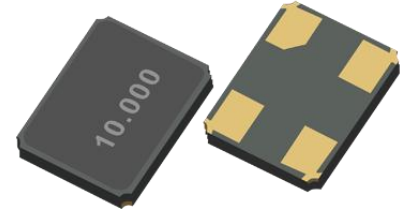


### Features

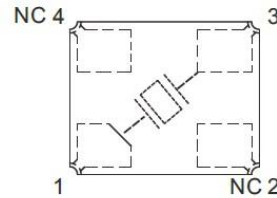
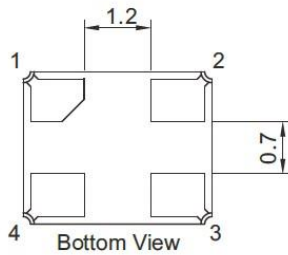
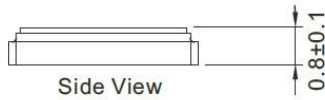
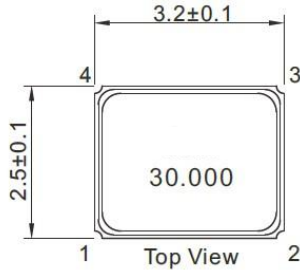
- 3225 size miniature and lightweight SMD crystal unit with a low profile of 0.8mm
- Wide frequency range from 8MHz up to 64MHz
- Excellent heat resistance and environmental characteristics
- High precision and high reliability
- Automatic mounting and reflow soldering
- Applications: DVC, Automotive, Wireless Communications, PC, Phones, etc.
- RoHS Compliant



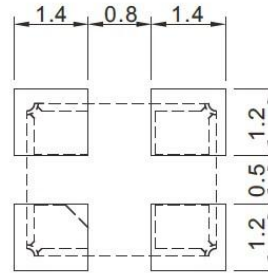
### Standard Specification

Type	7V Glass Sealed SMD Crystal				
Frequency Range	8~10MHz	10~12MHz	12~20MHz	20~27MHz	27~64MHz
Overtone Order	Fundamental				
Load Capacitance	8pF, 10pF, or specify				
Drive Level	1~50μW Max. (10μW Typ.)				
Frequency Tolerance	±10ppm, ±20ppm, or specify				
Series Resistance	400Ω Max.	100Ω Max.	80Ω Max.	60Ω Max.	50Ω Max.
Shunt Capacitance	5pF Max.				
Operating Temperature	-20~+70°C, -40~+85°C, or specify				
Storage Temperature	-55~+125°C				
Aging (at 25°C)	±3ppm /Year Max.				
Packing Unit	3000pcs./Reel				

### Dimensions (mm)



Top View Crystal Connection



Top View Suggested Layout

### Part ordering information

X	7V	-10.000	-8	-10	-400	-C
	Series	Frequency	Load Capacitance	Tolerance	ESR	Temperature Range
		e.g	e.g	e.g	e.g	e.g
		10.000 = 10MHz	8 = 8pF	10 = 10ppm	400 = 400Ω	A= -10~+60°C B= -20~+70°C C =-40~+85°C D =-40~+105°C E =-55~+125°C

### Notes

\* Tuning fork products oscillate at frequency bands that are close to the washing frequency of ultrasonic cleaning machines, which may lead to resonance deteriorating the electrical characteristics in devices, and even damaging the overall structure. Therefore, using ultrasonic cleaning machines to clean tuning fork devices should be avoided. If the use of this method to clean tuning fork devices is required, it's suggested to check the functionality of devices before and after the cleaning process.

\* Avoid mounting and processing by Ultrasonic welding. This method has a possibility of an excessive vibration spreading inside the crystal products and becoming the cause of characteristic deterioration and not oscillating.

Manual soldering heat resistance - Pressing a soldering iron on 400°C on the terminal electrode for four seconds (twice).

### Reliability Tests Specification

Test item	Equipment	Condition	Specification
1.SOLDERABILITY TEST	SJK-REL001、RC-328A	1. Solderability:235±5°C, 5±0.5S 2. Heat resistance:260±5°C,10±1S restoration of 1 hour	MIL-STD-883E Method 2003.7
2. HERMETICITY TEST	HELIOT-306S	FC-84 FLUOROCARBON,BUBBLE MACHINE	MIL-STD-883E Method 1014.10
3. VIBRATION TEST	HG-V4、S&A 250B	Enable Crystal(10g) from 10-55-10Hz,X、Y、Z horizontal,1 Minute vibration/time, 1time/ 2 hours.	MIL-STD-883E Method 2007.3
4.MECHANICAL SHOCK	HPC-200、S&A 250B	Enable Crystal 50G(490m/s2) time=11 ms speed=3.4 m/s half sine wave oscillation	JIS C6701
5. DROP TEST	HARD BOARD.S&A250B	75CM HIGH,3 TIMES ON HARD BOARD	MIL-STD-202F Method 213B
6. HIGH & LOW TEMP STORAGE TEST (Static test)	H-PTH-80CK & HM101-3ABN , S&A 350B/250B	High temperature: 125°C±2°C,1000hr; Low temperature:-40°C±3°C,1000hrs	MIL-STD883C, METHOD 1011.8
7.TEMP & HUM CYCLING TEST	H-PTH-80CK CHAMBE , S&A 350B/250B	Temperature:-10°C±2°C~65°C±2°C,Humidity:93±3%,1 cycle need 24 hrs. 5cycles.	MIL-STD-883E Method 1005.8
8. HIGH TEM. & HUM. STORAGE TEST	H-PTH-80CK CHAMBE , S&A 350B/250B	Temperature:40°C±2 , Humidity:85+3,- 2%,Store 96 hrs	JIS C6701
9.AGEING TEST	H-PTH-80CK CHAMBE , S&A 350B/250B	Temperature:40°C±2 , Humidity:85+3,- 2%,Store 96 hrs	JIS C5023



**X-7V Series**  
**Glass Sealed SMD Crystal**  
**Size: 3225 (3.2×2.5×0.8mm)**  
**8~64 MHz / 10~20 pF / 10~20ppm**

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