VXM8
2.5 x 2.0mm Crystal
Standard Crystal Datasheet

Helping Customers Innovate, Improve & Grow

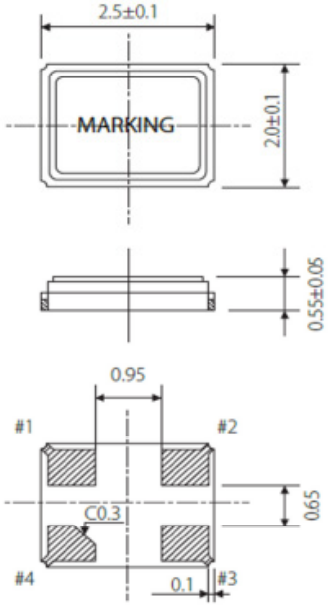
Table 1. Electrical Performance

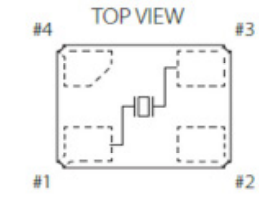
Parameter	Symbol	Min.	Typ	Max	Units
Nominal Frequency	F_{NOM}	14.000		60.000	MHz
Mode		Fundamental, AT - Cut			
Operating Temperature Range	T_{OP}	0/70, -10/70, -20/70, -40/85			°C
Stability Over T_{OP} [1]	F_{STAB}	±10		±100	ppm
Frequency Tolerance[2]	F_{TOL}		±10		ppm
Load Capacitance	C_L	6		32	pF
Shunt Capacitance	C_o			5	pF
Drive Level			10	100	uW
Aging / 1st year (at 25 °C)	F_{AGE}			±5	ppm
Insulation Resistance		500			MOhm
Storage Temperature	T_{STO}	-40		90	°C
Equivalent Series Resistance					
Crystal Frequency	ESR				Ohm
14.000MHz-20.000MHz				80	
20.001MHz-30.000MHz				60	
30.001MHz-35.000MHz				50	
35.001MHz-60.000MHz				40	

1. Referenced to the Frequency at 25 °C.
2. Frequency measured at 25 °C ± 3 °C.

Product is compliant to RoHS directive and fully compatible with lead free assembly.

Package Drawing

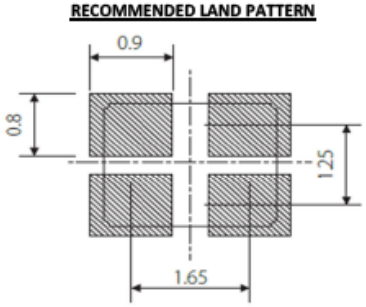




• #1,#3 : Crystal terminal / #2,#4 : Connected to cover
(Please connect it with GND.)

All Dimensions in mm

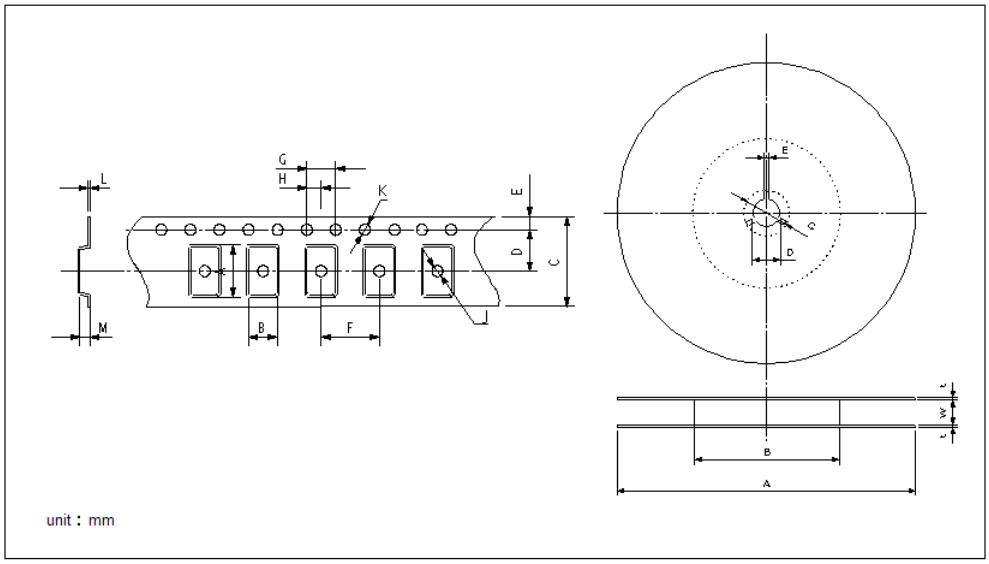
RECOMMENDED LAND PATTERN



Tape & Reel

Table 7. Tape and Reel Dimensions (mm)

Tape												Reel						
A	B	C	D	E	F	G	H	J	K	L	M	A	B	C	D	E	W	T
2.7	2.25	8.0	3.5	1.75	4.0	4.0	2.0	0.5	1.55	0.25	0.65	180	60	21.0	13.0	2.0	9.0	2.0



Reliability & IR Compliance

Solderprofile:

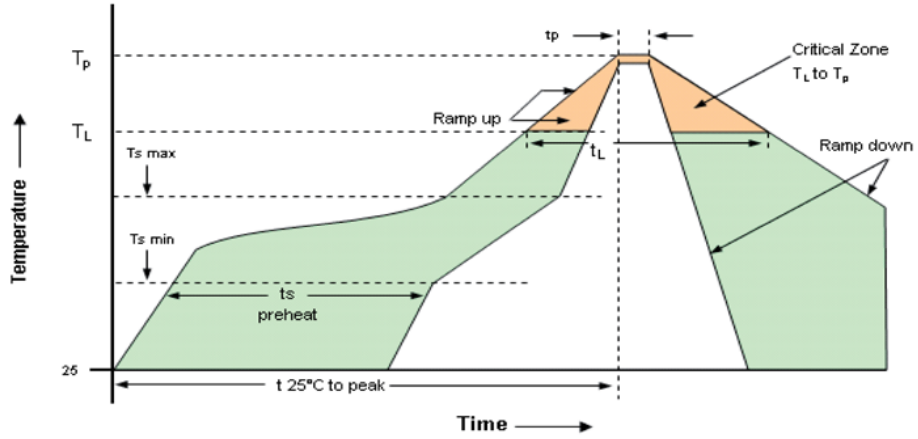


Table 2: Reflow Profile

Parameter	Symbol	Value
PreHeat Time Ts-min Ts-max	t_S	60 sec Min, 260 sec Max 150°C 200°C
Ramp Up	R_{UP}	3 °C/sec Max
Time Above 217 °C	t_L	60 sec Min, 150 sec Max
Time To Peak Temperature	T_{AMB-P}	480 sec Max
Time at 260 °C	t_P	30 sec Max
Ramp Down	R_{DN}	6 °C/sec Max

Pads are Au over Ni and compatible with either SnPb or Pb free attachment.
MSL: 1

Ordering Information

VXM8 - XXX - XX- xxMxxxxxxx

Product
2.5 x 2.0mm, Crystal

Mode
1: Fundamental

Temp Stability
C: 10ppm
D: 15ppm
E: 20ppm
F: 25ppm
G: 30ppm
H: 35ppm
I: 40ppm
J: 45ppm
K: 50ppm
S: 100ppm

Load Capacitance
0: Series Resonance
06-32pF

Operating Temperature
E: -40 to 85 °C
J: -20 to 70 °C
W: -10 to 70 °C
T: 0 to 70 °C

Frequency in MHz

**Note: not all combination of options are available.*
Other specifications may be available upon request.

10ppm stability not available for -40 to 85°C

Revision History

Revision Date	Approved	Description
August 29, 2016	RC	Initial datasheet for factory approval and release to customer.

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