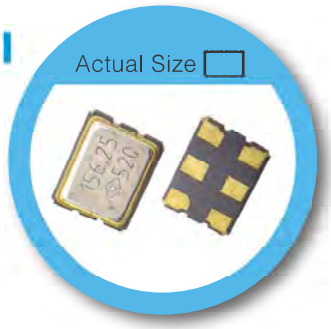
TAITIEN
Our Performance, Your Reputation

OA Type
3.2 x 2.5 mm SMD LVPECL/LVDS Crystal Oscillator

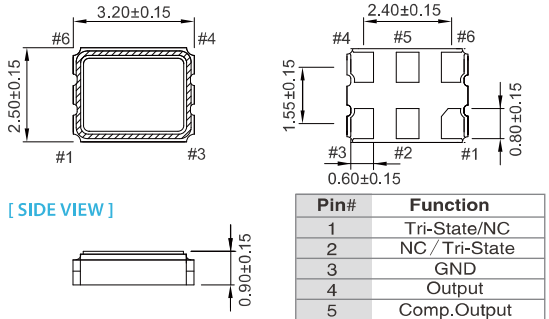


RoHS Compliant

FEATURE
- Industry Standard 3.2 x 2.5 x 0.9 hermetically sealed ceramic package.
- Very low jitter performance: typical 0.1 pS RMS from 12 kHz - 20 MHz.
- Fundamental/3rd overtone crystal design.
- Output frequency up to 250 MHz.
- Tri-state enable/disable
- Up to 125℃ operating temperature range.

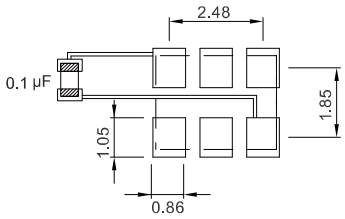
TYPICAL APPLICATION
- 10Gbit Ethernet, Fiber Channel, Storage Area Network, SONET
- Enterprise Servers, Reference clocks for ADC and DAC
- Telecom

DIMENSION (mm)



Pin#	Function
1	Tri-State/NC
2	NC / Tri-State
3	GND
4	Output
5	Comp.Output
6	VDD

SOLDER PAD LAYOUT (mm)



To ensure optimal oscillator performance, place a by-pass capacitor of 0.1µF as close to the part as possible between Vdd and GND pads.

ELECTRICAL SPECIFICATION

Parameter		LVPECL 3.3 V Min.	LVPECL 3.3 V Max.	LVPECL 2.5 V Min.	LVPECL 2.5 V Max.	LVDS 3.3 V Min.	LVDS 3.3 V Max.	LVDS 2.5 V Min.	LVDS 2.5 V Max.	unit
Supply Voltage Variation (V_{DD})		V_{DD}-5%	V_{DD}+5%	V_{DD}-5%	V_{DD}+5%	V_{DD}-5%	V_{DD}+5%	V_{DD}-5%	V_{DD}+5%	V
Frequency Range		10	250	10	250	10	250	10	250	MHz
Standard Frequency		25, 106.25, 125, 156.25, 161.1328, 212.5								
Supply Current	10 MHz ≦ Fo < 160 MHz	–	75	–	75	–	50	–	50	mA
	160 MHz ≦ Fo < 250 MHz	–	100	–	100	–	50	–	50	
Output Level	Output High (Logic "1")	2.275	–	1.475	–	–	1.6	–	1.6	V
	Output Low (Logic "0")	–	1.68	–	0.88	0.9	–	0.9	–	
Transition Time: Rise/Fall Time+		–	1.0	–	1.0	–	1.0	–	1.0	nSec
Start Time		–	3	–	3	–	3	–	3	mSec
Tri-State(Input to Pin 2 or Pin 1)										
	Enable (High voltage or floating)	2.31	–	1.75	–	2.31	–	1.75	–	V
	Disable (Low voltage or GND)	–	0.99	–	0.75	–	0.99	–	0.75	
RMS Phase Jitter (Integrated 12 KHz ~ 20 MHz)										
	Fo < 80 MHz	–	1	–	1	–	1	–	1	pSec
	80 MHz ≦ Fo <125 MHz	–	0.5	–	0.5	–	0.5	–	0.5	
	125 MHz ≦ Fo <170 MHz	–	0.3	–	0.3	–	0.3	–	0.3	
	170 MHz ≦ Fo <200 MHz	–	0.5	–	0.5	–	0.5	–	0.5	
	200 MHz ≦ Fo	–	0.3	–	0.3	–	0.3	–	0.3	
Phase Noise@ 156.25 MHz	100 Hz	-95		-90		-90		-90		dBc/Hz
	1 kHz	-125		-125		-120		-120		
	10 kHz	-140		-140		-140		-140		
Aging (@ 25°C 1st year)		–	±3	–	±3	–	±3	–	±3	ppm
Storage Temp. Range		-55	125	-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 20% and 80% of V_{DD}.

FREQ. STABILITY vs. TEMP. RANGE

Temp. (°C) \ ppm	±25	±50
-10 ~ +60	○	○
-20 ~ +70	○	○
-40 ~ +85	△	○
-40 ~ +125	×	○

* ○: Available △:Conditional X: Not available

* Inclusive of calibration @ 25 °C, operating temperature range, input voltage variation, load variation, aging (1st year), shock, and vibration