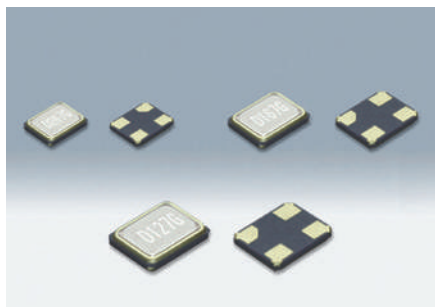


# SMD Crystal Resonators / MHz Band Crystal Resonators

## DSX211SH/DSX221SH/DSX321SH (For Industrial Equipment)



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 : 24MHz ~ 50MHz  
DSX221SH : 16MHz ~ 54MHz  
DSX321SH : 12MHz ~ 50MHz
- Moisture prevention packing is unnecessary.  
Moisture Sensitivity Level: LEVEL1 (IPC/JEDEC J-STD-033)
- AEC-Q200 Compliant

### Applications

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



### Standard Specification

Item \ Type	DSX211SH		DSX221SH				DSX321SH		
Frequency Range	24~30MHz	30 ~ 50MHz	12 ~ 16MHz	16 ~ 24MHz	24 ~ 30MHz	30 ~ 54MHz	12 ~ 20MHz	20 ~ 28MHz	28 ~ 50MHz
Overtone Order	Fundamental								
Load Capacitance	8pF, 10pF, 12pF								
Drive Level	10μW (100μW max.)		10μW (200μW max.)						
Frequency Tolerance	±20×10 <sup>-6</sup> (at 25℃)								
Series Resistance	100Ω max.	80Ω max.	200Ω max.	150Ω max.	100Ω max.	60Ω max.	80Ω max.	60Ω max.	50Ω max.
Frequency Characteristics over Temperature	±5.0×10 <sup>-6</sup> / -40 ~ + 105℃ (Ref. to 25℃)								
Storage Temperature Range	- 40 ~ + 105℃								
Packing Unit	3000pcs./reel(φ 180)								

Consult our sales representative for other specifications.

### DSX211SH

[mm]

### DSX221SH

[mm]

### DSX321SH

[mm]

<p>■ Dimensions</p> <p>■ Internal Connections (Top View)</p> <p>■ Recommended Land Pattern (Top View)</p>	<p>■ Dimensions</p> <p>■ Internal Connections (Top View)</p> <p>■ Recommended Land Pattern (Top View)</p>	<p>■ Dimensions</p> <p>■ Internal Connections (Top View)</p> <p>■ Recommended Land Pattern (Top View)</p>
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