

SMD 32.768kHz Series Tuning Fork Crystal Units

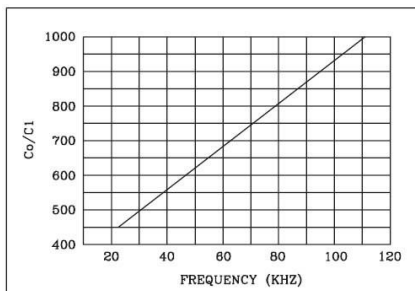
TAITIEN's XD Series 32.768 kHz tuning fork crystals are compact SMD frequency control solutions designed for low-power and space-constrained applications. Available in a wide range of miniature package sizes, from 1.2 × 1.0 mm to 3.2 × 1.5 mm, the XD Series provides greater design flexibility for today's increasingly compact electronic devices. With AEC-Q200 certified options, the series delivers reliable timing performance for real-time clock (RTC), automotive electronics, IoT devices, wearables, and other portable applications.

Type	XD(AEC-Q200 Certified)			
Size(mm)	1.2 x 1	1.6 x 1	2.0 x 1.2	3.2 x 1.5
Package	SMD	SMD	SMD	SMD
RoHS	Yes	Yes	Yes	Yes
Outline				

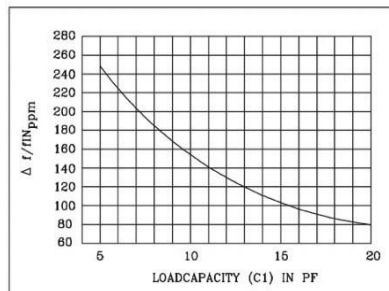
ELECTRICAL SPECIFICATION

Nominal Frequency	32.768000 kHz
Mode of Vibration	Fundamental
Storage Temp. Range (T _{STR})	-55°C ~ +125 °C
Turnover Temperature (T _M)	25±5 °C
Temperature Coefficient (β)	-(0.03±0.01) ppm/°C ²
Frequency vs. Temperature (Δf / fM)	β × (T-T _M) ² ppm
Series Resistance (R ₁)	65~90 KΩ Max.
Level of Drive (DL)	0.1±0.01 uW Typ, 0.5 uW Max.
Aging (first year) (Δf / f0)	±3 ppm Max.
Quality Factor (Q)	30000~60000 Typ.
Shunt Capacitance (C0)	3~7 pF Max.
Load Capacitance (CL)	6, 7, 9, 12.5 pF (Please contact us)
Frequency Tolerance(f _{tol})	±20 ppm @ 25±5 °C
Insulation Resistance	500 MΩ Min. @ DC 100±15 V

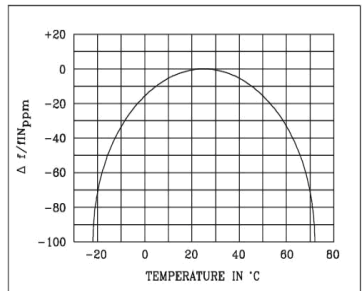
FREQ. vs. CAPACITANCE RATIO (C0/C1)



FREQ. vs. LOAD CAPACITANCE (TYP.)



FREQ. vs. TEMPERATURE (TYP.)

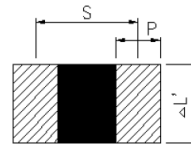
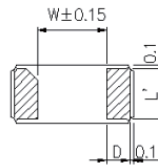
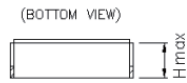
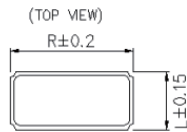


Note: not all combination of options are available. Other specifications may be available upon request.

Specifications subject to change without notice.

DIMENSION (mm) – XD Type

SOLDER PAD LAYOUT (mm)



Do not design any patterns
on shaded area
Recommended soldering pattern

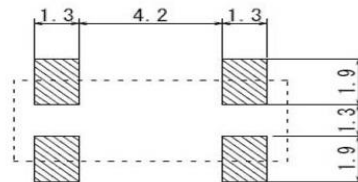
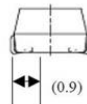
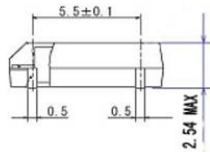
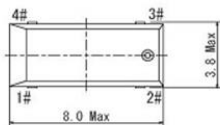
Internal connection



Model	R	L	H	W	L'	D	S	P	ΔL'
3215	3.2	1.5	0.9	1.7	1.3	0.6	2.5	1.1	1.8
2012	2.0	1.2	0.6	0.8	1.0	0.5	1.4	0.6	1.1
1610	1.6	1.0	0.5	0.7	0.87	0.4	1.1	0.5	1.0

DIMENSION (mm) – XD-1210 Type

SOLDER PAD LAYOUT (mm)



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