

Product name TSX-3225 24.000000 MHz 16.0 +10.0-10.0

Product Number / Ordering code X1E0000210130xx

Please refer to the 5.Packing information about xx (last 2 digits)

Pb free / Complies with EU RoHS directive

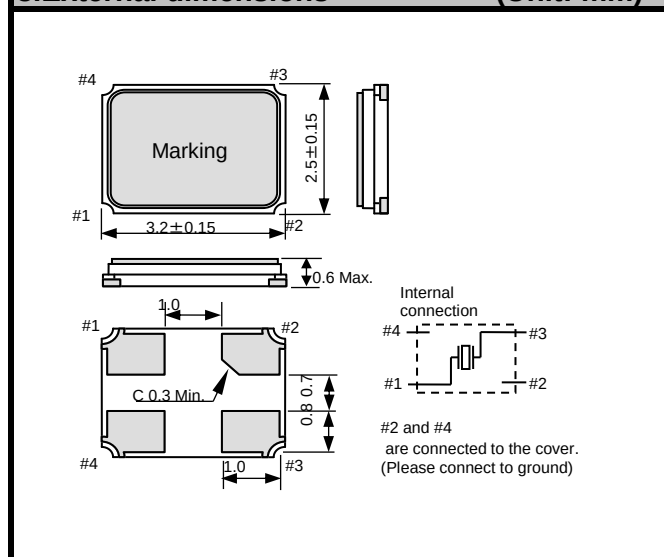
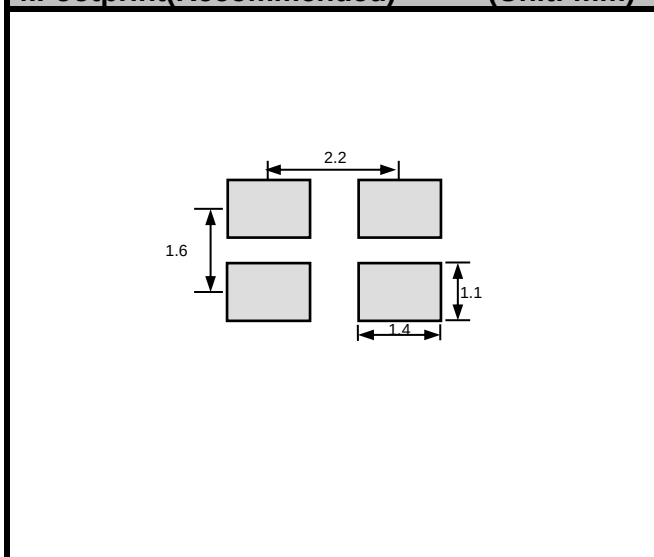
Reference weight Typ. 17 mg

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	—	24.000000	—	MHz	Fundamental
Frequency tolerance	f_tol	-10	—	+10	x 10 ⁻⁶	@+25°C
Frequency Stability over temperature	f_tem	-20	—	+20	x 10 ⁻⁶	-40°C to +85°C
Operating temperature	T_use	-40	—	+85	°C	
Level of drive	DL	10	100	200	μW	
Load capacitance	CL	—	16	—	pF	
Motional resistance (ESR)	R1	—	—	40	Ω	
Motional capacitance	C1	—	3.48	—	fF	
Motional inductance	L1	—	12.64	—	mH	
Shunt capacitance	C0	—	1.27	—	pF	
Frequency aging	f_age	-1	—	+1	x10 ⁻⁶ /year	@+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"

X1E0000210130xx

Code	Condition	Code	Condition
01	Any Q'ty vinyl bag(Tape cut)	00	2000pcs / Reel
11	Any Q'ty / Reel	16	3000pcs / Reel
12	250pcs / Reel	17	4000pcs / Reel
14	1000pcs / Reel		

[2] Taping specification

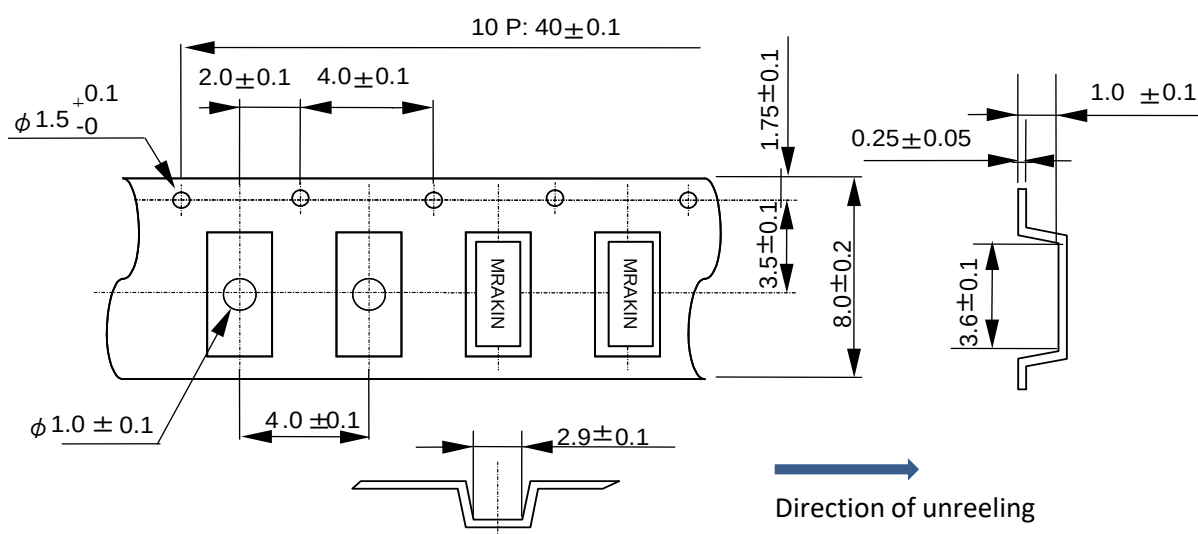
Subject to EIA-481 & IEC-60286

(1) Tape dimensions TE0804L

Material of the Carrier Tape : PS

Material of the Top Tape : PET+PE

Unit: mm

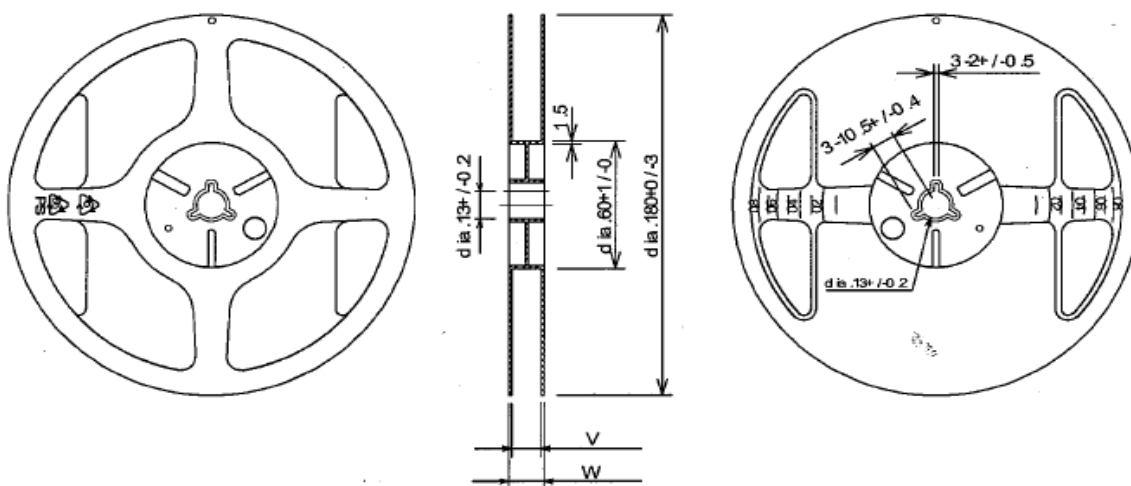


(2) Reel dimensions

Center material : PS

Material of the Reel : PS

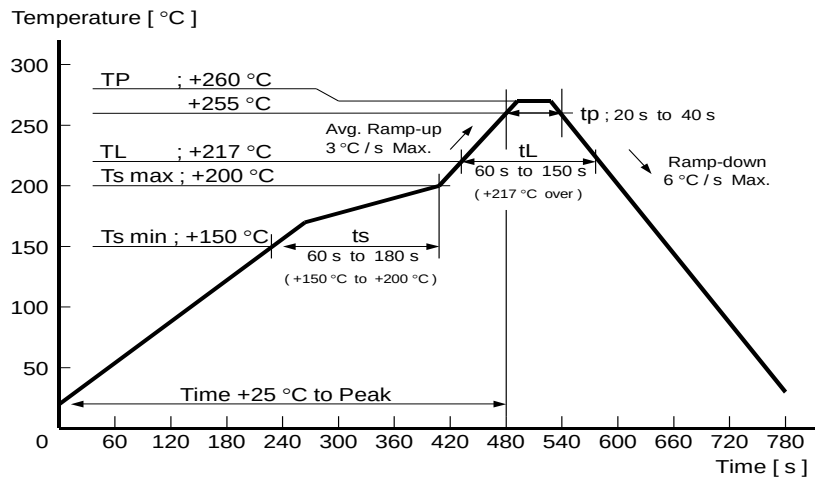
Unit: mm



V(mm)	W(mm)
9.0 $\pm$ 0.3	11.4 $\pm$ 1

6. Reflow profile

Reflow condition (Follow of JEDEC STD-020D.01)



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