

Quarz Bauelemente

Communicate to Win.



CompoTEK



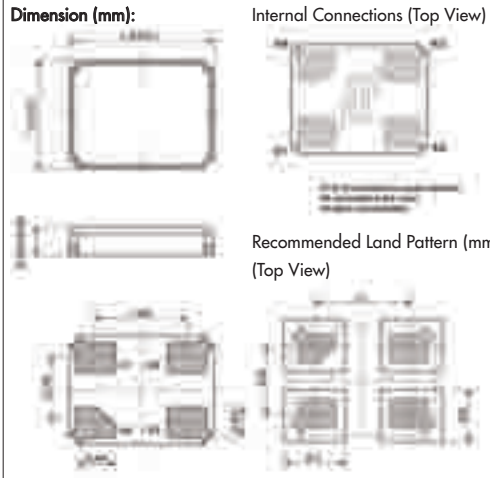
CRYSTAL RESONATORS (SMD Type)



1612 Series

Features:

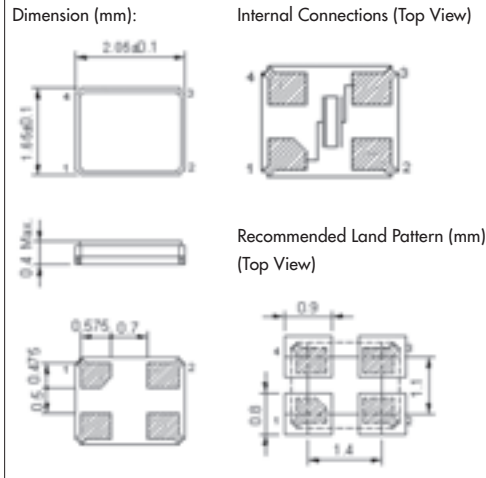
- Ultra miniature and lightweight SMD crystal resonator with a low profile of 0.30 mm
- High precision and high reliability
- Applications in small mobile devices for next generation like mobile communications, short-range wireless modules, digital AV equipment, PC and others



211 Series

Features:

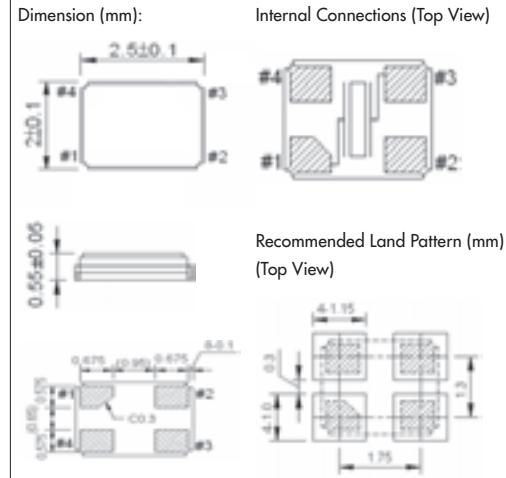
- Ultra-thin dimension with lowest height
- High precision and reliability with excellent heat resistance
- Applications in mobile communication, short-range wireless module and small portable device such as PDA, DSC, DVC, PC and others



221 Series

Features:

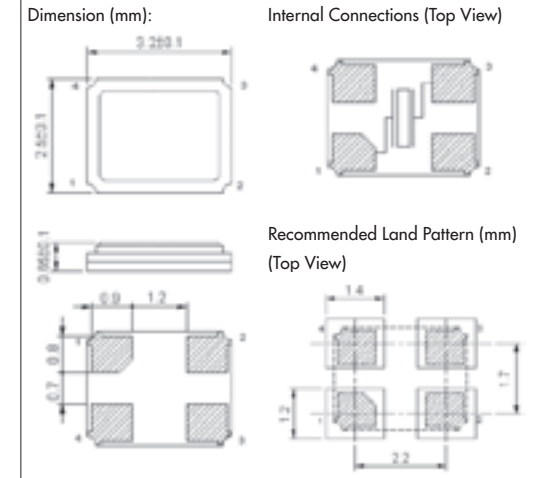
- Suitable applications include mobile and tele-communications equipment, short-range radio link modules, DVC, DSX, PDA and PC
- High precision and reliability
- **Ceramic and glass sealed packages**



321 Series

Features:

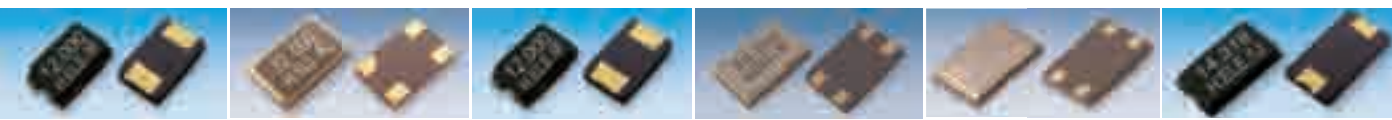
- Suitable applications include mobile and tele-communications equipment, short-range radio link modules, DVC, DSX, PDA and PC
- High shock and vibration resistance
- **Ceramic and glass sealed packages**



Standard Specification:

ITEM/TYPE (RoHS Compliance)	1612	211	221	321
Frequency Range	32-52 MHz	24-50 MHz	12-60 MHz	9.8-60 MHz
Mode	Fundamental	Fundamental	Fundamental	Fundamental
Load Capacitance	Series, 8 pF, 10 pF, 12 pF, or Specify	Series, 8 pF, 10 pF, 12 pF, or Specify	Series, 8 pF, 10 pF, 12 pF, or Specify	Series, 8 pF, 10 pF, 12 pF or Specify
Drive Level	10 μW (100 μW Max.)	10 μW (100 μW Max.)	10 μW (100 μW Max.)	10 μW (100 μW Max.)
Frequency Tolerance	±10 ppm ~ ±50 ppm (at 25 °C), or Specify	±10 ppm ~ ±50 ppm (at 25 °C), or Specify	±10 ppm ~ ±50 ppm (at 25 °C), or Specify	±10 ppm ~ ±50 ppm (at 25 °C)
Equivalent Series Resistance	150 Ω Max. 100 Ω Max. 60 Ω Max.	100 Ω Max. 80 Ω Max.	150 Ω Max. 100 Ω Max. 60 Ω Max.	120 Ω Max. 80 Ω Max. 60 Ω Max. 50 Ω Max.
Frequency Stability (Temp.)	±8 ppm / -10 ~ +60 °C (Ref. to 25 °C) ±12 ppm / -20 ~ +70 °C (Ref. to 25 °C) ±15 ppm / -30 ~ +85 °C (Ref. to 25 °C)	±7 ppm / -10 ~ +60 °C (Ref. to 25 °C) ±10 ppm / -20 ~ +70 °C (Ref. to 25 °C) ±15 ppm / -30 ~ +85 °C (Ref. to 25 °C)	±7 ppm / -10 ~ +60 °C (Ref. to 25 °C) ±10 ppm / -20 ~ +70 °C (Ref. to 25 °C) ±15 ppm / -30 ~ +85 °C (Ref. to 25 °C)	±10 ppm / -10 ~ +60 °C (Ref. to 25 °C) ±10 ppm / -20 ~ +70 °C (Ref. to 25 °C) ±20 ppm / -40 ~ +85 °C (Ref. to 25 °C)
Operating Temp. Range	-10 ~ +60 °C, or Specify	-10 ~ +60 °C, or Specify	-10 ~ +60 °C, or Specify	-10 ~ +60 °C, or Specify
Storage Temp. Range	-40 ~ +85 °C	-40 ~ +85 °C	-40 ~ +85 °C	-40 ~ +85 °C

*Other different Package Sizes and Specifications are available.

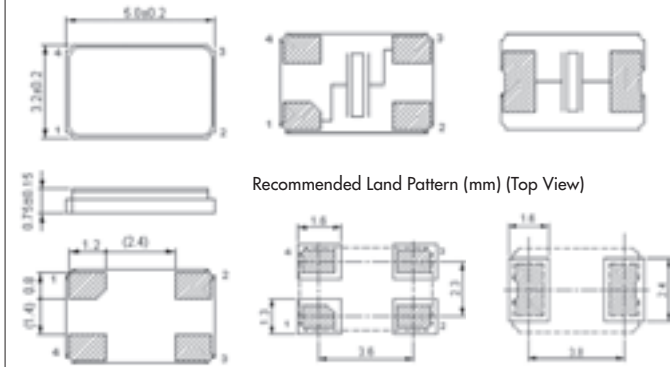


531 Series

Features:

- Suitable for various applications, particularly mobile telecommunications equipment.
- High precision and reliability with excellent heat resistance
- **Ceramic 4pad and glass sealed 2pad packages**

Dimension (mm):

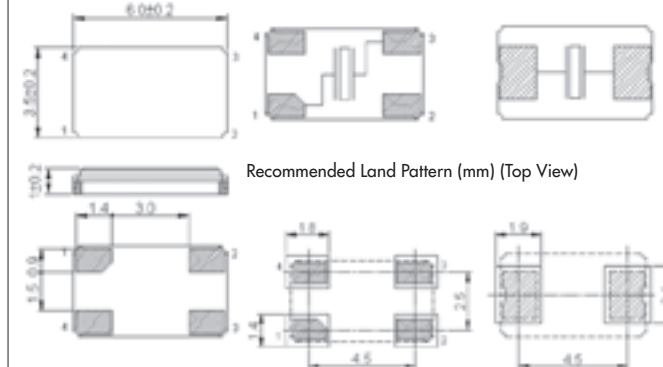


631 Series

Features:

- Suitable for various applications including cellular telephones, PHS, USB, etc.
- High precision and reliability.
- **Ceramic 4pad and glass sealed 2pad packages**

Dimension (mm):

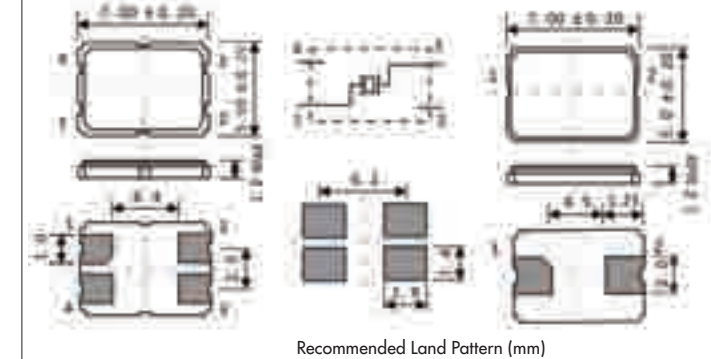


751 Series

Features:

- This product series is of high reliability due to seam weld sealing; reflow soldering is possible
- High precision and reliability, low cost crystal
- Tight Stability and extended temperature available
- **Ceramic 4pad and 2pad packages**

Dimension (mm):



531

8–80MHz

Fundamental | 3rd Overtone

Series, 8 pF, 10 pF, 12 pF, 16 pF or Specify

10 μW (300 μW Max.)

±10 ppm, ±20 ppm, ±30 ppm (at 25 °C)

150 Ω Max. | 80 Ω Max. | 50 Ω Max. | 70 Ω Max.

±10 ppm / -10 ~ +60 °C (Ref. to 25 °C)

±15 ppm / -20 ~ +70 °C (Ref. to 25 °C)

±20 ppm / -40 ~ +80 °C (Ref. to 25 °C)

-10 ~ +60 °C, or Specify

-40 ~ +85 °C

631

7–80MHz

Fundamental | 3rd Overtone

Series, 8 pF, 10 pF, 12 pF, 16 pF or Specify

10 μW (100 μW Max.) | 10 μW (300 μW Max.) | 10 μW (500 μW Max.)

±10 ppm, ±20 ppm, ±30 ppm (at 25 °C)

150 Ω Max. | 80 Ω Max. | 50 Ω Max. | 70 Ω Max.

±10 ppm / -10 ~ +60 °C (Ref. to 25 °C)

±15 ppm / -20 ~ +70 °C (Ref. to 25 °C)

±20 ppm / -40 ~ +85 °C (Ref. to 25 °C)

-10 ~ +60 °C, or Specify

-40 ~ +85 °C

751 (7.0 x 5.0)

6–100MHz

Fundamental | 3rd Overtone

Series, 12 pF, 16 pF, 20 pF or Specify

10 μW (300 μW Max.) | 10 μW (1 mW Max.)

±10 ppm, ±20 ppm, ±30 ppm (at 25 °C)

100 Ω Max. | 50 Ω Max. | 80 Ω Max.

±5, ±10, ±20, ±30 ppm / -10 ~ +60 °C (Ref. to 25 °C)

-10 ~ +60 °C, or Specify

-40 ~ +85 °C

*Other different Package Sizes and Specifications are available.

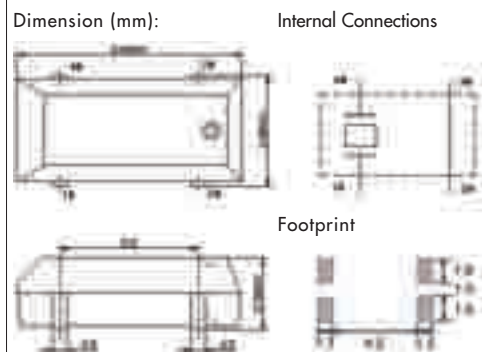


WATCH CRYSTALS

200 Series

Features:

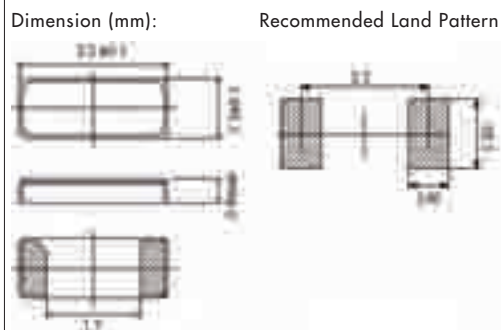
- Excellent low power consumption
- Ideal for portable application
- High stability ± 5 ppm available
- Industrial Temp.-Range as standard
- Suitable for high density circuit boards



3215 Series

Features:

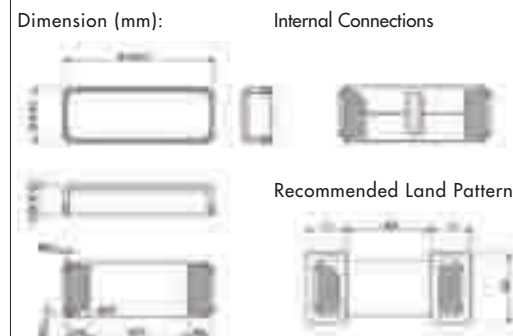
- Ultra miniature and lightweight SMD crystal
- Ceramic package provide high precision and reliability
- Ideal for portable equipment and close component packing density requirements



4115 Series

Features:

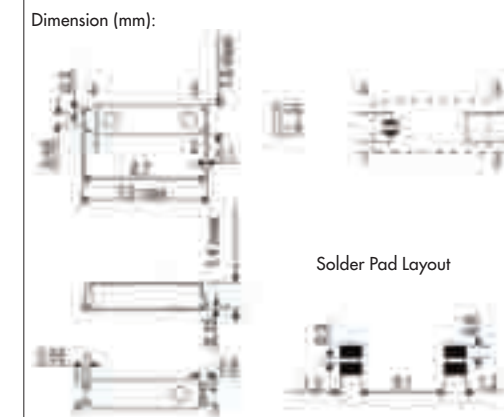
- Metal lid ceramic package
- High density mounting is feasible with super miniature design (height 0.75 mm)
- High precision and reliability



711 Series

Features:

- Ultra thin, plastic moulded package with a maximum height of 1.4 mm
- Applications include Wireless Communications Equipment, Pagers, PDAs, Cellular Phones, Portable applications, and a variety of clock sources



Standard Specification:

ITEM / TYPE (RoHS Compliance)	200	3215	4115	711
Nominal Frequency	32.768 KHz	32.768 KHz	32.768 KHz	32.768KHz
Frequency Tolerance	$\pm 5, \pm 10, \pm 20$ ppm at $25 \pm 2^\circ\text{C}$	± 20 ppm at $25 \pm 2^\circ\text{C}$	± 20 ppm at $25 \pm 2^\circ\text{C}$	± 20 ppm / ± 50 ppm
Temperature Characteristics				
- Turnover Temperature	$25 \pm 5^\circ\text{C}$	$25 \pm 5^\circ\text{C}$	$25 \pm 5^\circ\text{C}$	$+25^\circ\text{C} \pm 5^\circ\text{C}$
- Temperature Coefficient	$(-3.5 \pm 0.8) \times 10^{-8} / ^\circ\text{C}^2$	$-0.045 \times 10^{-5} / ^\circ\text{C}^2$ Max.	$-0.04 \times 10^{-5} / ^\circ\text{C}^2$ Max.	$(-3.5 \pm 1.0) \times 10^{-8} / ^\circ\text{C}^2$
Operating Temperature	-40 to 85°C	-40 to 85°C	-40 to 85°C	-40 to 85°C
Equivalent Series Resistance	50 k Ω Max.	80 k Ω Max.	70 k Ω Max.	65 k Ω Max.
Load Capacitance	6 pF, 12.5 pF	7 pF, 9 pF, 12.5 pF	7 pF, 9 pF, 12.5 pF	7.0 pF / 12.5 pF
Shunt Capacitance	2.0 pF Max.	2.0 pF Max.	1.25 pF typical	0.8 pF typical
Drive Level	1.0 μW Max.	1.0 μW Max.	0.2 μW (1.0 μW Max.)	1.0 μW (0.1 μW Recommended)
Storage Temperature	-55 to 125°C	-55 to 125°C	-40 to 85°C	$-55 \sim +125^\circ\text{C}$
Aging(First year)	± 3 ppm Max.	± 3 ppm Max.	± 3 ppm Max.	± 3 ppm max. $25^\circ\text{C} \pm 3^\circ\text{C}$

*Other different Package Sizes and Specifications are available.



SMD-49-3pin Series

Features:

- High stability
- Low cost
- Tight tolerance
- Excellent anti-shock holder
- Lead configuration and width for easy mounting

Dimension (mm):

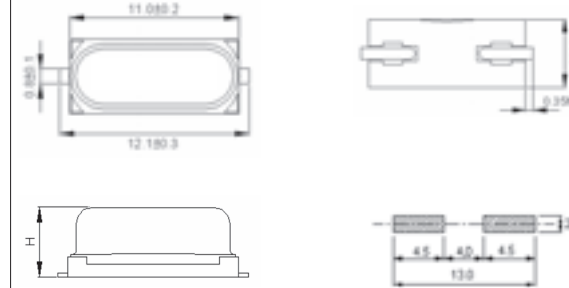


SMD-49 Series

Features:

- This series applies resistance weld sealing which assures high product reliability. Height can be custom designed according to customer requirement
- Wide range of operating temperature form low to high
- Excellent frequency stability
- High reliability against shock and vibration
- Different heights: A 4.0, B 3.7, C 3.2, D 2.5 mm

Dimension (mm):

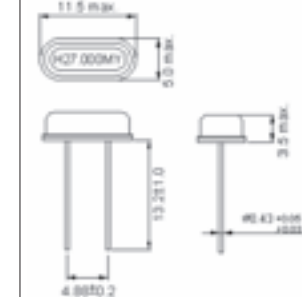


AT-49 Series

Features:

- This series is highly reliable. Resistance-weld sealing is adopted to assure high reliability. Height can be custom designed according to customer requirement
- Standard clock oscillation for microprocessors with excellent frequency stability
- Wide frequency ranges
- Premier Industry Standard
- Competitive cost

Dimension (mm):



H: Height
 A 3.5 max.
 B 3.0 max.
 C 2.5 max.
 D 2.0 max.

Lead pitch shall be measured at the root of leads.

Standard Specification:

ITEM/TYPE (Lead Free)	SMD-49-3pin	SMD-49	AT-49	FREQUENCY	Mode	RR/SERIES
Frequency Range	1.800 ~ 70 MHz		3.072 ~ 90 MHz	3.0 ~ 3.6 MHz	Fund.	150 Ω Max.
Oscillation Mode	Fundamental, 3 rd / 5 th Overtone		Fundamental, 3 rd Overtone	3.7 ~ 4.2 MHz	Fund.	100 Ω Max.
Thickness Shear Mode				4.3 ~ 6.0 MHz	Fund.	80 Ω Max.
Drive Level (DL)	10 μW ~ 1000 μW		100 μW Typ, or specify	6.1 ~ 10.0 MHz	Fund.	60 Ω Max.
Load Capacitance (CL)	10 pF ~ 32 pF or Series		Series, 12 pF, 16 pF, 20 pF, 32 pF (Fund.) or specify 8 pF, 10 pF, 12 pF, 16 pF (3 rd) or specify	10.1 ~ 14.0 MHz	Fund.	50 Ω Max.
Frequency Tolerance (at 25°C)	±10 ppm ~ ±50 ppm		±10 ppm, ±30 ppm, ±50 ppm, ±100 ppm or specify	14.1 MHz ~	Fund.	40 Ω Max.
Freq. Stability Over Operating Temp. Range (Ref. to 25°C)	±3.5 ppm ~ ±50 ppm		±10 ppm, ±30 ppm, ±50 ppm, ±100 ppm (standard) or specify	26.0 ~ 29.0 MHz	3 rd	150 Ω Max.
Operating Temp. Range	0 ~ +50°C or specify		-10 ~ +60°C or specify	29.1 ~ 40.0 MHz	3 rd	100 Ω Max.
Storage Temp. Range	-40 ~ +85°C		-40 ~ +85°C	40.1 ~ 90.0 MHz	3 rd	80 Ω Max.
Aging (at 25°C)	±5 ppm/year Max.		±3, ±5 ppm/year Max.			

*Other different Package Sizes and Specifications are available.

CompoTEK GmbH

Die CompoTEK GmbH ist ein Distributionsunternehmen für qualitativ hochwertige elektronische Bauelemente und Systeme für die europäische Elektroindustrie. Seit vielen Jahren sind wir als Distributor und Repräsentant zahlreicher internationaler Hersteller tätig, wobei sich das Unternehmen besonders auf HF-, Transceiver, elektromechanische Bauelemente sowie Quarzprodukte spezialisiert hat – in diesen Bereichen bieten wir unseren Kunden durch unsere Mitarbeiter ein über 30-jähriges Know-how.

Unser Fokus liegt insbesondere auf Applikationen im Bereich der Luft- und Raumfahrt, Industrieelektronik, Funktechnik und Kommunikationstechnologie.

Erstklassige Produkte, führende und flexible Lieferanten, ein guter Service sowie professionelle Beratung – das sind die Merkmale, die uns auszeichnen.

Wir haben ein Ziel: Unsere Kunden kaufmännisch und technisch kompetent zu betreuen. Dazu gehört mehr als nur das passende Bauteil für eine bestimmte Applikation zu finden, oder den günstigsten Preis zu bieten. An der Schnittstelle zwischen Kunden und Hersteller übernimmt CompoTEK die gesamte Abwicklung von der Präsentation neuer Produkte und Hersteller über das Service-, Beschaffungs-, Lager- und Logistikmanagement bis hin zur technischen Beratung und Schulung. Hierbei sind gute Verfügbarkeit von Produkten, Mustern und Beratung, eine schnelle und effektive Logistik verbunden mit einem hervorragenden Preis-Leistungsverhältnis Voraussetzung für die angestrebte Kundenzufriedenheit.

Mit hochqualifizierten und motivierten Mitarbeitern bietet CompoTEK seinen Kunden Fachberatung auf höchstem technischen Niveau. Wir finden gemeinsam in Zusammenarbeit mit unseren Lieferanten schnell und zuverlässig die ideale Lösung für jeden Anwendungsbereich. Dabei gehören für CompoTEK als „Value Added Distributor“ kompetente Unterstützung bei allen technischen Fragen zum Serviceangebot. Regelmäßige und intensive Schulungen sorgen dafür, dass unsere Mitarbeiter mit den Produkten unserer Hersteller hervorragend vertraut sind. Auf Grund unserer langjährigen Tätigkeit können wir auf einen reichen Erfahrungsschatz bei der Realisierung von Applikationen jeglicher Art zurückgreifen. Diese Erfahrung ist oft der kleine Unterschied der die Realisierung von Projekten erst ermöglicht.

Zu unseren Kunden zählen die Großen der Elektroindustrie wie Siemens, Bosch etc., bekannte mittelständische Hersteller wie Kathrein und Rohde & Schwarz ebenso wie die Zulieferer der Automobilelektronik und alle namhaften Bestückungsdienstleister.

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