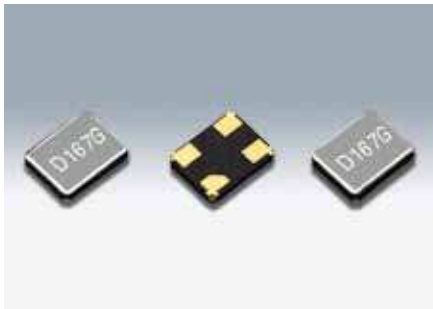


SMD Crystal Resonators / MHz Band Crystal Resonators

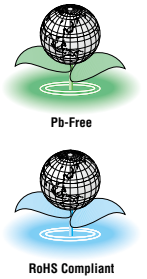
DSX221S



Actual size

■ Features

- 2520 size miniature and lightweight SMD crystal resonator with a low profile of 0.5mm.
- High precision and high reliability (Frequency aging specification of $\pm 1 \times 10^{-6}/1$ year or $\pm 3 \times 10^{-6}/5$ year are available for cell phone or wireless communications systems etc.)
- Offers a wide frequency range from a comparatively low 12MHz up to 60MHz.



■ Applications

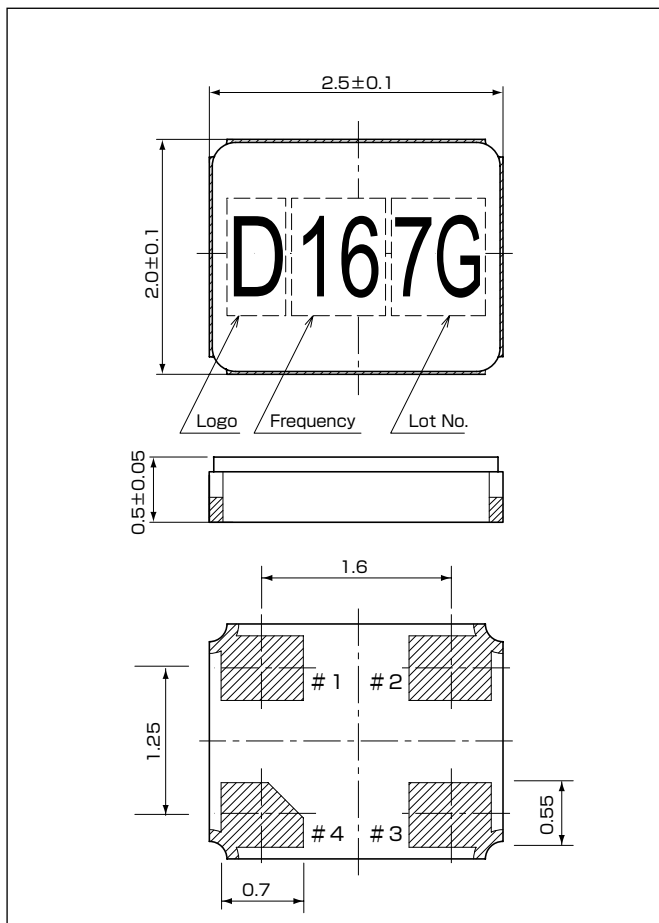
- Telecommunications products like short-range wireless modules and other small devices such as DVC, DSC, PDA, PC.

■ Standard Specification

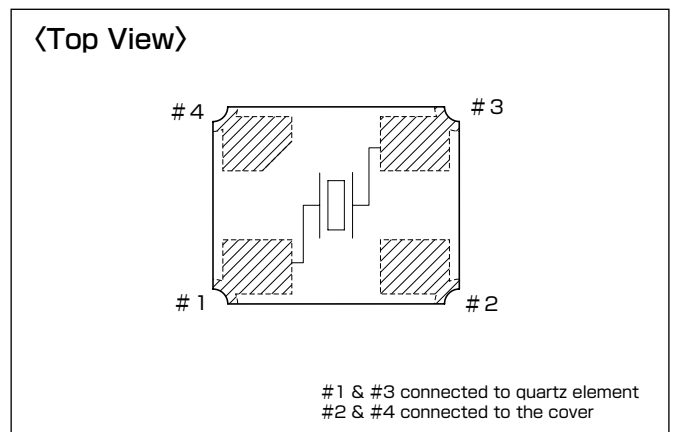
Item	Type	DSX221S				
Frequency Range		12 ~ 13MHz	13 ~ 16MHz	16 ~ 20MHz	20 ~ 30MHz	30 ~ 60MHz
Overtone Order		Fundamental				
Load Capacitance		Series, 8pF, 10pF, 12pF				
Drive Level		10 μ W (200 μ W max.)				
Frequency Tolerance		$\pm 10 \times 10^{-6}$, $\pm 20 \times 10^{-6}$, $\pm 30 \times 10^{-6}$, $\pm 50 \times 10^{-6}$ (at 25°C)				
Series Resistance		200 Ω max.	100 Ω max.	80 Ω max.	60 Ω max.	40 Ω max.
Frequency Characteristics over Temperature		$\pm 8 \times 10^{-6}$, $\pm 20 \times 10^{-6}$, $\pm 30 \times 10^{-6}$, $\pm 50 \times 10^{-6}$ / -10 ~ +60°C (Ref. to 25°C)				
		$\pm 12 \times 10^{-6}$, $\pm 20 \times 10^{-6}$, $\pm 30 \times 10^{-6}$, $\pm 50 \times 10^{-6}$ / -20 ~ +70°C (Ref. to 25°C)				
		$\pm 15 \times 10^{-6}$, $\pm 20 \times 10^{-6}$, $\pm 30 \times 10^{-6}$, $\pm 50 \times 10^{-6}$ / -30 ~ +85°C (Ref. to 25°C)				
Storage Temperature Range		-40 ~ +85°C				
Packing Unit		3000pcs./reel (ϕ 180)				

Consult our sales representative for other specifications.

■ Dimensions[mm]



■ Internal Connections



■ Recommended Land Pattern

[mm]

