
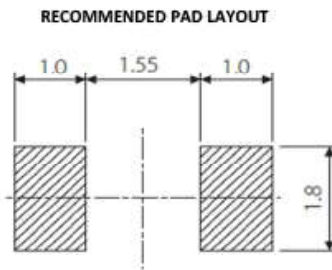
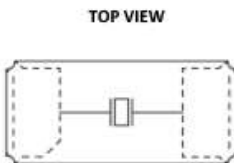
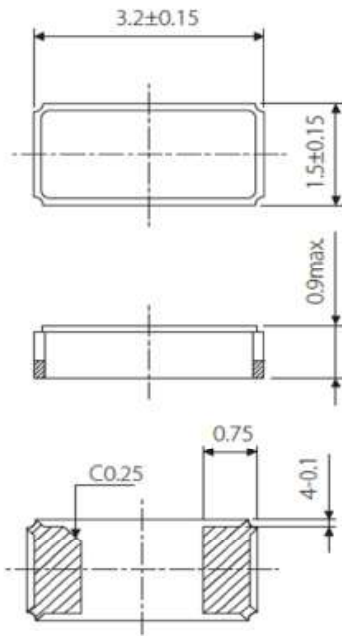


Table 1. Electrical Performance

Parameter	Symbol	Min.	Typ	Max	Units
Nominal Frequency	F_{NOM}		32.768		kHz
Crystal Mode		Tuning Fork			
Operating Temperature Range	T_{OP}	-40		85	°C
Frequency Stability					
Stability Over T_{OP}	F_{STAB}	-0.040			ppm/°C ²
Turnover Temperature	T_P	20	25	30	°C
Frequency Tolerance (Referenced to 25 °C)	F_{TOL}			±20	ppm
Load Capacitance	C_L		12.5		pF
Equivalent Series Resistance	ESR			70	KOhms
Shunt Capacitance	C_o	0.6		1.2	pF
Motional Capacitance	C_1	3.0		4.4	fF
Drive Level			0.1	0.5	uW
Q Factor		13000			
Aging / 1st year (at 25 °C)	F_{AGE}			±3	ppm
Insulation Resistance		500			MOhm
Storage Temperature	T_{STO}	-55		125	°C

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

Package Drawing



All Dimensions in mm

Marking Information

VYYMC

where

V = Vectron

YY = Manufacturing Year (Ex: 19: 2019)

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

C = Manufacturing Location

Alternative Markings

TSSFYWW

where

TSS = Product Identifier

F = 12.5 pF

Y = Year

WW = Week

32YWW

where

32 = 32.768kHz

Y = Year

WW = Week

YM###

where

Y = Year

M = Month

= Lot Number

Reliability & IR Compliance

Solderprofile:

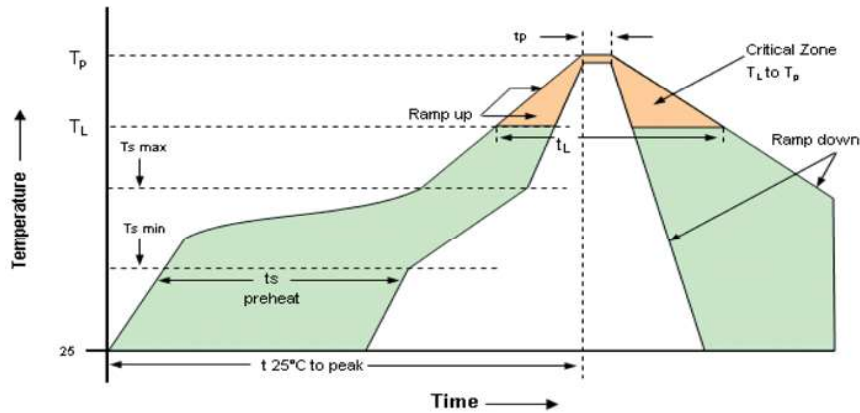


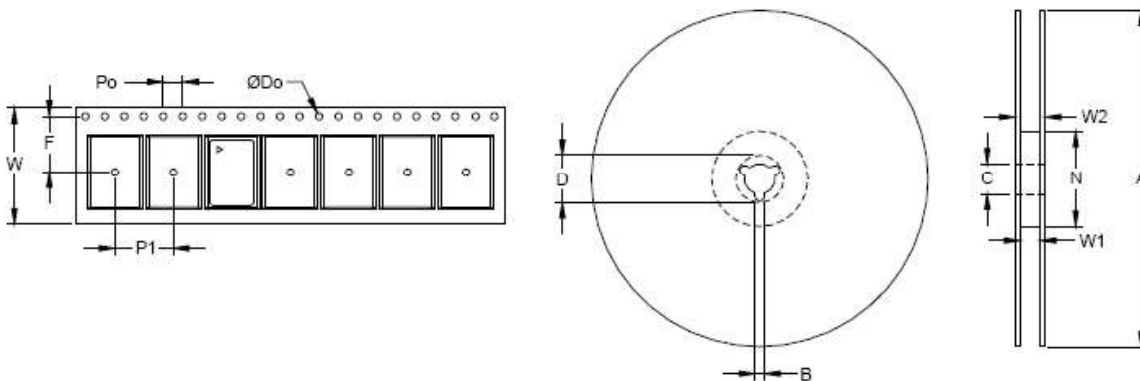
Table 2: Reflow Profile

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

Tape & Reel

Table 3 . Tape and Reel Dimensions

Tape Dimensions (mm)						Reel Dimensions (mm)								
Dimension	W	F	Do	Po	P1	A	B	C	D	N	W1	W2	# Per Reel	
VMK3	12	5.5	1.5	4.0	4.0	180	2	13	21	60	13.0	15.4	3000	



Ordering Information

VMK3- 9005- 32K7680000xx

Product

3.2 X 1.5mm, Crystal

Source Control

Drawing Number

Packaging

TR: Tape and Reel

blank: Cut Tape / non TR quantities

Frequency in kHz

Example:

VMK3-9005-32K7680000TR

Tape and Reel

VMK3-9005-32K7680000

Cut Tape

Revision History

Revision Date	Description
Dec 12, 2019	Initial
Feb 15, 2021	Add tape and reel ordering option
May 15, 2021	Update marking

Contact Information

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