Crystal Units

NDK Crystal Bridge to the Future

AT-41 / AT-41CD2

For OA / AV

■ Features

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

- Compatible with surface mounting.
- Airtight metal package ensures high-reliability.
- Taping package is for customer automatic loading operation.
- AT-41CD2 meets the requirements for re-flow profiling using lead-free solder.

Pb Free

RoHS Compliant
Directive 2011/65/EU
Directive (EU) 2015/863


AT-41

AT-41CD2

■ Specifications

Item \ Model	AT-41			AT-41CD2			AT-41 ／ AT-41CD2	
Standard	Standard						Optional	
Nominal Frequency (MHz)	3 to 37	26 to 60	60 to 75	3 to 37	26 to 60	60 to 75	4 to 37	26 to 40
Overtone Order	Fundamental	3rd overtone		Fundamental	3rd overtone		Fundamental	3rd overtone
Frequency Tolerance (25 ±3 °C)	±20 × 10^{-6}			±20 × 10^{-6}			±20 × 10^{-6}	
Frequency versus Temperature Characteristics (with reference to +25 °C)	±30 × 10^{-6}			±30 × 10^{-6}			±30 × 10^{-6}	
Operating Temperature Range (°C)	−10 to +70			−10 to +70			−40 to +85	
Storage Temperature Range (°C)	−40 to +85			−40 to +85			−40 to +85	
Equivalent Series Resistance	Refer to *1			Refer to *1			Refer to *1	
Level of Drive (μW)	Refer to *2 (Max. 1000)			Refer to *2 (Max. 1000)			Refer to *2	
Load Capacitance (pF)	16	Series resonance		16	Series resonance		6 to 32	
Frequency Aging (+25 °C)	---			---			Max. ±5 × 10^{-6} / year *3	
Specifications Number	STD-LPH-9	STD-LPH-10	STD-LPH-11	LN-L-0002	STD-LPH-3	STD-LPH-5	Refer to *4	

*1 Equivalent Series Resistance

Overtone Order	Nominal Frequency (MHz)	ESR Max. (Ω)
Fundamental	3 to 3.2	400
	3.2 to 3.5	200
	3.5 to 4	150
	4 to 4.5	120
	4.5 to 5	100
	5 to 6	80
	6 to 8	70
	8 to 10	60
	10 to 12	50
	12 to 37	40
3rd overtone	26 to 35	140
	35 to 48	100
	48 to 75	80

*2 Level of Drive

Overtone Order	Nominal Frequency (MHz)	Level of Drive (μW)
Fundamental	3 to 5	500
	5 to 37	50

Overtone Order	Nominal Frequency (MHz)	Level of Drive (μW)
3rd overtone	26 to 60	500
	60 to 75	10

Please specify the model name, frequency, and specification number when you order products.
For further questions regarding specifications, please feel free to contact us.
*3 If you have any other requests, NDK will study it.
*4 Ordering information: Overtone Order Fundamental / 3rd Overtone, the Operating Temperature Range, Frequency versus Temperature Characteristics, Frequency Tolerance, and Load Capacitance.

Ex. Model, Frequency (24.000000MHz 6digits), S1: Fundamental or S3 : 3rd overtone – Operating Temperature Range (−40 to +85°C) − Frequency versus Temperature Characteristics (±30 × 10^{-6})− Frequency Tolerance (±20 × 10^{-6}) − Load Capacitance (10pF)
AT-41
24.000000MHz
S1-4085-30-20-10

■ Dimensions