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# SPECIFICATION

**PN: ECN-HC-49SM-10.000MHz-16pF**

深圳市晶科鑫实业有限公司

SHENZHEN CRYSTAL TECHNOLOGY INDUSTRIAL CO., LTD.

# Quartz Crystal Unit

## HC-49SMD/SSMD 6C Series



### FEATURE

- Surface mount type crystal units.
- A great number of standard frequencies.
- Higher frequency pullability and lower equivalent series resistance.
- Highly mass production capability.
- The best choice of TV,STB,LCDM and Cable Modem.
- RoHS Compliant/Pb Free.

### ELECTRICAL SPECIFICATIONS (电气参数)

|                                                                |                           |
|----------------------------------------------------------------|---------------------------|
| Output Frequency Range                                         | 10.000MHz                 |
| Mode                                                           | Fundamental               |
| Frequency Tolerance (at 25°C)                                  | ±30ppm                    |
| Frequency Stability Over Operating Temperature Characteristics | ±30ppm                    |
| Operating Temperature Range                                    | -40°C to +85°C            |
| Storage Temperature Range                                      | -55°C to +125°C           |
| Shunt Capacitance (C0)                                         | ≤7.0 PF Max               |
| Driver Level (Typical)                                         | 100μW TYP                 |
| Load Capacitance(CL)                                           | 16PF                      |
| Equivalent Series Resistance(ESR)                              | 80Ω Max                   |
| Insulation resistance                                          | More than 500MΩ AT DC100V |
| Aging @25°C 1 <sup>st</sup> year (Max)                         | ±3ppm/year                |

REMARK: SPECIFICATIONS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE. PLEASE  
CONFIRM WITH OUR SALES ENGINEER.

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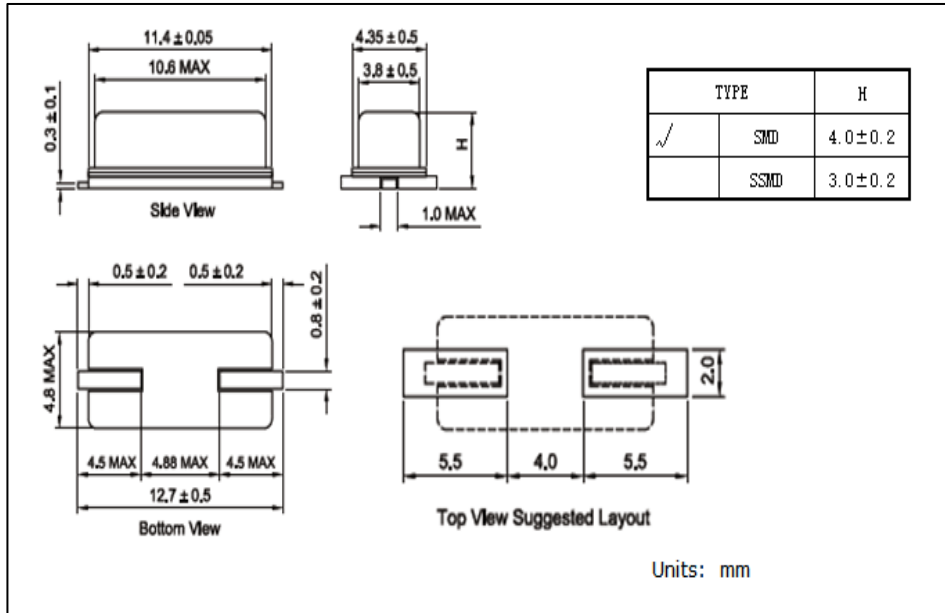
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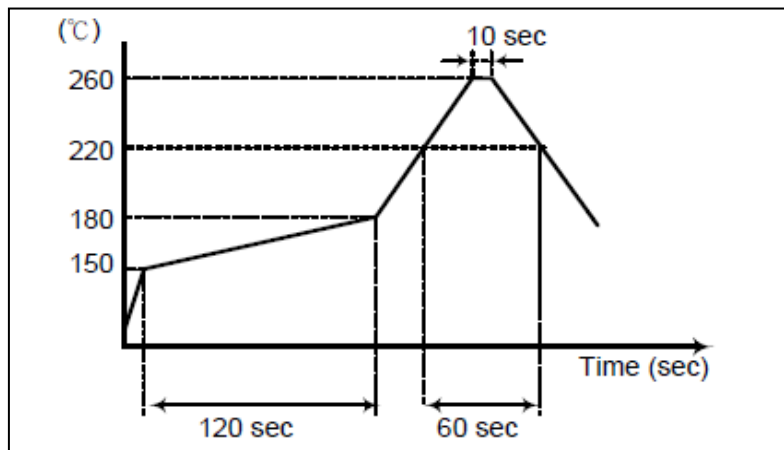
## HC-49SMD/SSMD 6C Series



### Dimension (尺寸) (Unit: mm)



### REFLOW CONDITION (回流焊)



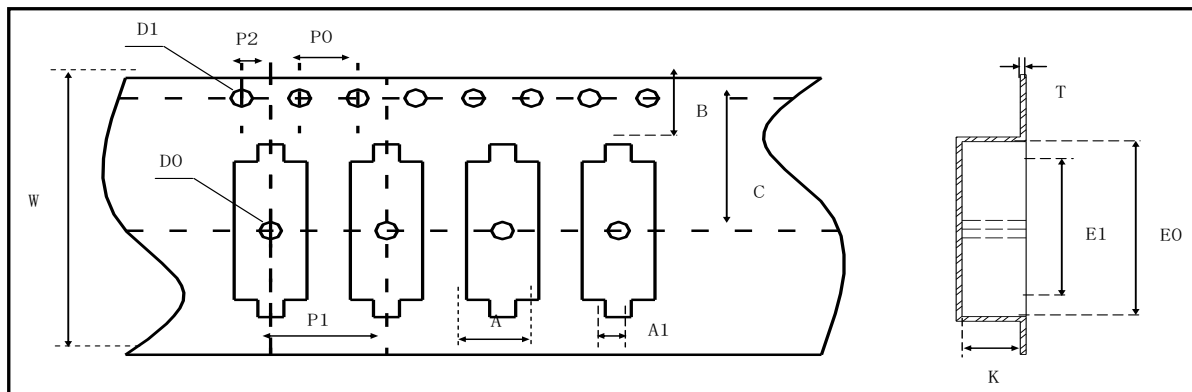
The reflow temperature profile may vary depending on the product model, specifications and frequency range. Refer to the individual product specifications for details

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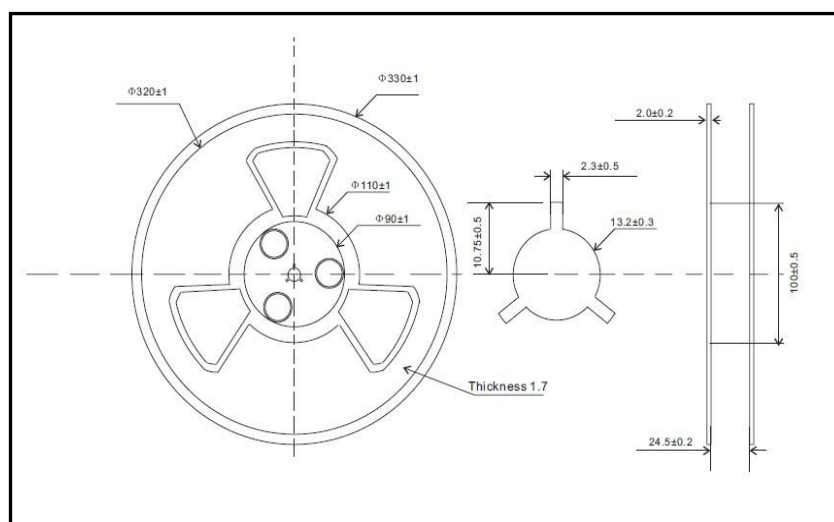


### CARRIER TYPE (載帶)



| Symbol     | A       | A1       | B        | C        | D0       | E0       | E1       |
|------------|---------|----------|----------|----------|----------|----------|----------|
| Dimensions | 5.0±0.2 | 1.8±0.1  | 5.25±0.2 | 11.5±0.1 | 1.5±0.1  | 15.0±0.1 | 12.0±0.1 |
| Symbol     | P0      | P1       | P2       | W        | T        | K        |          |
| Dimensions | 4.0±0.1 | 12.0±0.1 | 2.0±0.1  | 24.0±0.5 | 0.4±0.05 | 4.35±0.2 |          |

### REEL(卷盘)



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### RELIABILITY TEST SPECIFICATIONS (可靠性测试标准)

| Test item                                  | Equipment                              | Condition                                                                                     | Specification               |
|--------------------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------|
| 1. SOLDERABILITY TEST                      | SJK-REL001、RC-328A                     | 1.Solderability:235±5℃, 5±0.5S<br>2.Heat resistance:260±5℃,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/s <sup>2</sup> ) 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℃±2℃,1000hr; Low temperature:-40℃±3℃,1000hrs                             | MIL-STD883C, METHOD 1011.8  |
| 7. TEMP &HUM CYCLING TEST                  | H-PTH-80CK CHAMBE, S&A 350B/250B       | Temperature:-10℃±2℃~65℃±2℃,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&A350B/250B        | Temperature:40℃±2, Humidity:85+3,-2%,Store 96 hrs                                             | JIS C6701                   |
| 9.AGING TEST                               | H-PTH-80CK CHAMBE, S&A350B/250         | Temperature:40℃±2, Humidity:85+3,-2%,Store 96 hrs                                             | JIS C5023                   |

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