

TX-J/TY-J Type

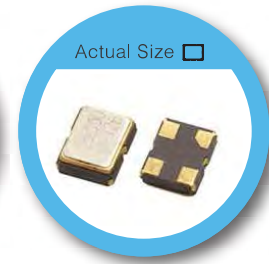
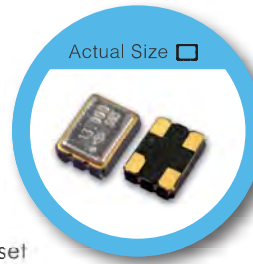
3.2 x 2.5 / 2.5 X 2.0 mm SMD CMOS Temperature Compensated Crystal Oscillator

FEATURE

- Tolerance: ± 2 ppm accuracy @25°C, ± 2.5 ppm over -40°C to +85°C-
- LVCMOS Output Logic
- Tight symmetry (45 to 55%) available.
- Operation voltage: 1.8V, 2.5V, 3.3V.
- Tri-state enable/disable.
- Femto second phase jitter and -145dBc/Hz at 10kHz offset

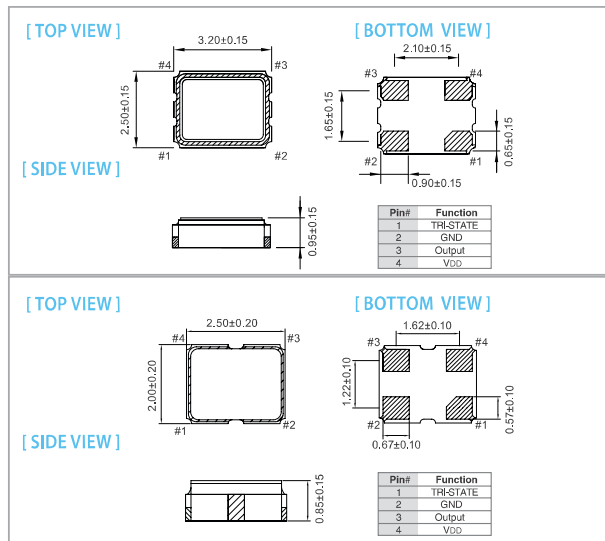
TYPICAL APPLICATION

- Wireless Connectivity
- Smart grid

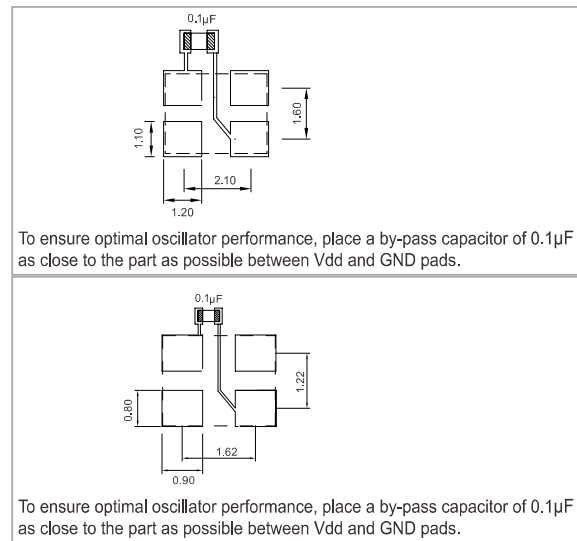


RoHS Compliant

DIMENSION (mm)



SOLDER PAD LAYOUT (mm)



ELECTRICAL SPECIFICATION

Parameter	3.3 V		2.5 V		1.8 V		Unit
	Min.	Max.	Min.	Max.	Min.	Max.	
Supply Voltage Variation (VDD) $\pm 5\%$	3.135	3.465	2.375	2.625	1.71	1.89	V
Frequency Range	9.5	60	9.5	60	9.5	60	MHz
Supply Current $9.5 \leq F_o \leq 60$ MHz	--	10	--	7	--	5	mA
Duty Cycle	45	55	45	55	45	55	%
Output Level (CMOS) Output High(Logic"1")	2.97		2.25		1.62		V
Output Low(Logic"0")		0.33		0.25		0.18	
Transition Time : Rise/Fall Time+		8		8		8	nSec
Start Time		5		5		5	mSec
Tri-State(Input to Pin 1) Enable(High voltage or floating)	2.31		1.75		1.26		V
Disable(Low voltage or GND)		0.99		0.75		0.54	
RMS Phase Jitter (integrated 12kHz ~ 20MHz)		1		1		1	pSec
Phase Noise @ 26MHz	10Hz	-80		-80		-80	dBc/Hz
	100Hz	-110		-110		-110	
	1kHz	-130		-130		-130	
	10kHz	-145		-145		-145	
Aging (@25°C 1st year)		± 1		± 1		± 1	ppm
Storage Temp. Range	-55	125	-55	125	-55	125	°C

Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position
 +Transition times are measured between 10% and 90% of VDD, with an output load of 15pF

FREQ. STABILITY vs. TEMP. RANGE

Temp. (°C)	ppm		
	± 2.5	± 5.0	± 10.0
-40 ~ +85	○	○	○
-40 ~ +90	△	○	○
-40 ~ +105	×	△	○

* ○ : Available △ : Conditional X : Not available