

MHz RANGE CRYSTAL UNIT
SMD

MA-406
MA-505 / MA-506

- Frequency range : 4 MHz to 64 MHz
- Thickness : 11.7 × 4.8 × 3.7 mm ...MA-406
13.46 × 5.08 × 4.6 mm ...MA-505 / 506
- Overtone order : Fundamental
3rd overtone (30 MHz to 64 MHz)
- Applications : For Clock of integrated circuit



Product Number (please contact us)
MA-406 : Q22MA4061xxxx00
MA-505 : Q22MA5051xxxx00
MA-506 : Q22MA5061xxxx00



Actual size



Specifications (characteristics)

Item	Symbol	Specifications	Conditions / Remarks
Nominal frequency range	f_nom	4.000 MHz to 29.999 MHz 30.000 MHz to 64.000 MHz	Fundamental *1 3rd overtone *2
Storage temperature	T_stg	-55 °C to +125 °C	Store as bare product.
Operating temperature	T_use	-20 °C to +70 °C	Please contact us on availability of -40 °C to +85 °C
Level of drive	DL	10 μW to 100 μW	
Frequency tolerance (standard)	f_tol	±50 × 10 ⁻⁶	+25 °C
Frequency versus temperature characteristics (standard)	f_tem	Under 5.5 MHz : ±50 × 10 ⁻⁶ Over 5.5 MHz : ±30 × 10 ⁻⁶	-20 °C to +70 °C For the out of standard specifications, please contact us for inquire
Load capacitance	CL	Fundamental: 10 pF to ∞ Overtone: 5 pF to ∞	Please specify
Motional resistance (ESR)	R ₁	As per below table	-20 °C to +70 °C, DL=100 μW
Shunt capacitance	C ₀	5 pF Max.	
Frequency aging	f_age	±5 × 10 ⁻⁶ / year Max.	+25 °C, First year

*1 4.0 MHz ≤ f_nom < 5.5 MHz : See "Available frequencies from 4.0 MHz to less than 5.5 MHz". 8.0 MHz < f_nom < 8.2 MHz: Unavailable.

*2 26.000 MHz ≤ f_nom < 30.000 MHz : please contact us for inquiries for 3rd overtone mode.

Available frequencies from 4.0 MHz to less than 5.5 MHz (MHz)

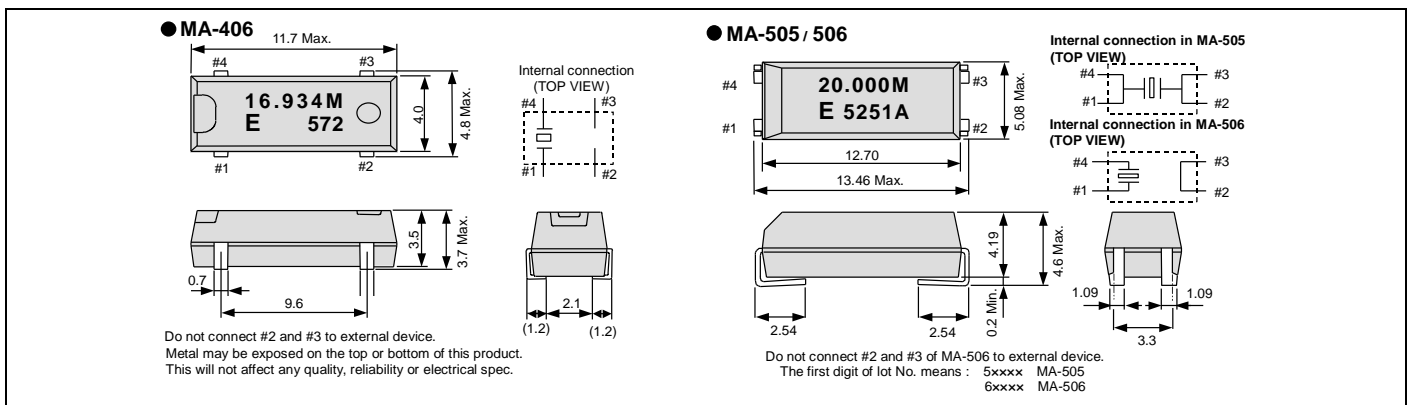
4.000	4.032	4.096	4.190	4.194304	4.433619	4.500	4.800	4.9152
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Motional resistance (ESR)

Frequency (MHz)	4 ≤ f_nom < 5.5	5.5 ≤ f_nom < 6	6 ≤ f_nom < 10	10 ≤ f_nom < 12	12 ≤ f_nom < 16	16 ≤ f_nom < 30	30 ≤ f_nom ≤ 36	36 < f_nom ≤ 64
Motional resistance	150 Ω Max.	100 Ω Max.	80 Ω Max.	60 Ω Max.	50 Ω Max.	40 Ω Max.	100 Ω Max.	80 Ω Max.
Overtone order	Fundamental						3rd overtone	

External dimensions

(Unit:mm)



Footprint (Recommended)

(Unit:mm)

