

VXM7

Microprocessor Crystals



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

Features

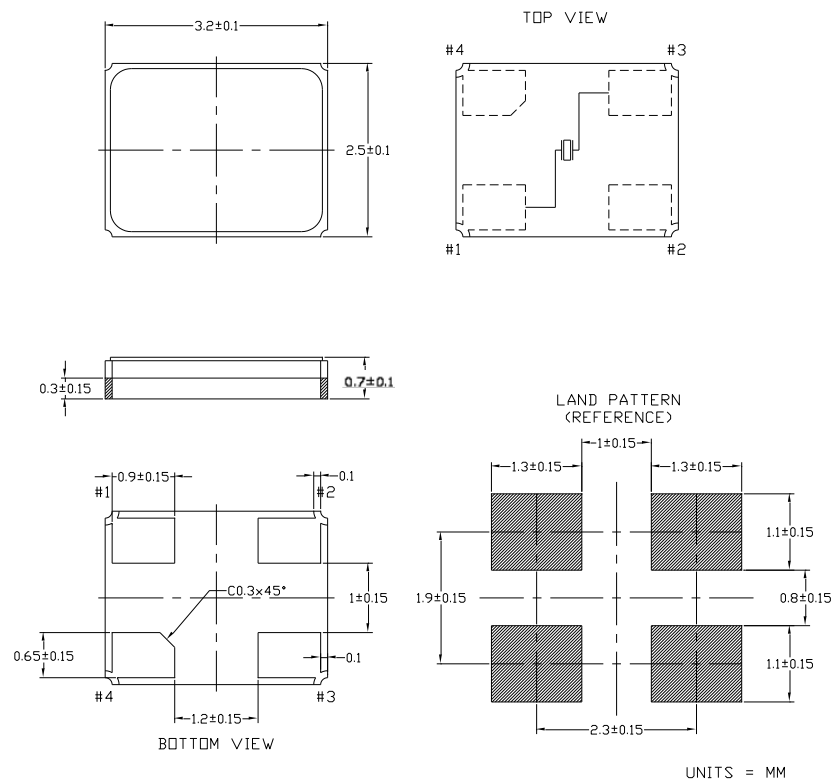
- Small Ceramic SMD Package
- Low Profile
- Tape & Reel
- Tight Tolerance and Stability

Applications

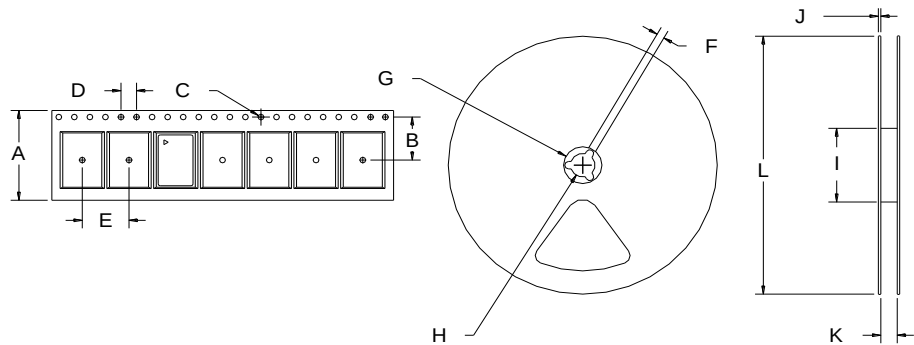
- OA
- AV Machine
- Bluetooth
- Wireless LAN

Electrical Performance					
Parameter	Symbol	Min	Typical	Maximum	Units
Frequency (Fundamental – AT-cut)	f_o	12		50	MHz
Frequency Stability (<i>ordering option</i>)	f_{stab}	See ordering options			ppm
Load Capacitance (<i>ordering option</i>)	C_L	10		32	pF
Standard Calibration Tolerance	$f_{initial}$	-10		10	ppm
Equivalent Series Resistance	ESR				
12.00 to 12.99 MHz				200	Ohms
13.00 to 13.99 MHz				150	Ohms
14.00 to 18.99 MHz				100	Ohms
19.00 to 29.99 MHz				80	Ohms
30.00 to 50.00 MHz				60	Ohms
Shunt Capacitance	C_o			5.0	pF
Drive Level	DL		10	100	uW
Aging				5	ppm/year
Storage Temperature	$T_{storage}$	-40		90	°C
Insulation Resistance	IR	500			MOhms
Package Size		3.2 x 2.5 x 0.8			mm

Package Drawing



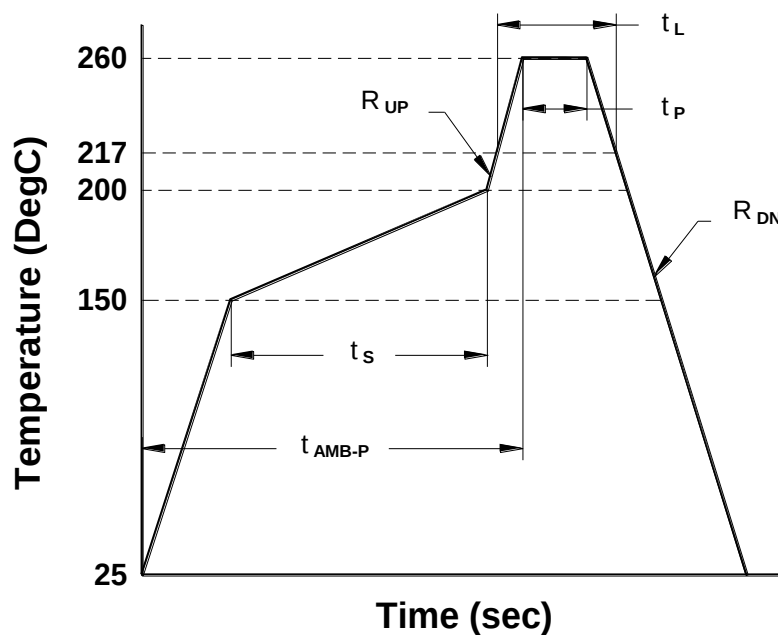
Tape and Reel Dimensions (mm)												
Package	A	B	C	D	E	F	G	H	I	J	K	L
VXM7	8.0	3.5	$\Phi 1.5$	4.0	4.0	2.5	11	$\Phi 13$	60.2	1.75	8.0	178.0



Suggested IR profile

The VXM7 are qualified to meet the JEDEC standard for Pb-Free assembly. The temperatures and time intervals listed are based on the Pb-Free small body requirements and parameters are listed in the table below. The VXM7 are hermetically sealed so an aqueous wash is not an issue.

Reflow Profile (IPC/JEDEC J-STD-020)		
Parameter	Symbol	Value
PreHeat Time	t_s	60 sec Min, 180 sec Max
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	20 sec Max
Ramp Down	R_{DN}	6 °C/sec Max



Ordering Information

VXM7-1M2-10M000

Package

VXM7: 3.2 x 2.5 x 0.6

Mode

1: Fundamental

Stability

A: ±100 ppm over -20°C to +70°C
B: ±50 ppm over -20°C to +70°C
C: ±100 ppm over -40°C to +85°C
D: ±50 ppm over -40°C to +85°C
F: ±30 ppm over -20°C to +70°C
M: ±10 ppm over -10°C to +60°C
N: ±15 ppm over -30°C to +85°C

Frequency

ex. 10M000 = 10.000 MHz

Load Capacitance

0: Series Resonant
1: 16 pF
2: 20 pF
3: 32 pF
4: 18 pF
5: 10 pF
6: 30 pF

Not all combinations are possible

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