SMD HIGH-FREOUENCY CRYSTAL UNIT MA-406

Products number Q22MA406xxxxx00

- · High-density mounting-type SMD.
- Excellent heat-resistance and environment capability.
- Cover a wide frequency range, from 4 MHz to 64 MHz.



Specifications (characteristics)

Item		Symbol	Specifications		Remarks	
Nominal frequency		f	4.000 MHz to 29.999 MHz	*1	Fundamental mode	
			30.000 MHz to 64.000 MHz	*2	3rd overtone mode	
Temperature range	Storage temperature	Tstg	-55 °C to +125 °C		Stored as bare product after unpacking	
	Operating temperature	TOPR	-20 °C to +70 °C		Please contact us on availability of -40 °C to +85 °C	
Drive level	Maximum drive level	GL	2 mW		Only crystal oscillation is guaranteed	
	Recommended drive level	DL	10 μW to 100 μW			
Frequency tolerance (standard)		$\Delta f/f$	±50 x 10 ^{.6}		Ta=+25 °C±3 °C	
Frequency temperature characteristics (standard)		-	Under 5.5 MHz: ±50 x 10-6		-20 °C to +70 °C	
			Over 5.5 MHz: ±30 x 10-6			
Load capacitance		CL	Fundamental: 10 pF to ∞		- Please specify	
			Over tone: 5 pF to ∞			
Series resistance		R1	As per table below		-20 °C to +70 °C , DL=100 μW	
Shunt capacitance		Co	5 pF Max.			
Insulation resistance		IR	500 MΩ Min.			
Aging		fa	±5 x 10 [.] / year		Ta=+25 °C ±3 °C , first year	
Shock resistance		S.R.	±10 x 10 ⁻⁶ Max.		Three drops on a hard board from 750 mm or excitation test with 29400 m/s ² x 0.3 ms x 1/2 sine wave x 3 directions	

*1 8.0 MHz < f < 8.2 MHz: Unavailable.

4.0 MHz \leq f < 5.5 MHz: See "Available frequencies form 4.0 MHz to less than 5.5 MHz" on page 22. *2 26.000 MHz \leq f <30.000 MHz :please contact us for inquiries for 3rd overtone mode.

Metal may be exposed on the top of this product. This won't affect any quality, reliability or electrical spec.

Series resistance

