



## DIP QUARTZ CRYSTAL RESONATOR

## 石英晶体谐振器



### Dip Crystal 11.4×4.8 mm HC-49U/S

- Package Height 3.5 mm max, 2.5~3.5 mm available
- Wave Soldering Temperature: 265°C max
- highly stable and reliable crystal unit with a metallic package
- Taped Version Available



RoHS compliant

### ★ PARAMETERS

### 技术参数

PARAMETERS	参数	SPECIFICATION 规格
Frequency Range	频率范围	3.5~100MHz
Operation Mode	振动模式	(3.5~40MHz) Fundamental (27~100MHz) 3rd Overtone
Loading Capacitance	负载电容	20pF Std. 8 to 33pF, Series available
Drive Level	激励电平	100 μ W (500 μ W max)
Frequency Tolerance	频率偏差	±10ppm ~ ±30ppm (at 25°C)
Equivalent Resistance	谐振电阻	See Below
Frequency Stability	频率稳定性	±2.5ppm ~ ±50ppm
Operating Temp. Range:	工作温度范围	0 ~ +50°C to -40 ~ +85°C
Storage Temp. Range:	储存温度范围	-55 ~ +125°C

○ All specification subject change without notice. 规格变化, 恕不另行通知。

### ★ FREQUENCY STABILITY VS. TEMPERATURE 频率温度特性

### ★ ESR (SERIES RESISTANCE RS)

Operation Temperature Range	Frequency Stability					
	±2.5ppm	±5ppm	±10ppm	±20ppm	±30ppm	±50ppm
0°C~+50°C	○	○	○	●	○	○
-10°C~+60°C		○	○	●	○	○
-20°C~+70°C			○	○	●	○
-40°C~+85°C				○	○	●

● standard ○ available

Frequency	Vibration Mode	ESR
3.2-3.999MHz	AT CUT/FUND.	150Ω (max)
4.000-4.499MHz	AT CUT/FUND.	120Ω (max)
4.500-5.999MHz	AT CUT/FUND.	100Ω (max)
6.000-7.999MHz	AT CUT/FUND.	80Ω (max)
8.000-9.999MHz	AT CUT/FUND.	60Ω (max)
10.000-11.999MHz	AT CUT/FUND.	50Ω (max)
12.000-13.999MHz	AT CUT/FUND.	40Ω (max)
14.000-40.000MHz	AT CUT/FUND.	30Ω (max)
27.000-100MHz	AT 3rd /OT	100Ω (max)

### ★ PART NUMBER GUIDE 部件号示例 e.g. HLX16.000M20S-30/30B (\*S=HC49/S TYPE)

Logo	Quartz Crystal Resonator 石英晶体谐振器	Frequency 频率 Hz	Load Capacitance 负载电容 pF	Package 盒型	Frequency Tolerance 常温频差 ppm	Frequency Stability 温度频差 ppm	Operating Temp. Range 工作温度
HL	X	16.000M	20	S	30	30	B

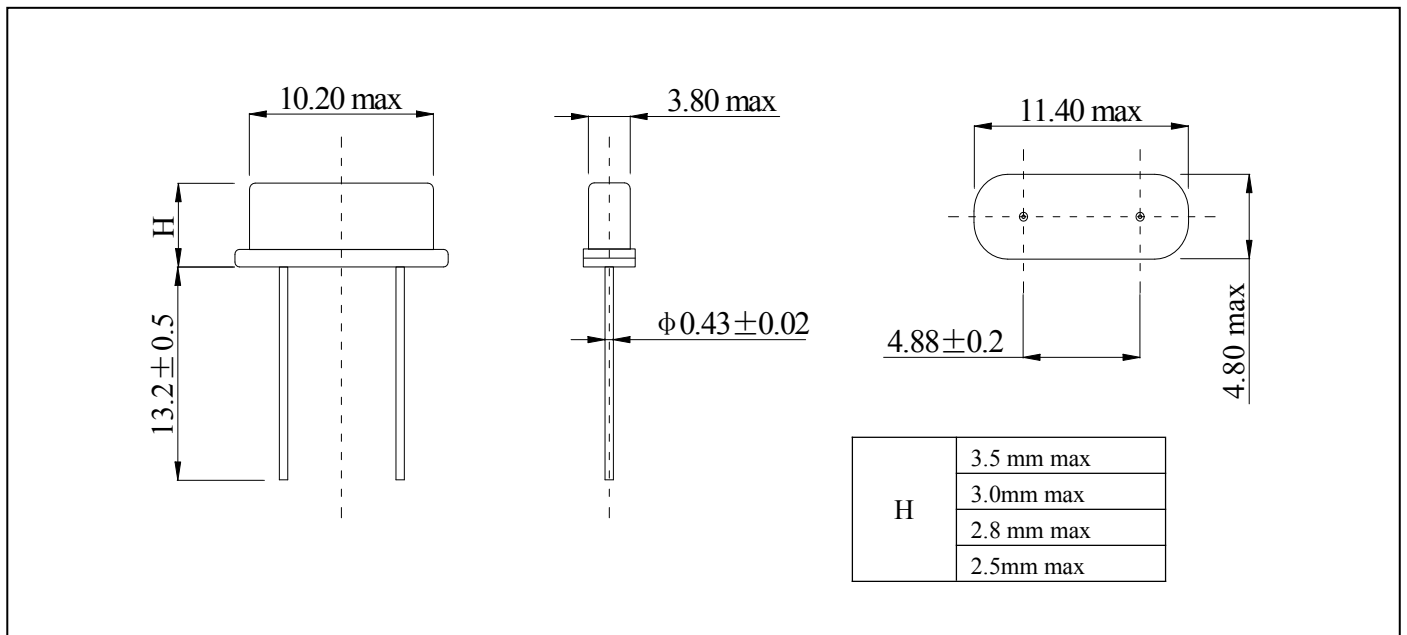
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Definition	Description
Operating Temperature Range	<b>A:</b> -10~+60°C
	<b>B:</b> -20~+70°C
	<b>C:</b> -30~+80°C
	<b>D:</b> -40~+85°C
	<b>E:</b> Customer specified

★ DIMENSIONS (Unit: mm) 外形尺寸



★ WAVE SOLDERING PROFILE 波峰焊特性

