



MHz RANGE CRYSTAL UNIT

FA-20H

Product Number
Q24FA20H0xxx18

- Nominal frequency range : 12 MHz to 54 MHz
- External dimensions : 2.5×2.0×0.55 mm
- Overtone order : Fundamental
- Applications : Mobile phone, Bluetooth, W-LAN
ISM band radio, Clock for MPU



Specifications (characteristics)

Item	Symbol	Specifications		Conditions / Remarks
		For RF Reference	For Clock	
Nominal frequency range	f _{nom}	12 MHz to 54 MHz		Fundamental Please contact us about available frequencies.
Storage temperature range	T _{stg}	-40 °C to +125 °C		Storage as single product.
Operating temperature range	T _{use}	-40 °C to +85 °C (+105 °C)		Please contact us about +85 °C < T _{use}
Level of drive	DL	100 μW Max.	200 μW Max.	Recommended: 10 μW
Frequency tolerance	f _{tol}	±10 × 10 ⁻⁶	±30 × 10 ⁻⁶	+25 °C Please contact us for inquiries.
Frequency versus temperature characteristics	f _{tem}	±10 × 10 ⁻⁶	±30 × 10 ⁻⁶	-20 °C to +75 °C Please contact us for inquiries.
Load capacitance	CL	6 pF to ∞		Please specify.
Motional resistance (ESR)	R1	As per below table1.		-20 °C to +75 °C
Frequency aging	f _{age}	±1 × 10 ⁻⁶ to ±3 × 10 ⁻⁶ / year Max. *1		+25 °C, First year

*1 Please contact us for available frequency tolerances as they are dependent upon the nominal frequency.

Table 1. Motional resistance (ESR) R1

Frequency	Motional resistance
12 MHz ≤ f _{nom} < 16 MHz	150 Ω Max.
16 MHz ≤ f _{nom} ≤ 25 MHz	80 Ω Max.
25 MHz < f _{nom} ≤ 30 MHz	60 Ω Max.
30 MHz < f _{nom} ≤ 35 MHz	50 Ω Max.
35 MHz < f _{nom} ≤ 54 MHz	40 Ω Max.

Product name

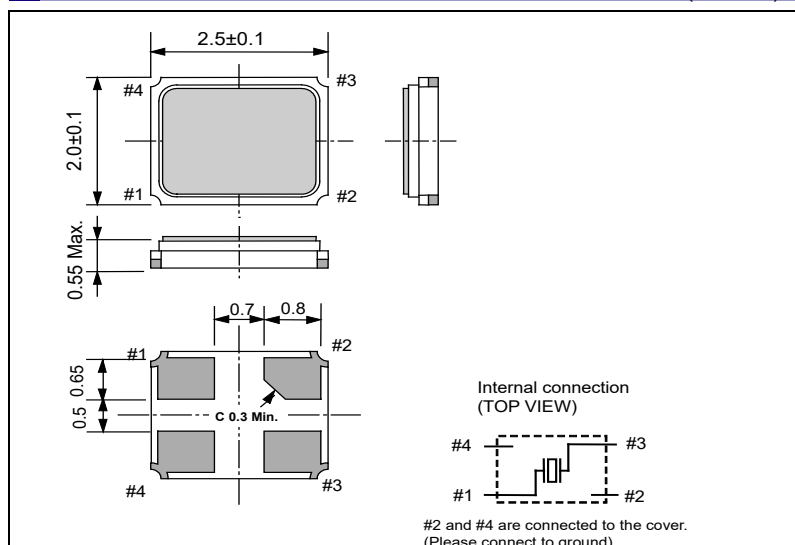
Product name FA-20H 24.000000MHz 12.0 +10.0-10.0
(Standard form) ① ② ③ ④

①Model ②Frequency ③Load capacitance(pF) ④Frequency tolerance(× 10⁻⁶, +25 °C)

In addition to the above mentioned specification item, please specify frequency temperature characteristics and operating temperature range in case of inquiry.

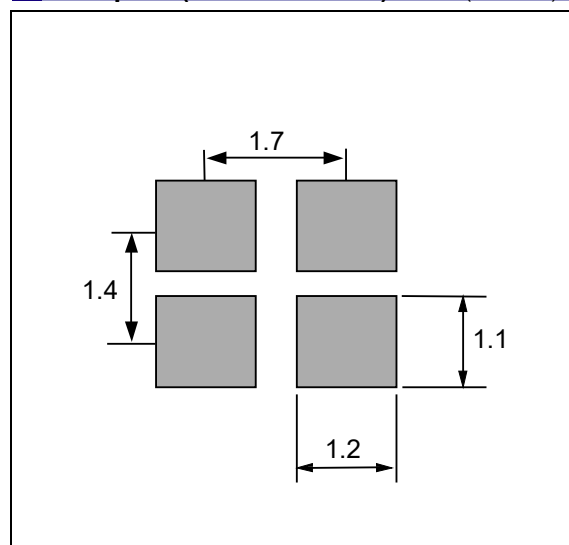
External dimensions

(Unit:mm)







Footprint (Recommended)

(Unit:mm)



► Explanation of the mark that are using it for the catalog

	► Pb free.
	► Complies with EU RoHS directive. *About the products without the Pb-free mark. Contains Pb in products exempted by EU RoHS directive. (Contains Pb in sealing glass, high melting temperature type solder or other.)
	► Designed for automotive general equipment.
	► Designed for automotive applications related to driving and safety.

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