


Table 1. Electrical Performance

Parameter	Symbol	Min.	Typ	Max	Units
Nominal Frequency ¹	F _{NOM}		24.305		MHz
Mode		Fundamental, AT - Cut			
Operating Temperature Range	T _{OP}	-40/105			°C
Stability Over T _{OP} ²	F _{STAB}			±15	ppm
Frequency Tolerance ²	F _{TOL}			±10	ppm
Load Capacitance	C _L		7		pF
Shunt Capacitance	C _o			1.5	pF
Motional Capacitance	C ₁		4.7		fF
ESR			25	50	ohms
Drive Level			10	200	uW
Aging / 1st year (at 25 °C) 10 years (at 25 °C)	F _{AGE}			±5 ±15	ppm
Insulation Resistance		500			MOhm
Storage Temperature	T _{STO}	-40		125	°C

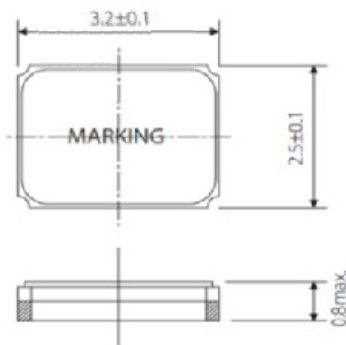
Notes:

1. Referenced to the Frequency at 25 °C.

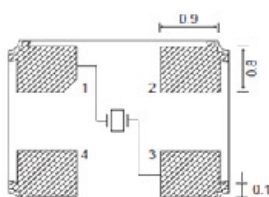
2. Frequency measured at 25 °C ± 3 °C.

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

Package Drawing

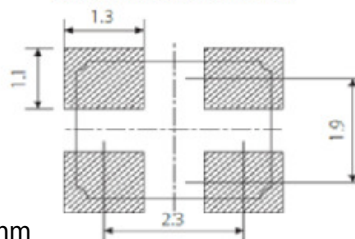


BOTTOM VIEW



All Dimensions in mm

RECOMMENDED PAD LAYOUT



Marking

XXMXX

VYYMC

where

XXMXX = Frequency

V = VECTRON

YY = Year (Ex 19: 2019)

M = Month (A:Jan, B: Feb, C: March...)

C = Manufacturing Location

Table 2. Environmental Compliance

Parameter	Conditions
High Temperature Exposure (Storage)	MIL-STD-202, Method 108 1000 hours at 85°C
Temperature Cycle	JESD22, Method JA-104 1000 cycles, -40/85°C 30 min maximum dwell time at each temperature extreme. 1 minute maximum transition time.
Biased Humidity	MIL-STD-202 Method 103 1000 hours 85°C / 85 % RH.
Operational Life	MIL-STD-202 Method 108 Note: 1000 hrs @ 125°C.
External Visual	MIL-STD-883 Method 2009
Physical Dimensions	JESD22 Method JB-100 Verify physical dimensions to the applicable device detail specification.
Resistance to Solvents	MIL-STD-202 Method 215 Note: Also aqueous wash chemical - OKEM clean or equivalent. Do not use banned solvents.
Mechanical Shock	MIL-STD-202 Method 213 Condition C
Vibration	MIL-STD-202 Method 2004 5g's for 20 minutes, 12 cycles each of 3 orientations, 10-2000 Hz.
Resistance to Soldering Heat	MIL-STD-202 Method 210 Condition B
Solderability	J STD-002
Flammability	UL-94 V-0 or V-1
Board Flex	AEC-Q200-005
Terminal Strength	AEC-Q200-005
Moisture Sensitivity Level	MSL1
Contact Pads	Gold (0.2 um min) over nickel
Weight	20 mg

Reliability & IR Compliance

Solderprofile:

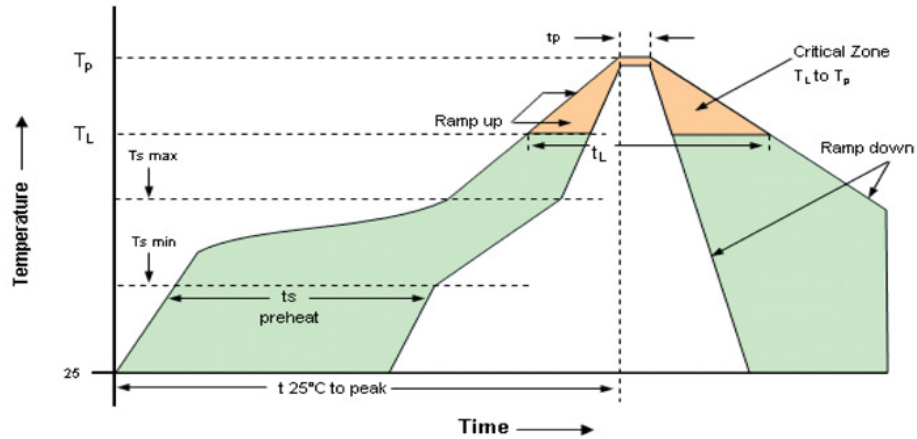


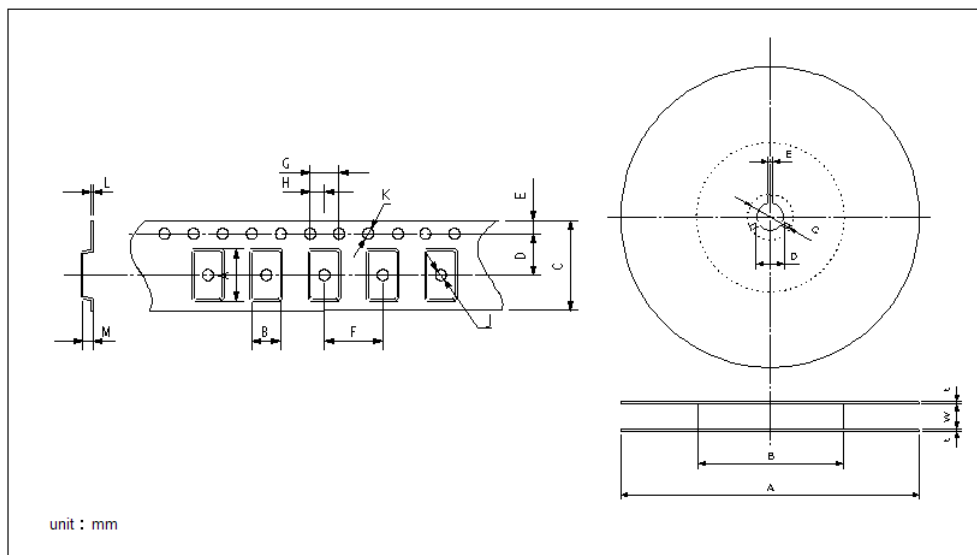
Table 3: Reflow Profile

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

Tape & Reel

Table 4. 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	
3.6	2.9	8.0	3.5	1.75	4.0	4.0	2.0	0.5	1.55	0.25	1.0	180	60	21.0	13.0	2.0	9.0	2.0	



3K pieces per reel

Ordering Information

VXM7 - 9030 - 24M3050000 - TR

Product
3.2 x 2.5mm, Crystal

SCD

TR = Tape and Reel
blank = Bulk

Frequency in MHz

Revision History

Revision Date	Approved	Description
March 17, 2020	FB	rev0.1 Initial

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