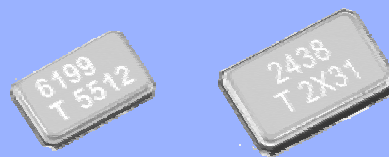


**MHz RANGE CRYSTAL UNIT**  
**LOW PROFILE SMD**

**TSX-4025 / TSX-5032**

- Frequency range : 12 MHz to 32 MHz / 10 MHz to 32 MHz
- Thickness : 0.7 mm Max. (TSX-4025)  
0.8 mm Max. (TSX-5032)
- Overtone order : Fundamental
- Applications : Mobile phone, Bluetooth, W-LAN  
ISM band radio, Clock for MPU



Actual size

TSX-4025

TSX-5032

**Specifications (characteristics)**

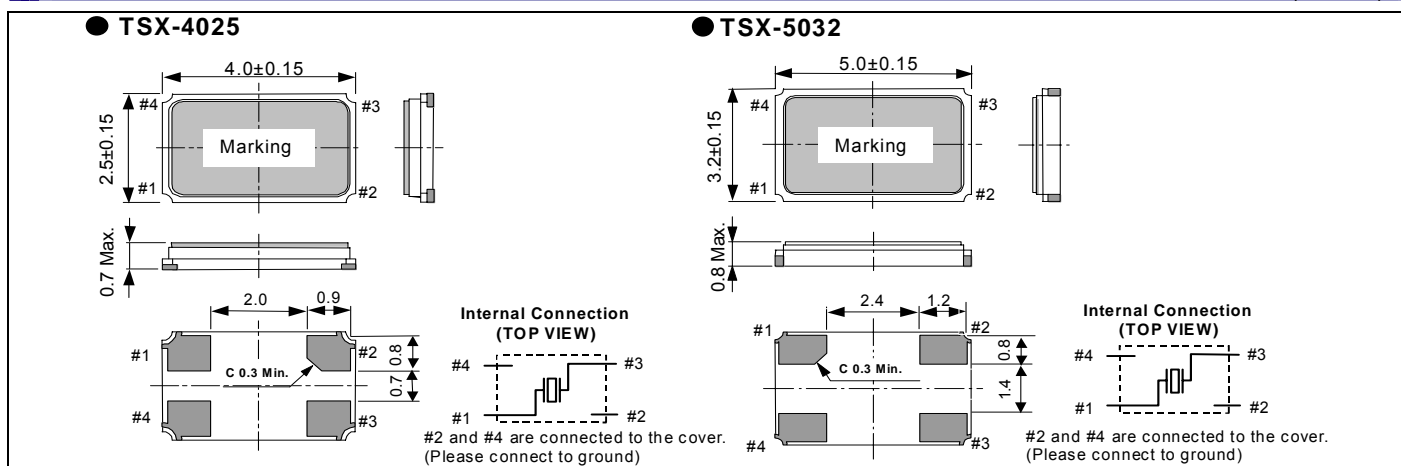
Item	Symbol	Specification		Remarks
		TSX-4025	TSX-5032	
Nominal frequency range	f	12.000 MHz to 32.000 MHz	10.000 MHz to 32.000 MHz	Fundamental
Storage temperature range	T <sub>stg</sub>	-40 °C to +85 °C		Store as bare product after unpacking.
Operating temperature range	T <sub>use</sub>	-20 °C to +75 °C		
Level of drive	DL	100 μW Max.		
Frequency tolerance (standard)	f <sub>tol</sub>	±10 × 10 <sup>-6</sup>		+25 °C
Frequency versus temperature characteristics (standard)	f <sub>tem</sub>	±10 × 10 <sup>-6</sup>		-20 °C to +75 °C
Load capacitance	CL	9 pF to ∞ (standard: 9 pF, 12 pF, 16 pF, ∞)		Please specify.
Motional resistance (ESR)	R <sub>1</sub>	As per below table		-20 °C to +75 °C
Frequency aging	f <sub>age</sub>	±1 × 10 <sup>-6</sup> / year Max.		+25 °C, First year

**Motional resistance (ESR)**

Frequency	TSX-4025	TSX-5032
10.0 MHz ≤ f < 12.0 MHz	—	60 Ω Max.
12.0 MHz ≤ f < 13.0 MHz	60 Ω Max.	
13.0 MHz ≤ f < 17.0 MHz	60 Ω Max.	40 Ω Max.
17.0 MHz ≤ f ≤ 32.0 MHz	40 Ω Max.	

**External dimensions**

(Unit:mm)



**Footprint (Recommended)**

(Unit:mm)

