

深圳市晶科鑫实业有限公司

Shenzhen Crystal Technology Industrial Co., Ltd

APPROVAL SHEET

| | | |
|----------------|--|--------------|
| CUSTOMER P/N: | | |
| TYPE: | 49SSMD CRYSTAL | |
| DESCRIPTION: | 49SSMD 16.384MHZ 20PF \pm 20PPM -40~85°C | |
| P N/ SJK: | 6CSS16384F20UCG | |
| ENVIRONMENTAL: | <input checked="" type="checkbox"/> RoHS <input checked="" type="checkbox"/> REACH <input checked="" type="checkbox"/> HF <input type="checkbox"/> PAHS <input type="checkbox"/> other | |
| REVISION: | A1 2014-6-10 | MOQ: 1000pcs |
| MSL: | Levels 1 | |

| SIGNATURE | | | | | |
|-----------|-------|---------|--|-------|---------|
| SUPPLIER | | | CUSTOMER | | |
| Issue | Check | Approve | QA | Check | Approve |
| | | | | | |
| SJK | | | Signature | | |
| FAE_EMAIL | | | Date | | |
| Date | | | Approve: <input type="checkbox"/> accept <input type="checkbox"/> unaccepted | | |
| Note: | | | | | |

QUARTZ CRYSTAL UNIT



SERIES 6CS/SS, Resistance Welded HC-49S/SSMD Package

1. FEATURE

- Leadless type
- High precision characteristic covering up to high frequency range
- Designed for automatic mounting and reflow soldering
- Embossed taping specification
- The best choice of Bluetooth wireless communication sets, DSN, PDA and mobile phone

2. ELECTRICAL SPECIFICATIONS

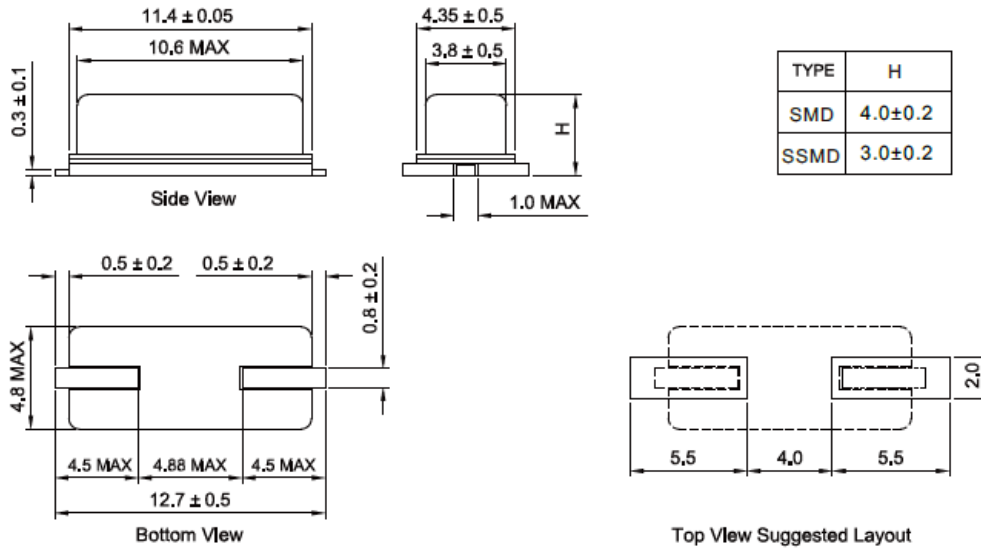
| | |
|--|-----------------------|
| Output Frequency Range | 16.384 MHz |
| Mode | AT/Fundamental |
| Frequency Tolerance | ±20 ppm max (at 25°C) |
| Load Capacitance(C _L) | 20 PF |
| Frequency Stability Over Operating Temperature Characteristics | ±20ppm max |
| Operating Temperature Range | -40 °C to +85 °C |
| Storage Temperature Range | -40 °C to +125 °C |
| Shunt Capacitance (C ₀) | 3.0 PF Max |
| Driver Level (Typical) | 100μW |
| Equivalent Series Resistance(ESR) | 80 Ω Max |
| Aging @25°C 1 st year (Max) | ±3ppm/year |

QUARTZ CRYSTAL UNIT

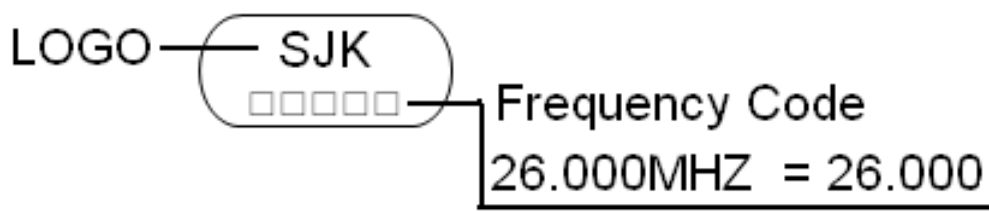


SERIES 6CS/SS, Resistance Welded HC-49S/SSMD Package

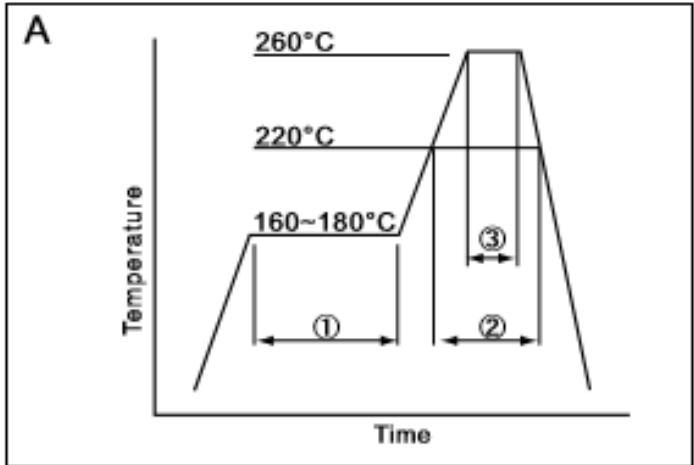
3. DIMENSION (Units: mm)



4. MARKING



5. REFLOW CONDITION



| | | | |
|---|--------------|-----------|------------|
| ① | Preheat | 160~180°C | 120sec. |
| ② | Primary heat | 220°C | 60sec. |
| ③ | Peak | 260°C | 10sec. max |

QUARTZ CRYSTAL UNIT



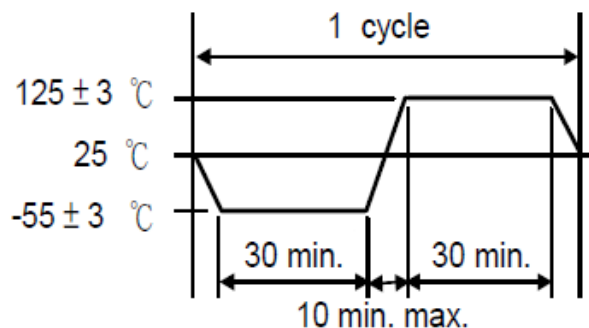
SERIES 6CS/SS, Resistance Welded HC-49S/SSMD Package

6. RELIABILITY TEST SPECIFICATION

1. Mechanical Endurance

| No. | Test Item | Test Methods | REF.DOC |
|-----|------------------|--|--------------|
| 1.1 | Drop Test | 150 cm height, 3 times on concrete floor. | JIS C6701 |
| 1.2 | Mechanical Shock | Device are shocked to half sine wave (1000 G) three mutually perpendicular axes each 3 times. 0.5m sec. duration time | MIL-STD-202F |
| 1.3 | Vibration | Frequency range 10 ~ 2000 Hz Amplitude 1.52 mm/20G Sweep time 20 minute Perpendicular axes each test time 4 hours (Total test time 12 hours) | MIL-STD-883E |
| 1.4 | Gross Leak | Standard Sample For Automatic Gross Leak Detector, Test Pressure: 2Kg / cm ² | MIL-STD-883E |
| 1.5 | Fine Leak | Helium Bombing 4.5 Kg/ cm ² for 2 hr | MIL-STD-883E |
| 1.6 | Solder ability | Temperature 245 °C ± 5°C Immersing depth 0.5 mm minimum Immersion time 5 ± 1 seconds Flux Rosin resin methyl alcohol solvent (1 : 4) | MIL-STD-883E |

2. Environmental Endurance

| No. | Test Item | Test Methods | REF.DOC |
|-----|------------------------------|---|--------------|
| 2.1 | Resistance To Soldering Heat | Pre-heat temperature 125 °C Pre-heat time 60 ~ 120 sec. Test temperature 260 ± 5 °C Test time 10 ± 1 sec. | MIL-STD-202F |
| 2.2 | High Temp. Storage | + 125 °C ± 3 °C for 500 ± 12 hours | MIL-STD-883E |
| 2.3 | Low Temp. Storage | - 40 °C ± 3 °C for 500 ± 12 hours | MIL-STD-883E |
| 2.4 | Thermal Shock | Total 100 cycles of the following temperature cycle  | MIL-STD-883E |
| 2.5 | High Temp & Humidity | 85°C ± 3°C, RH 85% , 500Hrs | JIS C5023 |
| 2.6 | Pressure Cooker Storage | 121 ± 3°C , RH100% , 2 bar , 240Hrs | JIS C6701 |