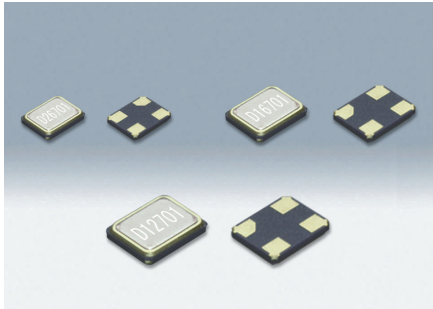


SMD Crystal Resonators / MHz Band Crystal Resonators (For Automotive)

DSX211SH/DSX221SH/DSX321SH



Actual size DSX211SH □ DSX221SH □
DSX321SH □

■ Features

- Miniature and lightweight SMD crystal resonator
DSX211SH : 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
DSX211SH : 16MHz to 60MHz
DSX221SH : 12MHz to 54MHz
DSX321SH : 12MHz to 50MHz
- AEC-Q200 Compliant



■ Applications

- Automotive radio applications such as Bluetooth, wireless LAN and GPS/GNSS and multimedia devices, etc.

■ Standard Specification

Item	Type	DSX211SH		DSX221SH			DSX321SH			
		16 to 30MHz	30 to 60MHz	12 to 24MHz	24 to 30MHz	30 to 54MHz	12 to 20MHz	20 to 32MHz	32 to 50MHz	
Frequency Range		16 to 30MHz	30 to 60MHz	12 to 24MHz	24 to 30MHz	30 to 54MHz	12 to 20MHz	20 to 32MHz	32 to 50MHz	
Overtone Order		Fundamental								
Load Capacitance		8pF, 10pF, 12pF								
Drive Level		10μW (100μW max.)			10μW (200μW max.)					
Frequency Tolerance		±30×10 ⁻⁶ (at 25°C)								
Series Resistance		100Ω max.	50Ω max.	120Ω max.	50Ω max.	40Ω max.	80Ω max.	50Ω max.	40Ω max.	
Frequency Characteristics over Temperature		±100×10 ⁻⁶ / -40 to +125°C (Ref. to 25°C)								
Storage Temperature Range		-40 to +150°C								
Reliability		AEC-Q200								
Packing Unit (1)		3000pcs./reel(φ180)								

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

Consult our sales representative for other specifications.

■ DSX211SH

[mm]

■ DSX221SH

[mm]

■ DSX321SH

[mm]

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