Crystal Units

NDK — Crystal Bridge to the Future

AT-51 / AT-51CD2

For OA / AV

■ Features

A highly stable and reliable crystal unit with a metallic package, also suitable for surface mounting.

- With many standard frequencies available, this unit is ideal for a variety of applications.
- Compatible with surface mounting.
- Airtight metal package ensures high-reliability.
- AT-51CD2 meets the requirements for re-flow profiling using lead-free solder.

AT-51   AT-51CD2

Pb Free

RoHS Compliant
Directive 2011/65/EU

■ Specifications

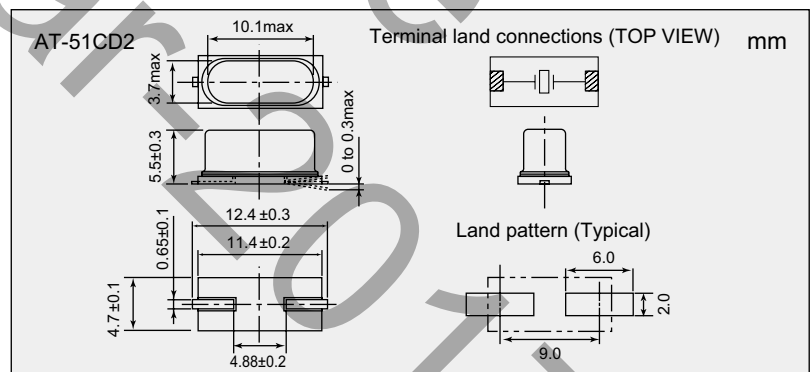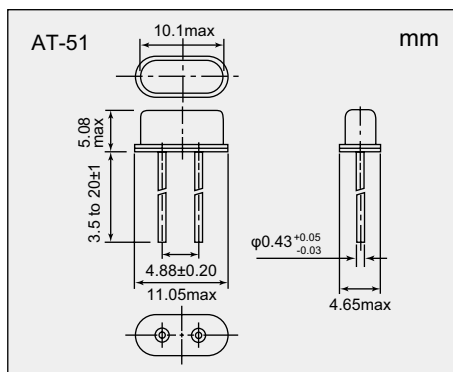| Item \ Model	AT-51 / AT-51CD2	
Nominal frequency	3.1875 to 28.63636 MHz	26 to 75 MHz
Overtone order	Fundamental	3rd overtone
Frequency tolerance (25 ±3 °C)	$\pm 20 \times 10^{-6}$	
Frequency versus temperature characteristics (with reference to +25 °C)	$\pm 30 \times 10^{-6}$	
Operating temperature range	−10 to +70 °C	
Storage temperature range	−40 to +85 °C	
Equivalent series resistance	Refer to *1 and *2	
Level of drive	Refer to *3 (Max. 1000 μW)	
Load capacitance	16 pF	Series resonance

■ How to Specify an Order

When ordering our products, specify them with an "Ordering Code" that consists of the following :

Model name - Frequency (Max : 9 digits) M - Number for specifying an order   Example AT-51-4.000M-STD-PFV-2

If you have any queries concerning our standard frequencies and numbers for specifying orders, please contact our sales representatives or visit our homepage (http://www.ndk.com/).

■ Dimensions

AT-51 (mm)

AT-51CD2 — Terminal land connections (TOP VIEW) (mm) — Land pattern (Typical)

*1 Equivalent Series Resistance (Fundamental)

Overtone Order	Nominal frequency (MHz)	Equivalent Series Resistance max. [Ω]
Fundamental	3.1875 to 3.2	400
	3.2 to 3.5	200
	3.5 to 3.8	140
	3.8 to 4.2	120
	4.2 to 4.883	100
	4.883 to 5.2	80
	5.2 to 5.7	70
	5.7 to 6.6	60
	6.6 to 6.8	55
	6.8 to 8.3	50
	8.3 to 10.7	45
	10.7 to 12.2	40
	12.2 to 15	35
	15 to 28.63636	30

*2 Equivalent Series Resistance (3rd overtone)

Overtone Order	Nominal frequency (MHz)	Equivalent Series Resistance max. [Ω]
3rd overtone	26 to 35	140
	35 to 48	100
	48 to 75	80

*3 Drive Level

Overtone Order	Nominal frequency (MHz)	Drive Level (μW)
Fundamental	3.1875 to 3.541	500
	3.541 to 28.63636	50
3rd overtone	26 to 60	500
	60 to 75	10