

Product name       FA-238   50.000000 MHz 19.0 +20.0-20.0  
Product Number / Ordering code       Q22FA23801752xx

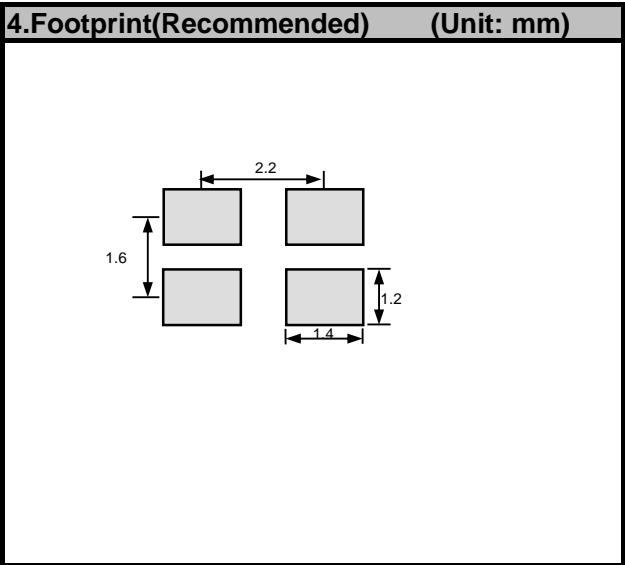
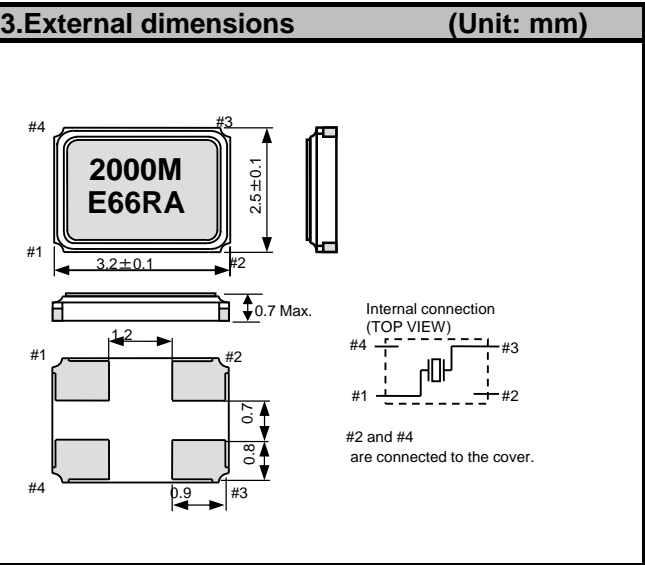
Please refer to the 5.Packing information about xx (last 2 digits)

Pb free / Complies with EU RoHS directive

Reference weight Typ. 16 mg

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

2.Specifications(characteristics)						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions / Remarks
Nominal frequency	f_nom	—	50.000000	—	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>	-40°C to +85°C
Operating temperature	T_use	-40	-	+85	°C	
Level of drive	DL	10	100	200	μW	
Load capacitance	CL	—	19	—	pF	
Motional resistance (ESR)	R1	-	-	40	Ω	
Motional capacitance	C1	-	5.46	-	fF	
Motional inductance	L1	-	1.86	-	mH	
Shunt capacitance	C0	-	1.60	-	pF	
Frequency aging	f_age	-5	—	+5	x10 <sup>-6</sup> /yea	@+25°C, First year



5.Packing information

[ 1 ]Product number last 2 digits code (xx) description

The recommended code is "17"

Q22FA23801752xx

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

(1) Tape dimensions TE0804L

Material of the Top Tape : PET+PE

Technical drawing of a metal part, likely a component of a mechanical system, showing dimensions and a cross-section.

**Dimensions:**

- Overall length:  $10 P: 40 \pm 0.1$
- Top edge dimensions:  $2.0 \pm 0.05$ ,  $4.0 \pm 0.1$
- Left hole diameter:  $\phi 1.5^{+0.1}_{-0}$
- Right hole diameter:  $\phi 1.0^{+0.2}_{-0}$
- Internal hole diameter:  $4.0 \pm 0.1$
- Top edge thickness:  $1.75 \pm 0.1$
- Internal hole diameter:  $3.5 \pm 0.05$
- Internal hole diameter:  $8.0 \pm 0.2$
- Internal hole diameter:  $0.25 \pm 0.05$
- Internal hole diameter:  $1.05 \pm 0.05$
- Internal hole diameter:  $3.5 \pm 0.1$
- Internal hole diameter:  $2.8 \pm 0.1$

**Material:** MRAKIN

**Direction of unreeling:** Indicated by a blue arrow pointing right.

Material of the Reel : PS

Technical drawing of a wheel assembly, showing front, side, and detail views.

**Front View (Left):**

- Overall diameter:  $\phi 180.00$
- Hub diameter:  $\phi 76$
- Hub bore diameter:  $\phi 3$
- Hub length:  $G$
- Spoke diameter:  $\phi 160$
- Spoke width:  $H$

**Side View (Right):**

- Overall height:  $11.40 \pm 1$
- Hub height:  $9.00 \pm 0.3$
- Spoke height:  $60.00$

**Detail View (Bottom Right):**

- Spoke diameter:  $\phi 21 \pm 0.8$
- Spoke width:  $\phi 13 \pm 0.2$
- Spoke thickness:  $2.00$
- Spoke width tolerance:  $+0.3$  /  $-0$

## 6. Reflow profile

Reflow condition

Pre Heating Temperature

$T_{p1} \sim T_{p2} = +170^{\circ}\text{C}$

Heating Temperature

$T_{Mlt} = +220^{\circ}\text{C}$

Peek Temperature

$T_{Max.} = +260^{\circ}\text{C}$

Point of measuring

In case of Solderability  
Terminal.

In case of Resistance to soldering heat  
Surface.

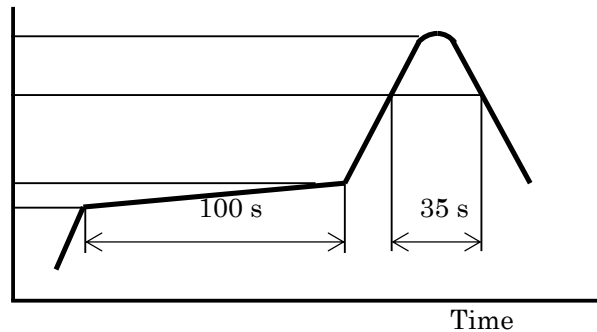
Temperature

$T_{Max.}$

$T_{Mlt}$

$T_{p2}$

$T_{p1}$



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