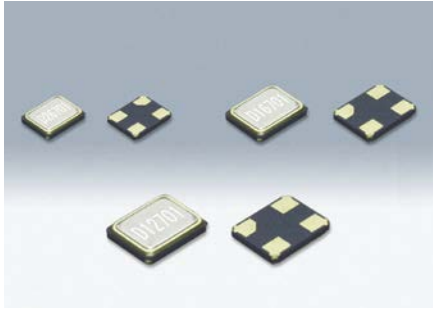


SMD Crystal Resonators / MHz Band Crystal Resonators

DSX211S/DSX211SH/DSX221SH/DSX321SH



Actual size DSX211S/SH □ DSX221SH □
DSX321SH □

■ Features

- Miniature and lightweight SMD crystal resonator
DSX211S/SH : 2016 size 0.45mm height
DSX221SH : 2520 size 0.45mm height
DSX321SH : 3225 size 0.65mm height
- Excellent heat resistance, High precision and high reliability
- Offers a wide range of frequencies
DSX211S : 24MHz to 50MHz, 80MHz, 96MHz
DSX211SH : 24MHz to 50MHz
DSX221SH : 16MHz to 54MHz
DSX321SH : 12MHz to 50MHz
- AEC-Q200 Compliant (except for DSX211S : 80MHz, 96MHz)
- Frequency Characteristics over Temperature
 $\pm 50 \times 10^{-6} / -40$ to $+105^\circ\text{C}$ is available for Industrial Equipment.



■ Applications

- Telecommunication products, short-range wireless modules and other small devices such as DVC, DSC, PC.
- Automotive applications such as multimedia devices (AEC-Q200 Compliant).
- Industrial equipment

■ Standard Specification

Item \ Type	DSX211S				DSX221SH				DSX321SH		
	DSX211SH										
Frequency Range	24 to 30MHz	30 to 50MHz	80MHz	96MHz	12 to 16MHz	16 to 24MHz	24 to 30MHz	30 to 54MHz	12 to 20MHz	20 to 28MHz	28 to 50MHz
Overtone Order	Fundamental										
Load Capacitance	8pF, 10pF, 12pF										
Drive Level	10 μ W (100 μ W max.)		10 μ W (400 μ W max.)		10 μ W (200 μ W max.)						
Frequency Tolerance	$\pm 20 \times 10^{-6}$ (at 25 $^\circ\text{C}$)										
Series Resistance	100 Ω max.	80 Ω max.	30 Ω max.		100 Ω max.	60 Ω max.	80 Ω max.	60 Ω max.	50 Ω max.	60 Ω max.	50 Ω max.
Frequency Characteristics over Temperature	$\pm 30 \times 10^{-6} / -30$ to $+85^\circ\text{C}$ (Ref. to 25 $^\circ\text{C}$)										
Storage Temperature Range	-40 to +85 $^\circ\text{C}$										
Packing Unit (1)	3000pcs./reel(ϕ 180)										

(1) Moisture prevention packing is unnecessary.
Moisture Sensitivity Level: LEVEL1 (IPC/JEDEC J-STD-033)

Consult our sales representative for other specifications.

■ DSX211S/SH [mm]

■ DSX221SH [mm]

■ DSX321SH [mm]

[mm]

■ Dimensions	■ Dimensions	■ Dimensions
<p>■ Internal Connections (Top View)</p> <p>#1 & #3 connected to quartz element #2 & #4 connected to the cover #2 & #4 recommended GND connection</p>	<p>■ Internal Connections (Top View)</p> <p>#1 & #3 connected to quartz element #2 & #4 connected to the cover #2 & #4 recommended GND connection</p>	<p>■ Internal Connections (Top View)</p> <p>#1 & #3 connected to quartz element #2 & #4 connected to the cover #2 & #4 recommended GND connection</p>
<p>■ Recommended Land Pattern (Top View)</p>	<p>■ Recommended Land Pattern (Top View)</p>	<p>■ Recommended Land Pattern (Top View)</p>