# MHz Range Crystal unit

FA-238

Product name FA-238 24.576000 MHz 12.0 +20.0-20.0 Product Number / Ordering code Q22FA23801808xx

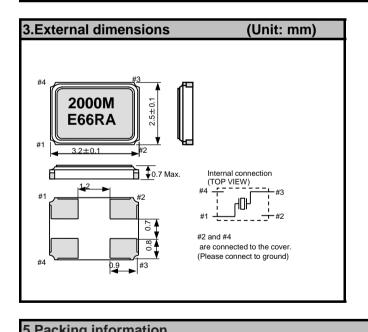
Please refer to the 5.Packing information about xx (last 2 digits)

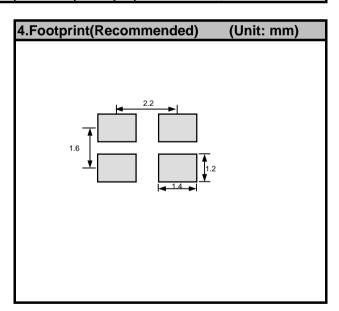
Pb free / Complies with EU RoHS directive

Reference weight Typ. 16 mg

1.Absolute maximum ratings						
Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions / Remarks
Storage temperature	T_stg	-40	-	+125	°C	Storage as single product
Operating temperature	T_use	-40	-	+105	оС	

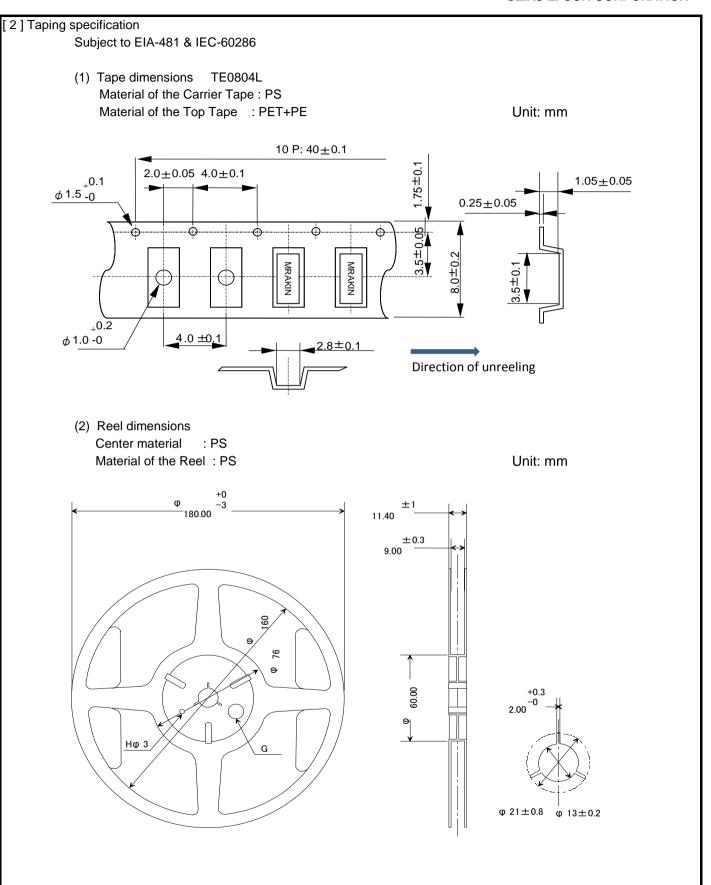
2.Specifications(characteristics)						
Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions / Remarks
Nominal frequency	f_nom	_	24.576000	_	MHz	Fundamental
Frequency tolerance	f_tol	-20	-	+20	x 10- <sup>6</sup>	@+25°C
Frequency Stability over temperature	f_tem	-30	-	+30	x 10 <sup>-6</sup>	-20°C to +70°C
Operating temperature	T_use	-20	-	+70	°C	
Level of drive	DL	10	100	200	μW	
Load capacitance	CL	_	12	_	pF	
Motional resistance (ESR)	R1	-	-	60	Ω	
Motional capacitance	C1	-	3.02	-	fF	
Motional inductance	L1	-	13.89	-	mH	
Shunt capacitance	C0	-	1.07	-	pF	
Frequency aging	f_age	-5	_	+5	x10 <sup>-6</sup> /yea	@+25°C, First year





5.Packing I	intormati	on			
[ 1 ]Product number last 2 digits code (xx) description				The recommended code is "17"	
	Q22FA23	801808xx			
	Code	Condition	Code	Condition	
	01	Any Q'ty vinyl bag(Tape cut)	14	1000pcs / Reel	
	11	Any Q'ty / Reel	15	2000pcs / Reel	
	12	250pcs / Reel	00	3000pcs / Reel	
	13	500pcs / Reel	17	4000pcs / Reel	

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## 6.Reflow profile

Reflow condition

Pre Heating Temperature  $Tp1 \sim Tp2 = +170 \circ C$ Heating Temperature

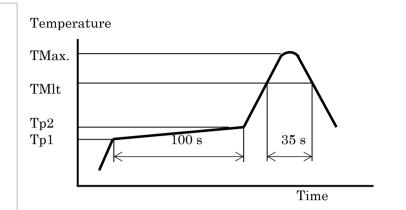
TMlt = +220 ° C

Peek Temperature

TMax. = +260 ° C

Point of measuring
In case of Solderability
Terminal.

In case of Resistance to soldering heat Surface.



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