

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

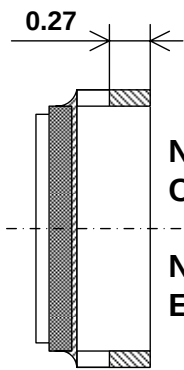
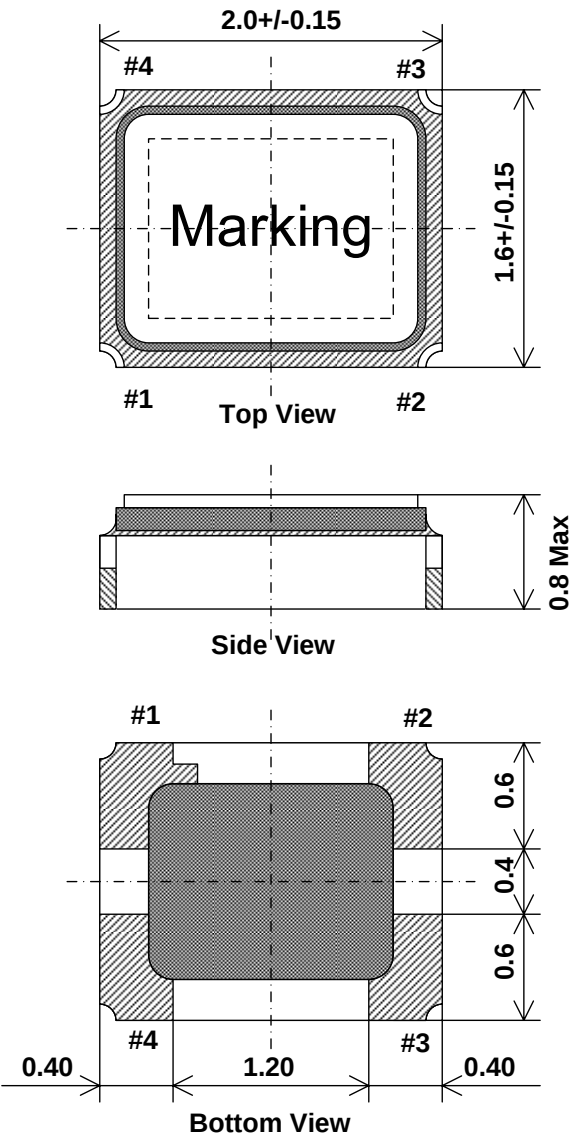
T : TCXO

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

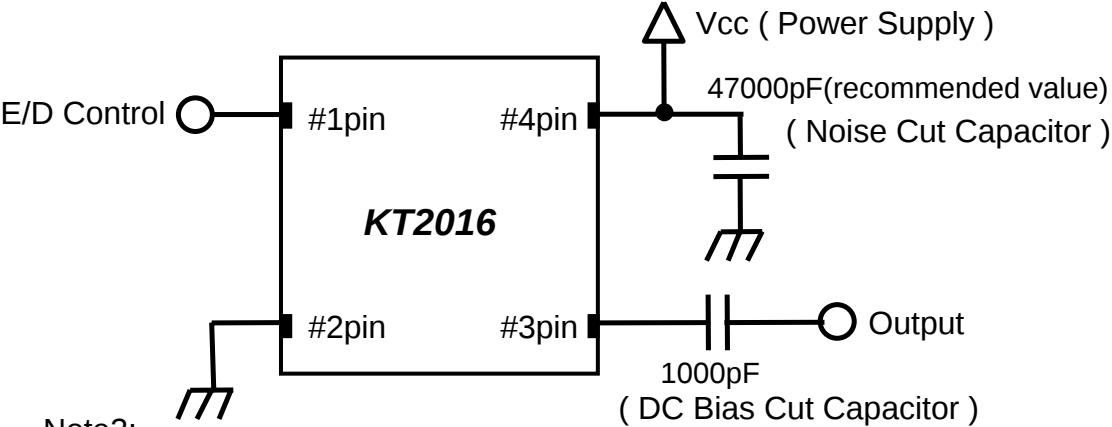
Note2
Electrode : Mo + Ni 1.5 to 8.89um
+ Au 0.3 to 1.0um

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

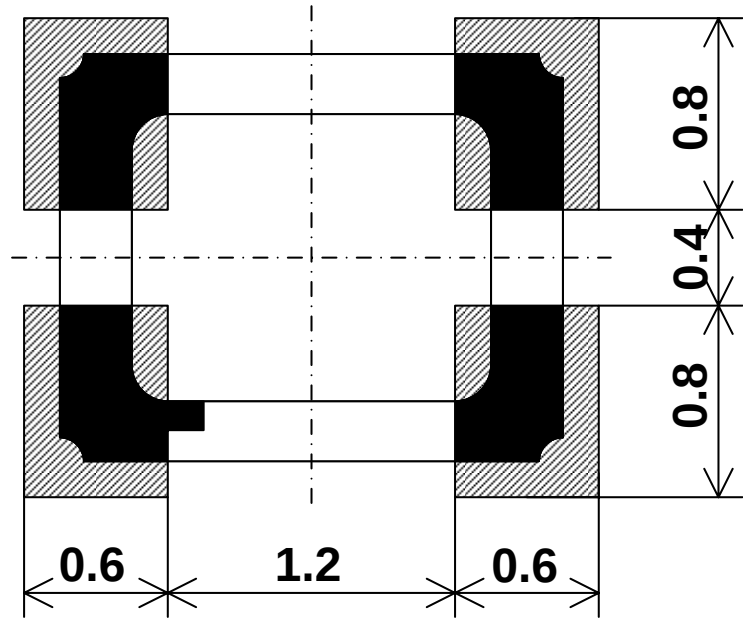
Unit : (mm)

KT2016 Recommended Circuit



Note3:
Because Noise Cut Capacitor change by the set, please confirm it

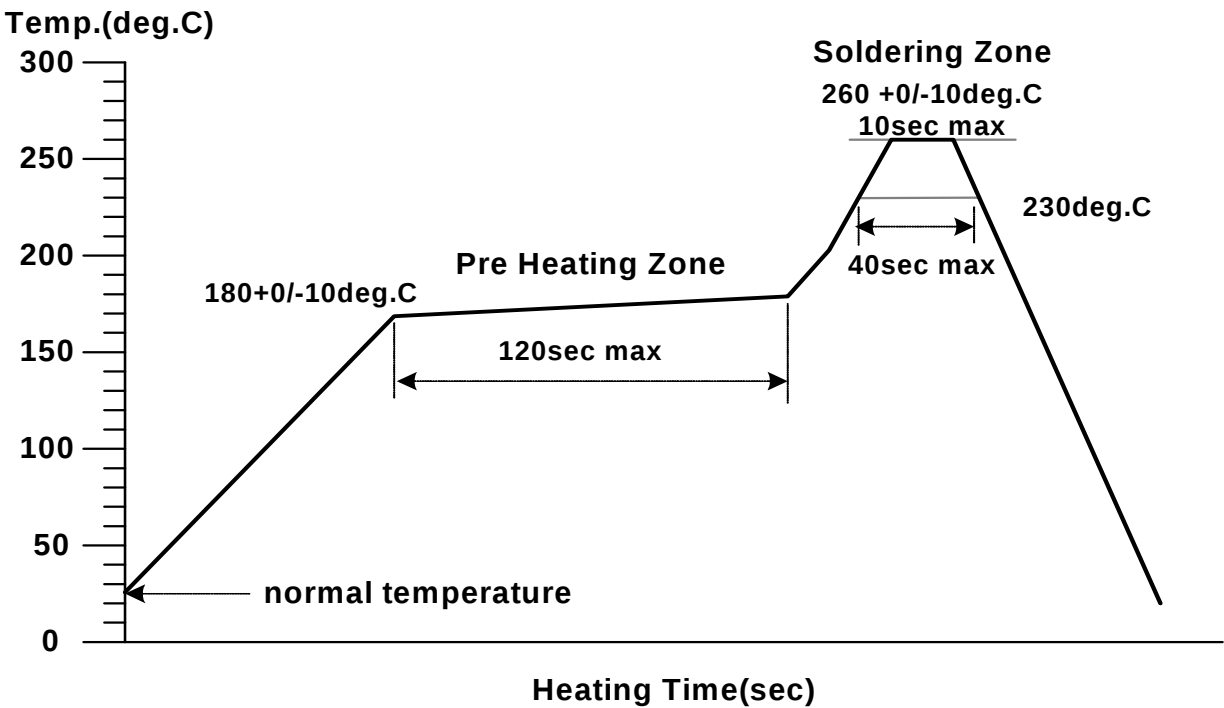
KT2016 Recommended Land Pattern



Unit : (mm)

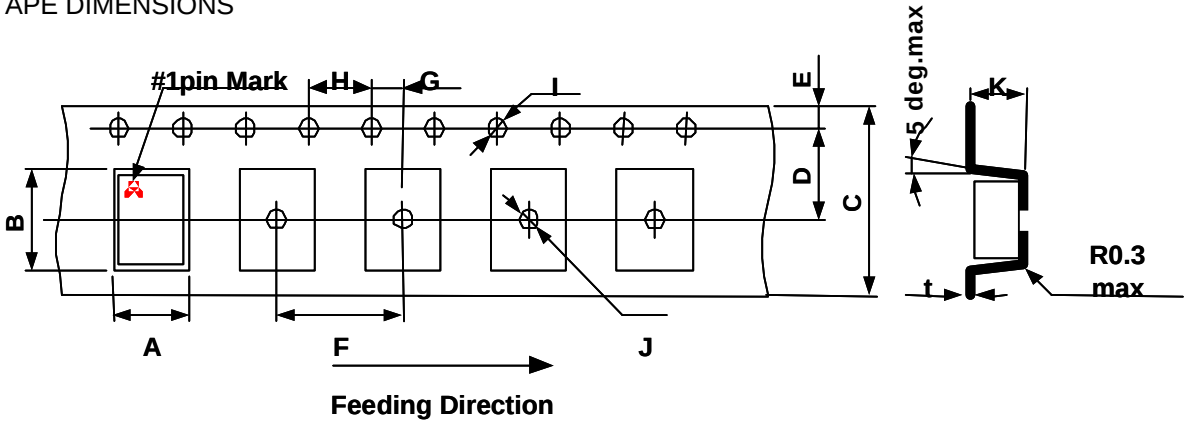
Top View

KT2016 Recommended Reflow Soldering Condition (Lead Free Version)



TCXO KT2016 TAPE&REEL SPEC

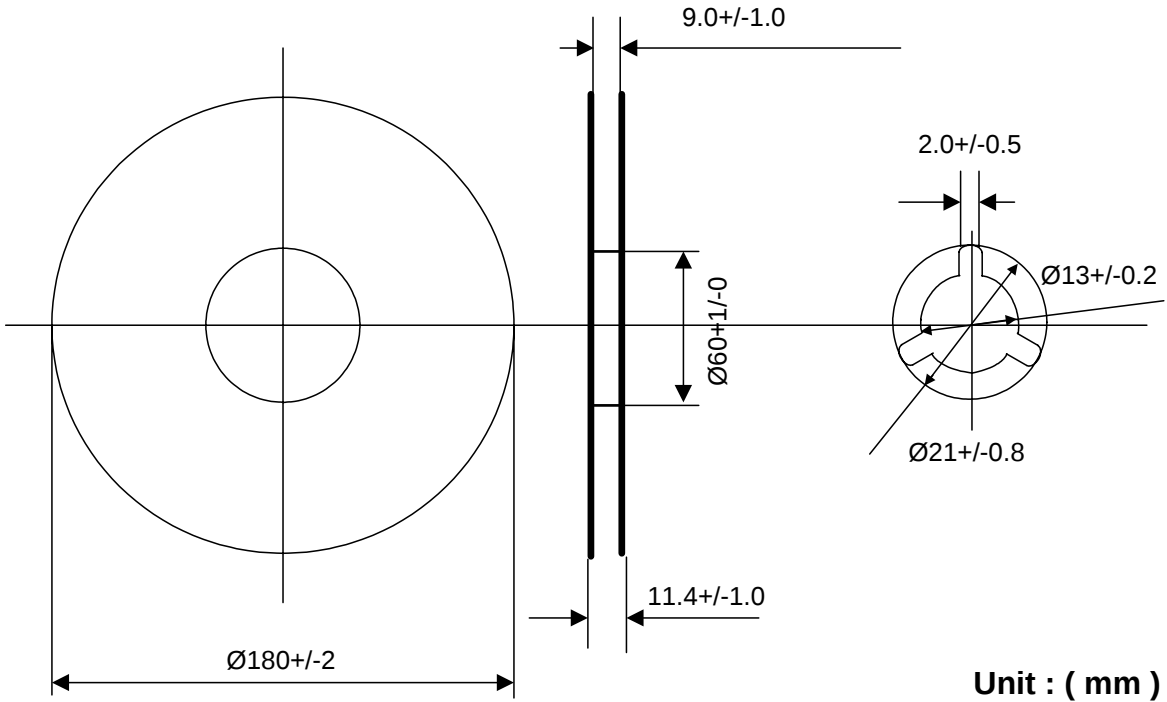
1,TAPE DIMENSIONS



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

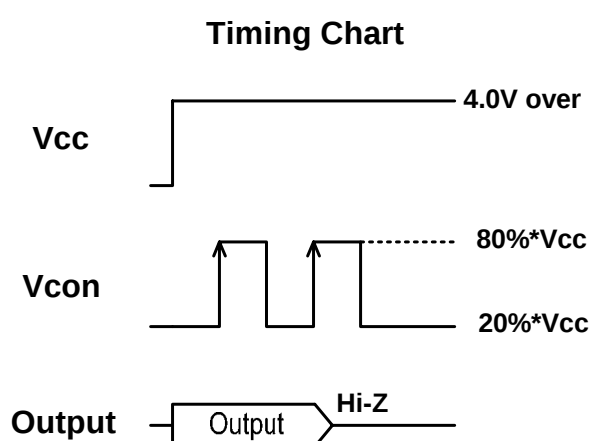


Unit : (mm)

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

KT2016 CAUTION TO HANDLE

1. Touch the solder iron at $260 \pm 5^\circ\text{C}$ onto the leads for 10 ± 2 sec max or touch the solder at $350 \pm 5^\circ\text{C}$ onto the leads for 3 ± 0.5 sec 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 $\geq 4.0\text{V}$ 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