

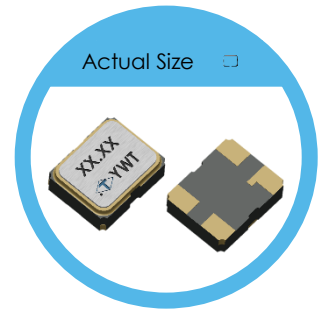
TZ-L Type Low Voltage 1.2V 2.0 x 1.6 mm SMD Clipped SineWave Temperature Compensated Crystal Oscillator

FEATURES

- Typical 2.0 x 1.6 x 0.7 mm Ceramic SMD Package
- Low Power Supply Voltage: 1.2V
- Clock Output: Clipped Sinewave
- Operation Temperature: -40°C ~85°C.
- Low Current Consumption.
- Tri-state Enable / Disable Mode.

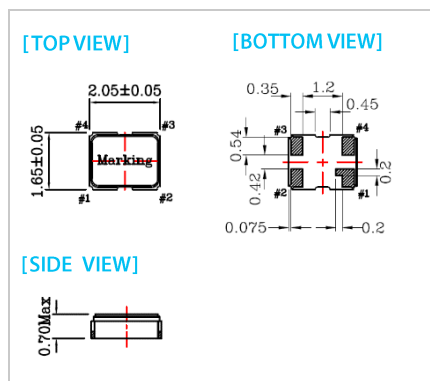
TYPICAL APPLICATION

- Cell Phone, Wearable Devices, GPS Module
- Communication, IoT Devices

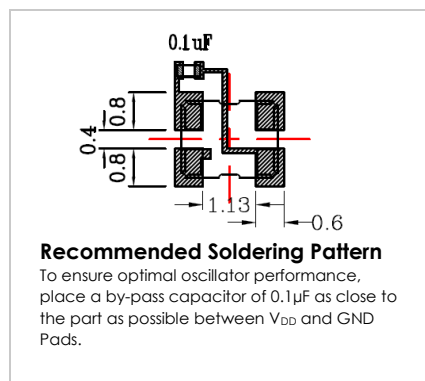


RoHS Compliant

DIMENSION (mm)



SOLDER PAD LAYOUT (mm)



PIN FUNCTION

PIN#	FUNCTION
1	Tri-State
2	GND
3	Output
4	V _{DD}

ELECTRICAL SPECIFICATION

Parameter	Symbol	V _{DD} = 1.2V			Unit	Conditions / Remarks
		Min.	Typical	Max.		
Supply Voltage Variation	V _{DD}	V _{DD} -5%	V _{DD}	V _{DD} +5%	V	
Frequency Range	F ₀	13	-	52	MHz	
Standard Frequency		-	26	-		
Frequency Stability	Vs Operating Temperature	ΔF _{TC}	-0.5	-	0.5	ppm TC=-30°C to 85°C
	Vs Supply Voltage(±5%) change	ΔF _{VDD}	-0.2	-	0.2	
	Vs Load(±10%) change	ΔF _L	-0.2	-	0.2	
Frequency Tolerance			-2	-	2	ppm After 2 time reflow
Current Consumption	13MHz ≤ F ₀ ≤ 26MHz	I _{DD}	-	-	2.2	mA V _{DD} =1.2V, OE= V _{DD}
	26MHz < F ₀ ≤ 52MHz		-	-	2.95	
	Reference F ₀ =26MHz		-	1.4	-	
Output Waveform			Clipped SineWave			
Output Loading			10kΩ//10pf			
Output Level	V _{P-P}	0.8	0.9	-	V	
Start-up Time	T _{start}	-	2	3	mSec	Start From t=0 to 80% V _{DD}
OE (Tri-State)	Enable Voltage	V _{IH}	0.8 x V _{DD}	-	V	
	Disable Voltage	V _{IL}	-	-	0.2 x V _{DD}	V
Stand by Current	I _{ST}	-	0.01	1	µA	OE=GND
Phase Noise	Offset 100Hz	PN	-	-155	-	dBc/Hz F ₀ =26MHz, V _{DD} =1.2V
	Offset 1kHz		-	-136	-	
	Offset 10kHz		-	-149	-	
Aging	Ag	-1	-	1	ppm	Year at 25°C
Storage Temp. Range	T _{stg}	-55	-	125	°C	

FREQ. STABILITY vs. TEMP. RANGE

Temp.(°C)	ppm	±0.5	±1.0	±2.0
		-20 ~ +70	○	○
-30 ~ +85	○	○	○	
-40 ~ +85	△	○	○	

○: Available △: Conditional x: Not Available
 Inclusive of calibration @ 25°C, operating temperature range, input Voltage variation, load variation, aging (1st year), shock, and vibration

Note: not all combination of options are available. Other specifications may be available upon request.
 Specifications subject to change without notice.