

CRYSTAL RESONANCER



SERIES 6LC, SMD 8.0*3.8MM TUNING FORK WATCH CRYSTAL

深圳市晶科鑫实业有限公司

Shenzhen Crystal Technology Industrial Co., Ltd

APPROVAL SHEET

| | |
|----------------|--|
| CUSTOMER P/N: | |
| TYPE: | SMD CRYSTAL |
| DESCRIPTION: | SMD308C 32.768KHZ 6PF ±20PPM -40~85°C |
| P N/ SJK: | 6LC32768F06UC |
| 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 2017-5-10 MOQ: 3000pcs/real |
| 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: | | | | | |

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1. FEATURE

Wide Frequency range
Small size
Tape & Reel

2. APPLICATIONS

Microprocessor Systems
Consumer Electronics

3. ELECTRICAL SPECIFICATIONS

| | |
|--|------------------------------|
| Frequency | 32.768KHz |
| Frequency Tolerance(at 25°C) | ±20ppm |
| Load Capacitance(C _L) | 6PF |
| ESR | 50 KΩ Max |
| Turnover Temperature | 25 ± 3°C |
| Frequency stability vs Temperature Range | -40 °C to + 85 °C |
| Frequency Temperature Curve | -0.04ppm/°C ² MAX |
| Storage Temperature Range | -55 °C to +125 °C |
| Operating Temperature Range | -40 °C to +85 °C |
| Shunt Capacitance (C ₀) | 0.9pF Typ |
| Dynamic Capacitance (C ₁) | 2.6fF Typ |
| Driver Level (Typical) | 1 μW Max |
| Insulation Resistance | 500MΩ MIN at DC100V±15V |
| Aging @25°C 1 st year (Max) | ±3ppm/year max |

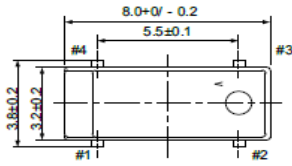
REMARK: SPECIFICATIONS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE. PLEASE CONFIRM WITH OUR SALES ENGINEER.

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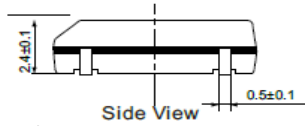
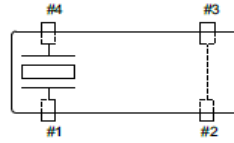
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4. DIMENSION (Units: mm)



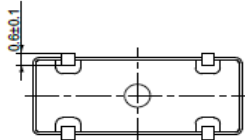
Top View

Top View Crystal Connection

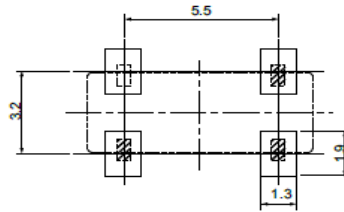


Side View

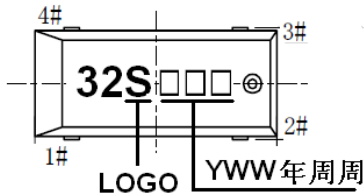
Top View Suggested Layout



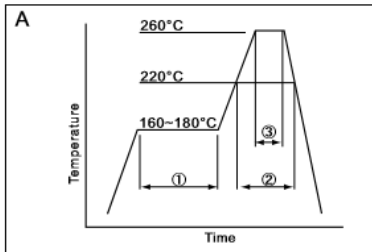
Bottom View



5. MARKING

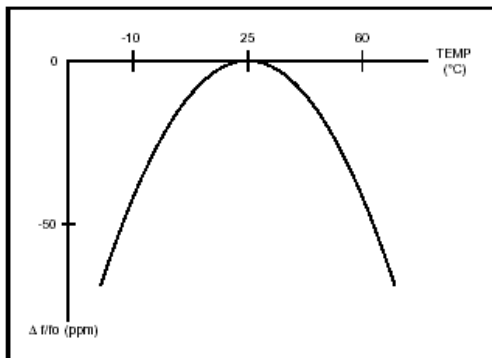


6. REFLOW CONDITION



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

7. FREQUENCY VS TEMPERATURE CURVE



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8. 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 <p>The diagram shows a temperature cycle with three levels: 125 ± 3 °C, 25 °C, and -55 ± 3 °C. A horizontal line at 25 °C represents the dwell temperature. The cycle starts at 25 °C, ramps up to 125 ± 3 °C, dwells for 30 min., ramps down to 25 °C, dwells for 30 min., ramps down to -55 ± 3 °C, dwells for 30 min., ramps up to 25 °C, dwells for 30 min., and ramps up to 125 ± 3 °C. The total time for one cycle is 10 min. max. for the ramps and 30 min. for each dwell.</p> | 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 |