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APPROVAL SHEET

| CUSTOMER'S NAME : |
|---|
| MODEL NUMBER : <u>SPK-16M-5032</u> 16M 18PF 20PPM 5*3.2 |
| SPEC RECORD NUMBER : SPK-980114-001 |
| APPROVAL DATE : <u>2010-01-14</u> |
| Confirmed Signature: Authorized Signature: |
| |
| |



SPK-5032



GENERAL SPECIFICATIONS Environmental Specification: Surface mount crystal

1.GENERAL SPECIFICATIONS

1.1 Holder Style : SPK-5032

1.2 Frequency : 16.000MHz

1.3 Mode Of Oscillation : Fundamental

1.4 Frequency tolerance at 25°C :+/- 20 PPM

1.5 Frequency Stability at $(-20^{\circ}\text{C} \sim +70^{\circ}\text{C})$: +/- 20 PPM

1.6 Load Capacitance (CL) : 18pf

1.7 Static capacitance (CO) : 6PF max

1.8 Ts :

1.9 Resonance Resistance (RR) : 40 Ω

1.10 Drive Level : \10 uW max

1.11 Insulation Resistance: 10M ohm MIN

1.12 Aging : +/-3ppm/year

1.13 Operating temperature :-20 $^{\circ}$ C \sim +70 $^{\circ}$ C

1.14 Measurement Condition : the reference temperature shall be at 25°C±2°C



2. ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

The crystal shall meet electrical characteristics and suffer no physical damage after being subject to the following conditions.

2.1 Storage Temperature

:-40℃-85℃

2.2 Shock: drop freely from 75cm height 3 times on 30mm thick hard wooden board.

2.3 Vibration: frequency 10—55Hz

Amplitude 1.5mm

2 hours in each of 3 mutually perpendicular direction.

2.4 Solderability: temperature 235°C 15°C

Immersion duration: 2±0.5 seconds

2.5 Resistance to soldering heat: temperature 260°C±5°C

Immersion duration: 10±1 seconds.

- 2.6 Humidity: humidity 95% \pm 3, temperature 40°C,96 hours.
- 2.7 Seal: pressure :400Kpa, immersion duration : 30 minutes,

 Leakage rate<5 x10⁻⁹ Pa m³/s

2.8 Terminal strength: pull:1.5kg,30 seconds

Bend: 0.75kg, 90°C, 2 times.

2.9 Temperature cycle: lowest temperature -40°C,30minutes/cycle

Highest temperature +85°C,30 minutes/cycle

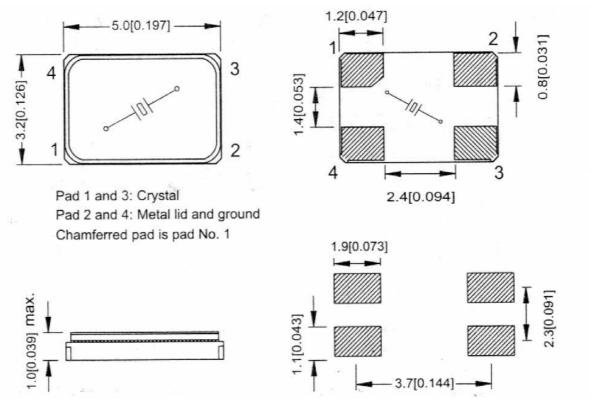
10 cycles

2.10 Aging: temperature +85°C

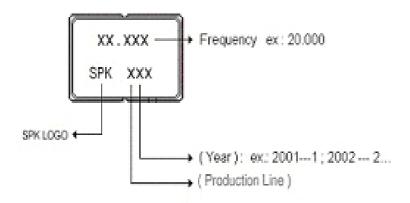
Duration 30 days.



3.Dimension



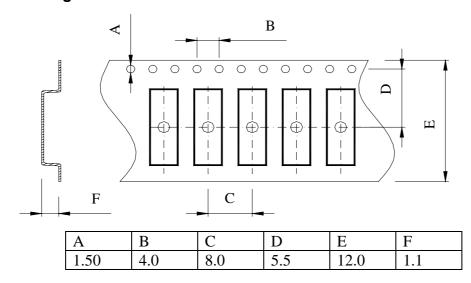
4. Marking: laser marking

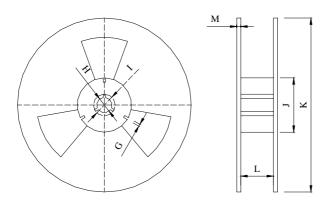




5. Package and Label

5.1 Package dimension: 1 REEL: 1000 PCS

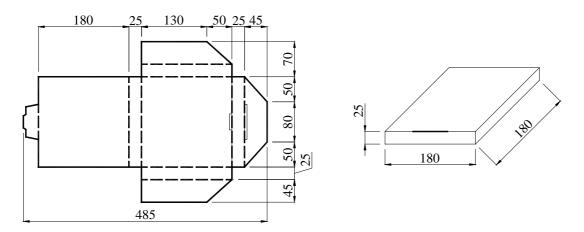




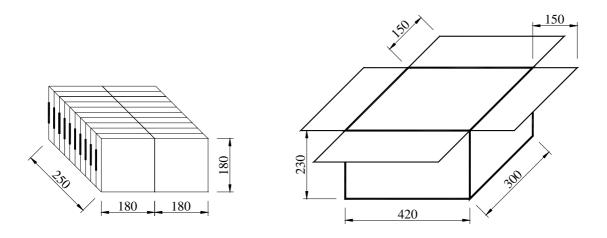
| G | 1 | 1 | J | K | L | M |
|-----|-----------|----------|----|-----|-------|-----|
| 2.5 | 3.0+/-0.2 | 21.0+/-1 | 60 | 180 | 17.65 | 1.4 |



.Carton Dimension (unit: mm)



1 reel = 1 Inner box



20 Inner boxes = 1 Carton

20kpcs = 1 Carton