# MHz Range Crystal unit

TSX-3225

Product name TSX-3225 16.000000 MHz 12.0 +10.0-10.0 Product Number / Ordering code X1E0000210729xx

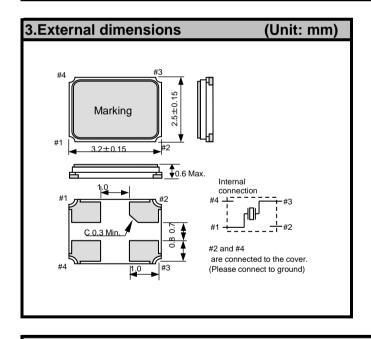
Please refer to the 5.Packing information about xx (last 2 digits)

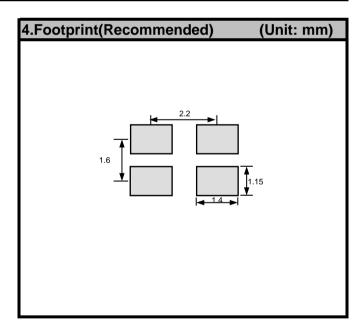
Pb free / Complies with EU RoHS directive

Reference weight Typ. 17 mg

1.Absolute maximum ratings						
Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions / Remarks
Storage temperature	T_stg	-40	ı	+125	°C	Storage as single product
Operating temperature	T_use	-40	-	+105	°C	

2.Specifications(characteristics)						
Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions / Remarks
Nominal frequency	f_nom	_	16.000000	_	MHz	Fundamental
Frequency tolerance	f_tol	-10	-	+10	x 10- <sup>6</sup>	@+25°C
Frequency Stability over temperature	f_tem	-10	-	+10	x 10 <sup>-6</sup>	-20°C to +85°C
Operating temperature	T_use	-20	-	+85	°C	
Level of drive	DL	10	100	200	μW	
Load capacitance	CL	_	12	_	pF	
Motional resistance (ESR)	R1	-	-	60	Ω	
Motional capacitance	C1	-	2.56	-	fF	
Motional inductance	L1	-	38.65	-	mΗ	
Shunt capacitance	C0	-	1.09	-	pF	
Frequency aging	f_age	-1	_	+1	x10 <sup>-6</sup> /yea	@+25°C, First year





## 5.Packing information

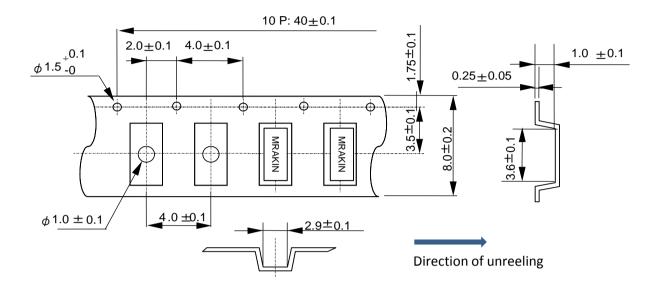
[ 1 ]Product number last 2 digits code (xx) description

The recommended code is "17"

X1E0000210729xx

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		

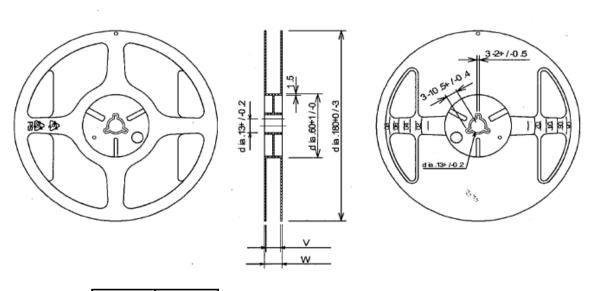
# [ 2 ] Taping specification Subject to EIA-481 & IEC-60286 (1) Tape dimensions TE0804L Material of the Carrier Tape : PS Material of the Top Tape : PET+PE Unit: mm



(2) Reel dimensions

Center material : PS Material of the Reel : PS

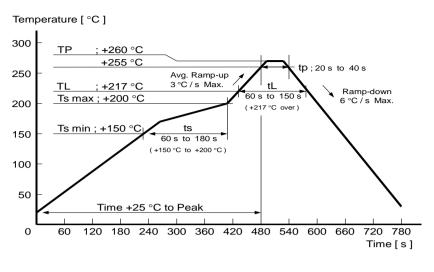
Unit: mm



V(mm)	W(mm)
9.0+/-0.3	11.4+/-1

### 6.Reflow profile

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



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