

QUARTZ CRYSTAL

SERIES 6K6 & 6k8 ,TUNING FORK WATCH CRYSTAL 32.768KHz



| |
|--------------|
| Approved by: |
| Checked by: |
| Issued by: |

SPECIFICATION

MODEL:SJK-6K8-32.768-12.5-20-40-B

深圳市晶科鑫实业有限公司
SHENZHEN CRYSTAL TECHNOLOGY INDUSTRIAL CO., LTD.

Add: RM#1805, East Wing, TianAn Hi-tech Plaza Phase2, TianAn Cyber Park, Shenzhen, China
Tel: (86) 755 88352809 88352810 Fax: (86) 755 88353718 88352499
E-mail: jolly@g-crystal.com HTTP://www.g-crystal.com

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FEATURE

- I Wide Frequency range
- I High shock tolerance
- I Small size
- I Reliable frequency stability

APPLICATIONS

- I Microprocessor Systems
- I Consumer Electronics
- I Instrumentation
- I Automotive electronics

ELECTRICAL SPECIFICATIONS

| | |
|--|-----------------------------------|
| Frequency | 32.768KHz |
| Package | 3 x 8mm |
| Frequency Tolerance (at 25°C) | ±20ppm |
| ESR | 40KΩ |
| Turnover Temperature | 25 ± 5°C |
| Frequency Temperature Curve | -0.034(±0.006)ppm/°C ² |
| Storage Temperature Range | -40 °C to +85 °C |
| Operating Temperature Range | -20 °C to + 70 °C |
| Shunt Capacitance (C0) | 1.3pF Typ |
| Dynamic Capacitance (C1) | 2.4fF Typ |
| Driver Level (Typical) | 1 μW Max |
| Load Capacitance(C _L) | 12.5pF |
| Insulation Resistance | 500Mohm Min DC=100V |
| Aging @25°C 1 st year (Max) | ±3ppm/year |

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

Mechanical characteristics

| | |
|--------------------------|---|
| Resistance to shock: | ±3PPM Max ±3Ω Max, Naturally drop it 3 times on a hard wood plate from 100cm height |
| Resistance to vibration: | ±3PPM Max ±3Ω Max |

Reliability

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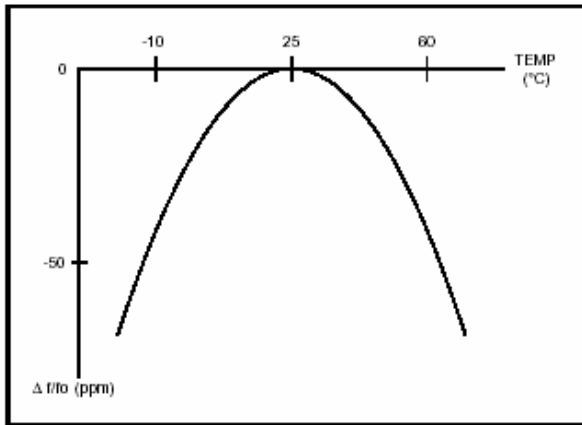
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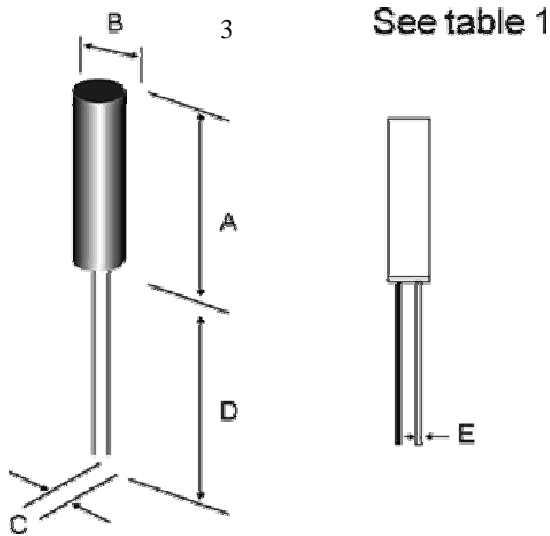
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| | |
|----------------------------|--|
| Aging | ±3PPM Max/Year |
| Air tightness | |
| (1) Gross leak | should be immersed in hot water(90±5°C) for 5 minutes |
| (2) Fine leak | should be less than 5×10^{-8} atmcc/sec by helium leak detector |
| Operating temperature rang | -10°C ~ 60°C |

Frequency VS Temperature Curve



Dimensions (Unit: mm)



| MODEL | A | B | C | D | E |
|-------|---------|---------|-----|----------|-----|
| 3×8mm | 8.3±0.5 | 3.1±0.3 | 1.1 | 10.0±0.5 | 0.3 |

PART NUMBER

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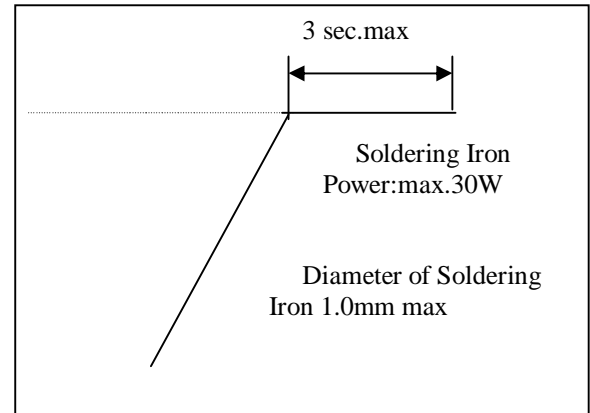
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|------|------------------------|-----------|------------------|---------------------|------------------|---|
| SJK- | 6K8 | 32.768K | 12.5 | 20 | 40 | B |
| | 6k6:2×6mm 6k8:3×8mm | Frequency | Load capacitance | Frequency tolerance | E.S.R. 40kohm | temp.range A: -10-60°C B:-20-70°C |

Commended Soldering Technologies

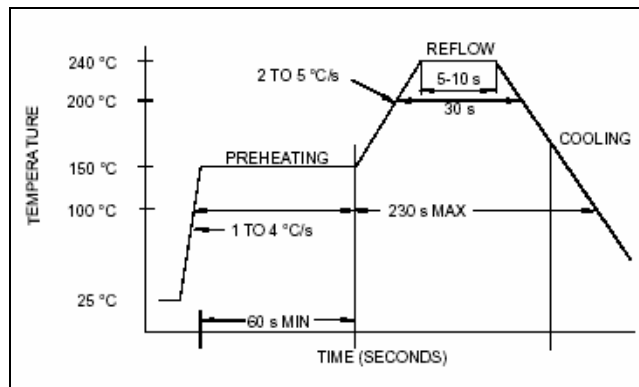
Iron Soldering Profile.

- △ Iron soldering power :max. 30W .
- △ Pre-heating :150°C / 60sec.
- △ Soldering Tip temperature:350±10°C/3sec.Max.
- △ Solder paste:Sn;
- △ Max.1 times for iron soldering.

350°C



Reflow Soldering Profile



Mounting:

<Cylinder Type products>

- (1) Soldering on the body of the cylinder type crystal unit must be strictly avoided due to deteriorate the characteristics or damage the products .Rubber adhesive is recommended.
- (2) When the lead needs to be bent by hand, follow the next instructions.
 - >Hold the body of the Cylinder type crystal unit in fingers.
 - >Pick at the part with tweezers ,which you intend to bend ,There should be more than 1.5mm (3.0mm is Recommendable)from the body case.
 - > Bend the lead 90°by tweezers without pulling the lead strongly. If pulling the lead strongly may cause any cracks of the hermetic seal glass at the root of the lead and may cause the airtightness and the characteristics to deteriorate

RELIABILITY TEST SPECIFICATION

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| Test item | Equipment | Condition | Specification |
|--|--|--|---|
| 1. TERMINAL STRENGTH TEST | Pull equipment | 1. 0.9Kg FORCE IN AXES OF TERMINATION 30±5SEC 2. 2.5MM FROM TERMINAL, BEND 90° | 1. MIL-STD-202F,METHOD 211A |
| 2.SOLDERABILITY TEST | SJK-REL001、RC-328A | 1.Soldering Temperature:235±5℃, DIPPING time:2±0.5S 2.Soldering Temperature:260±5℃, DIPPING time:10±1S | 1. MIL-STD-883CMETHOD 2003.7 2. MIL-STD-202F,METHOD 210A |
| 3. HERMETICITY TEST | UL-306S | small and do not control roughly (hubble-bubble machine); Nothing air bubble creation s thin leave out 1 * 10 E-8 ATM.CC/SEC. | MIL-STD-883C METHOD 1014.9 |
| 4. 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. | JIS C5025 TEST A MIL-STD-883C,METHOD 2007.2 |
| 5. DROP TEST | HARD BOARD.S&A250B | 60CM HIGH,3 TIMES ON HARD BOARD | JIS C6701 |
| 6. SALT SPRAY | H-SST-60、RC-328A | 5% NaCL,35℃±2℃ chamber,48 hrs. , PH:6.5~7.2 | JIS C5028 & MIL-STD-202F\METHOD 101D |
| 7. HIGH&LOW TEMP STORAGE TEST(Static test) | H-PTH-80CK & HM101-3ABN, S&A 350B/250B | Set the resonator placed high-temperature Chamber, will be set at-10 ° c, keep the temperature reaches 30 minutes after, and then set the temperature to Celsius temperature rising to box, keep 30 minutes, this is a loop, and then set the temperature box cooling to-10 ° c, then start the next cycle so three times. | MIL-STD-883C,METHOD 1011.8& JIS C5030 |
| 8. HIGH TEM. & HUM. STORAGE TEST | H-PTH-80CK CHAMBER , S&A350B/250B | temperature:20℃±3 , Humidity:90+/- 2%,Store48 hrs | JIS C5023 |
| 9.SGING TEST | H-PTH-80CK CHAMBE S&A350B/250R, | temperature: 70℃±2, 240hrs | JIS C5031 |

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