

Product name TSX-3225 20.000000 MHz 12.0 +10.0-10.0

Product Number / Ordering code X1E0000210239xx

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	—	20.000000	—	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 +75°C
Operating temperature	T_use	-20	-	+75	°C	
Level of drive	DL	10	100	200	μW	
Load capacitance	CL	—	12	—	pF	
Motional resistance (ESR)	R1	-	-	60	Ω	
Motional capacitance	C1	-	2.58	-	fF	
Motional inductance	L1	-	24.54	-	mH	
Shunt capacitance	C0	-	0.98	-	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"

X1E0000210239xx

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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