

Product name FA-238 27.000000 MHz 7.0 +50.0-50.0

Product Number / Ordering code Q22FA23800291xx

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	—	27.000000	—	MHz	Fundamental
Frequency tolerance	f_tol	-50	-	+50	x 10 ⁻⁶	@+25°C
Frequency Stability over temperature	f_tem	-30	-	+30	x 10 ⁻⁶	-20°C to +70°C
Operating temperature	T_use	-20	-	+70	°C	
Level of drive	DL	10	100	200	μW	
Load capacitance	CL	—	7	—	pF	
Motional resistance (ESR)	R1	-	-	50	Ω	
Motional capacitance	C1	-	3.23	-	fF	
Motional inductance	L1	-	10.75	-	mH	
Shunt capacitance	C0	-	1.07	-	pF	
Frequency aging	f_age	-5	—	+5	x10 ⁻⁶ /yea	@+25°C, First year

3.External dimensions

(Unit: mm)

**4.Footprint(Recommended)**

(Unit: mm)

**5.Packing information**

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

The recommended code is "17"

Q22FA23800291xx

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 strip with dimensions and tolerances:

- Main Dimensions:**
 - Total length: $10 P: 40 \pm 0.1$
 - Section width: 8.0 ± 0.2
 - Strip thickness: 1.75 ± 0.1
 - Flange height: 3.5 ± 0.1
 - Flange width: 1.05 ± 0.05
 - Distance between punch marks: 4.0 ± 0.1
 - Distance from edge to first punch mark: 2.0 ± 0.05
 - Distance from edge to last punch mark: 4.0 ± 0.1
 - Distance between MR-AKIN labels: 2.8 ± 0.1
 - Radius of end flange: $R = 3.5 \pm 0.05$
- Punch Marks:** Indicated by circles with diameters $\phi 1.5_{-0}^{+0.1}$ and $\phi 1.0_{-0}^{+0.2}$.
- Labels:** Two rectangular areas labeled "MR-AKIN".
- Direction of unreeing:** Indicated by a blue arrow pointing right.

Material of the Reel : PS

[illegible]

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

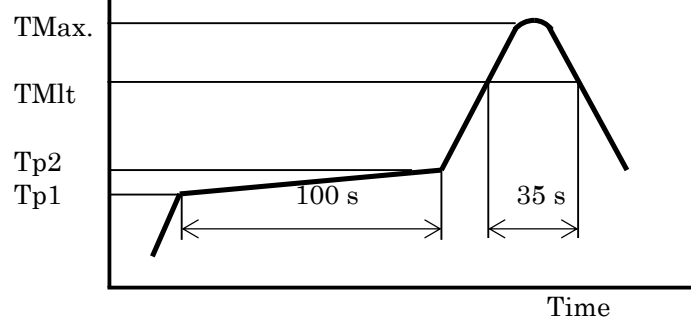
$T_{Max.} = +260^{\circ} \text{C}$

Point of measuring

In case of Solderability
Terminal.

In case of Resistance to soldering heat
Surface.

Temperature



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