
| --- | Harmonics | 3rd | -8(max) | dBc | |
| --- | SSB Carrier Noise | @1Hz offset | -55(max) | dBc/Hz | Ta=25+/-2deg.C |
| | | @10Hz offset | -85(max) | dBc/Hz | |
| | | @100Hz offset | -110(max) | dBc/Hz | |
| | | @1kHz offset | -130(max) | dBc/Hz | |
| | | @10kHz offset | -145(max) | dBc/Hz | |
| | | @100Hz offset | -145(max) | dBc/Hz | |
| --- | Enable/Disable | Enable-Active Hi | 80%Vcc(min) | V | |
| | | Disable-Active Low | 20%Vcc(max) | | |
| --- | Shutdown Current | | 10(max) | uA | |

KT2016 Dimension & Pin Connections



Note1
Co-planarity:80um Max

Note2
Electrode : Mo + Ni 1.5 to 8.89um
+ Au 0.3 to 1.0um

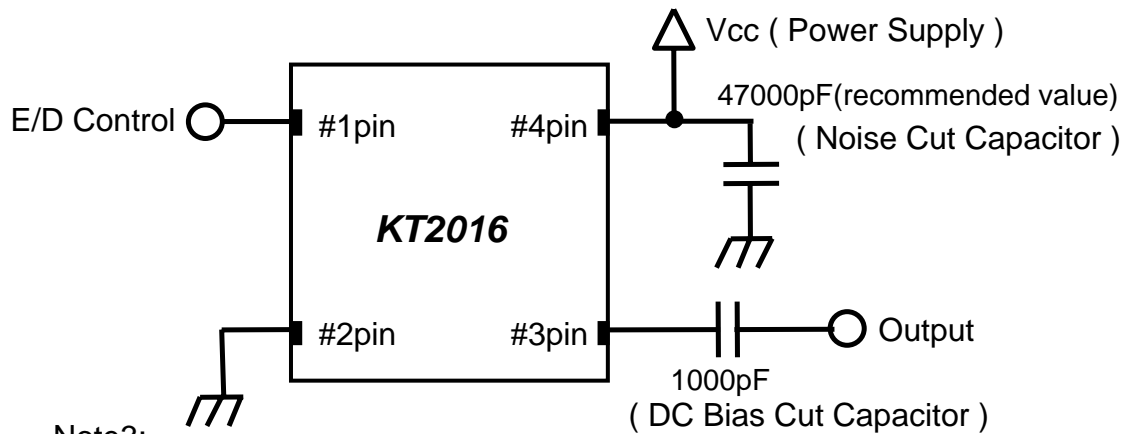


Unit : (mm)

| Enable/Disable Function | |
|-------------------------|------------------------|
| #1 Input | #3 Output |
| Open | Oscillation |
| "H" Level | Oscillation |
| "L" Level | High Z(No-Oscillation) |

| | Pin Connection |
|---------|----------------|
| # 1 pin | Enable/Disable |
| # 2 pin | GND |
| # 3 pin | Output |
| # 4 pin | Vcc |

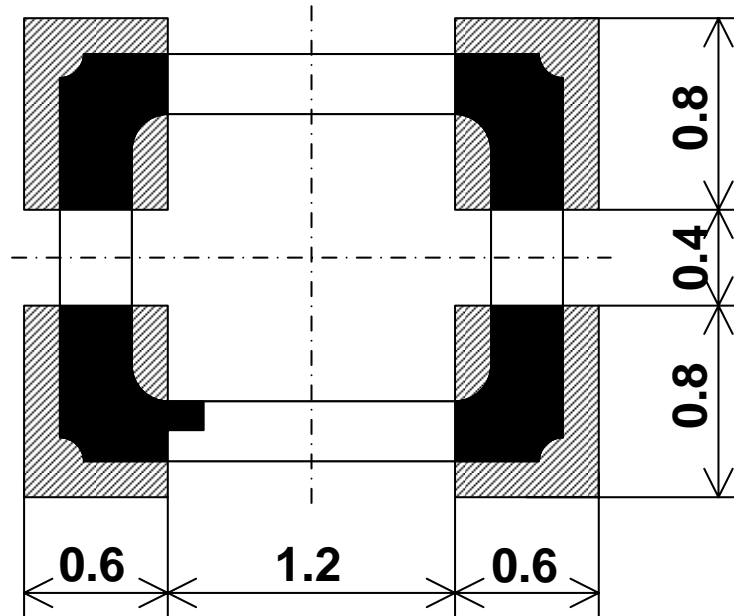
KT2016 Recommended Circuit



Note3:

Because Noise Cut Capacitor change by the set, please confirm it

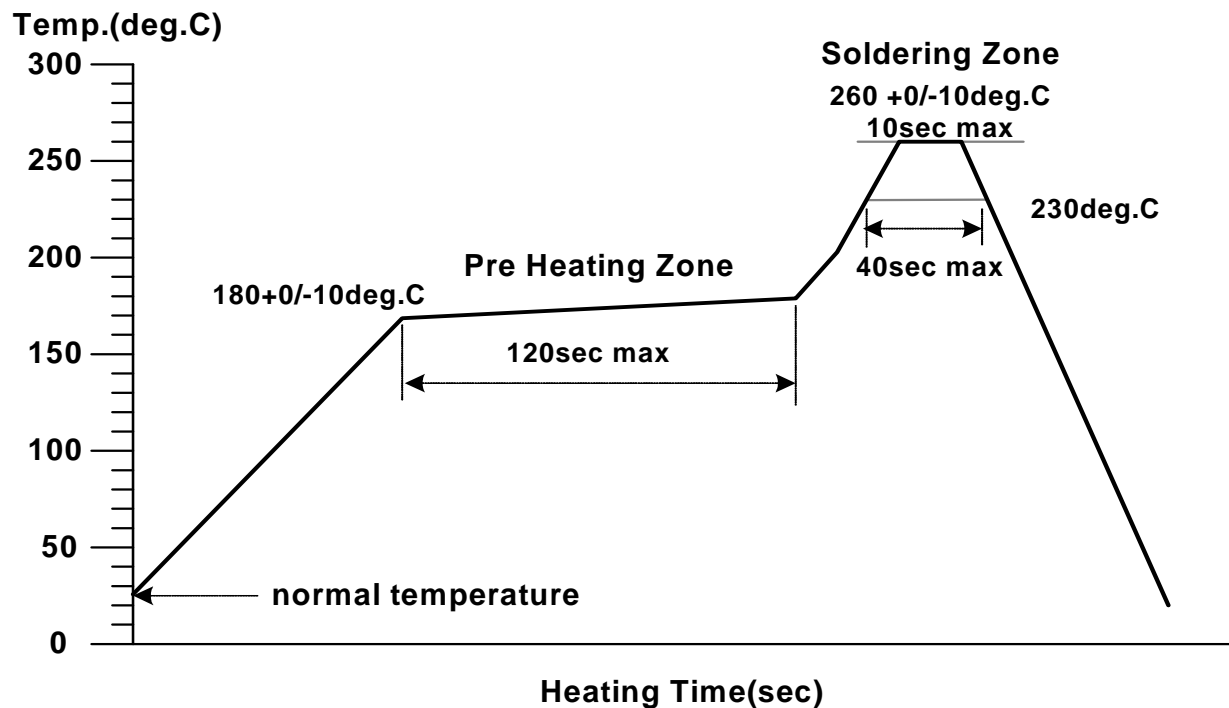
KT2016 Recommended Land Pattern



Unit : (mm)

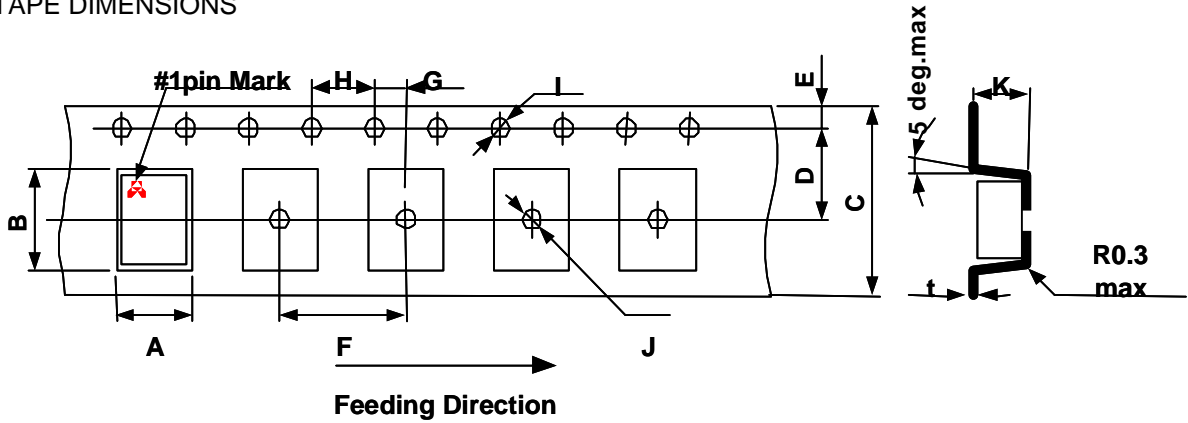
Top View

KT2016 Recommended Reflow Soldering Condition (Lead Free Version)



TCXO KT2016 TAPE&REEL SPEC

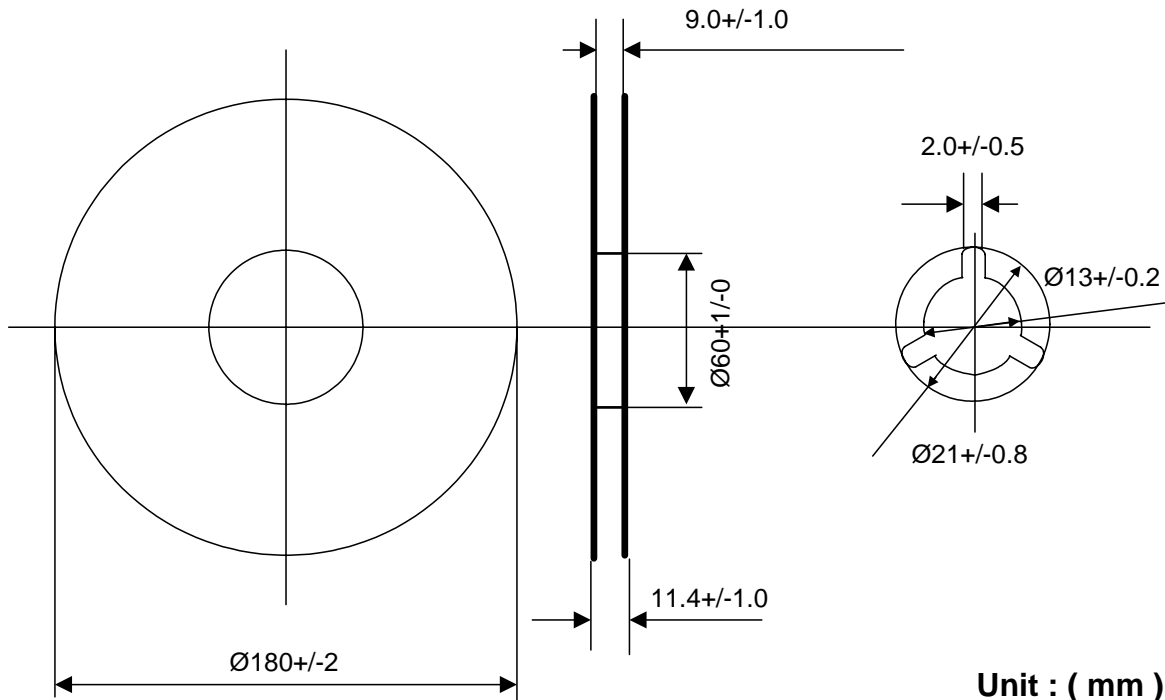
1, TAPE DIMENSIONS



| | | | | | |
|-----------|------------|-------------|-----------|-------------|-------------|
| Symbol | A | B | C | D | E |
| Dimension | 2.0+/-0.05 | 2.4+/-0.05 | 8.0+/-0.2 | 3.5+/-0.05 | 1.75+/-0.1 |
| Symbol | F | G | H | I | J |
| Dimension | 4.0+/-0.1 | 2.0+/-0.05 | 4.0+/-0.1 | Φ1.5+0.1/-0 | Φ1.0+0.1/-0 |
| Symbol | K | t | | | |
| Dimension | 0.9+/-0.05 | 0.25+/-0.05 | | | |

Unit : (mm)

2. REELS DIMENSIONS

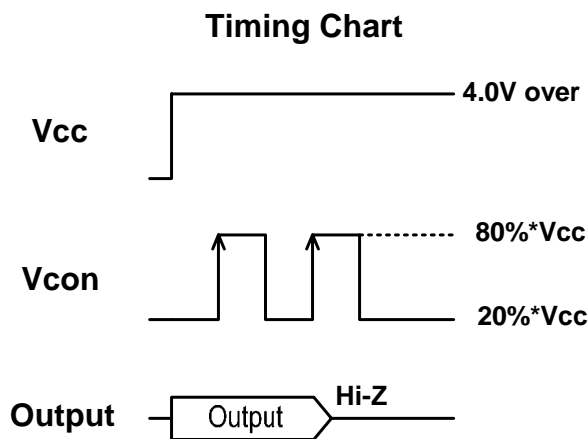


Unit : (mm)

REEL UNIT : 4000pcs / 1reel (MIN 500pcs / 1reel)

KT2016 CAUTION TO HANDLE

1. Touch the solder iron at 260+/-5deg.C onto the leads for 10+/-2sec max or touch the solder at 350+/-5deg.C onto the leads for 3+/-0.5sec max.
2. In the customer's reflow process, if it will remain some mechanical stress at the soldering terminals, also make some cracks on the soldering termination. Some cracks will cause open or short circuit and cause of thermal increasing or smoking. Don't make any excess mechanical stress to soldering points.
3. In case of giving a heavy shock to the products, it make an open or short circuit and cause of thermal increasing or smoking. To avoid heavy shock impact applying to products is strictly required.
4. Notice for applying voltage



When V_{cc} is $\geq 4.0V$ and 2 pulse applied to V_{con} in the same time, IC changes to ROM access mode with high impedance output that is different from normal operation mode.

So, please refrain from applying the voltage as shown left.

5. Moisture Sensitivity Level

MSL=1