

SMD2520 Quartz crystal resonator
26.000MHz/TOL: ±10ppm/CL:9PF

1. Features

- Small, ultra-thin surface mount
- Wide temperature range, high stability characteristics, high reliability

2. Essentials

parameters	MIN	TYP	MAX	Unit	Condition
Output Frequency	26.000			MHz	—
operation temperature	-40	—	+85	°C	TC Temperature measuring equipment
storage temperature	-40	—	+85	°C	—
Load	9			PF	—

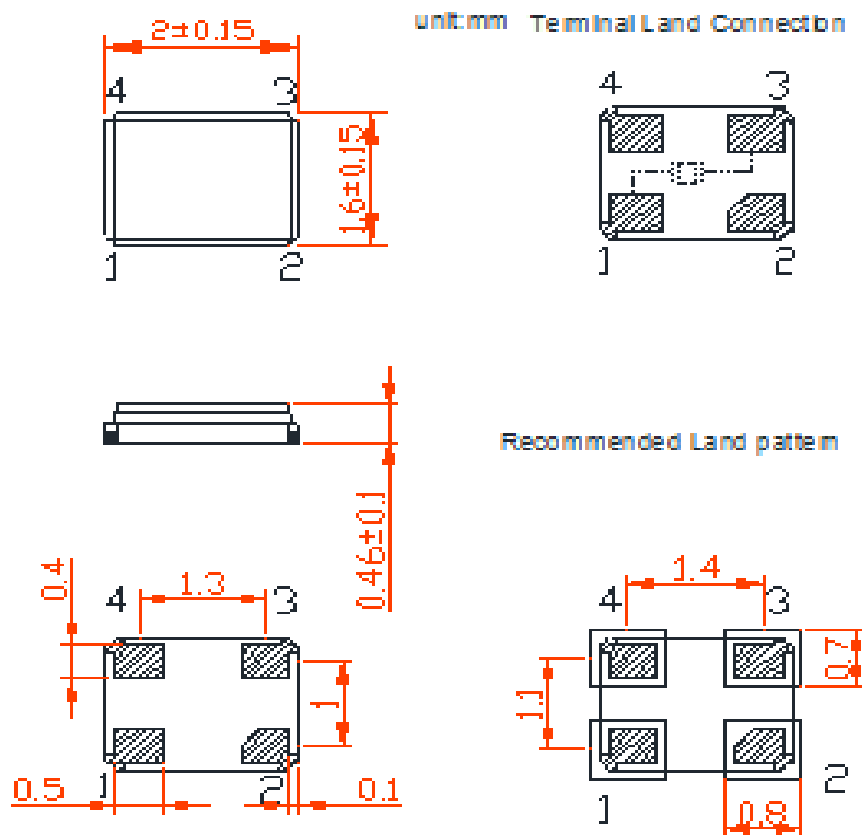
note: The instrument can use testing equipment equivalent to 250B;
 When measuring the frequency tolerance characteristic value, it is necessary to conduct the test in a temperature stable room temperature environment of 25 ± 2 °C.

3. Frequency and electrical performance

	parameters	Symbol	MIN	TYP	MAX	Unit	Condition
1	Output Frequency	FL	26.000			MHz	—
2	Oscillation Mode	OT	AT Cut fundamental frequency			—	—
3	Load Capacitance	CL	9			pf	—
4	Frequency Tolerance	$\Delta F/F$	±10			ppm	Room temperature deviation
5	Frequency Temperature Characteristics	$\Delta F/F$	±20			ppm	Temperature frequency difference
6	operation temperature	T _{OPR}	-40	—	+85	°C	—
7	storage temperature	T _{STR}	-40	—	+85	°C	—
8	Direct Capacitance	C0	—	—	≤3	pf	—
9	Equivalent Resistance	Rr	—	—	≤40	Ω	—

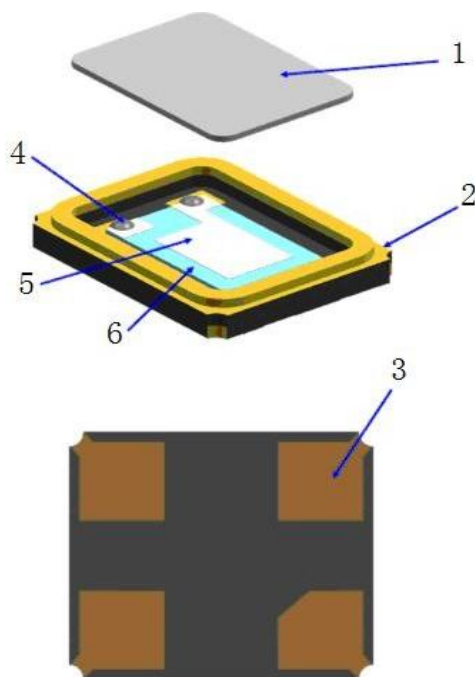
10	Drive level	DL	—	—	≤ 100	uW	—
11	insulated resistance	IR	500	—	—	MΩ	DC 100V
12	Aging	Fag	± 3			ppm	1 st year

4. External dimensions



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5. Structure and materials

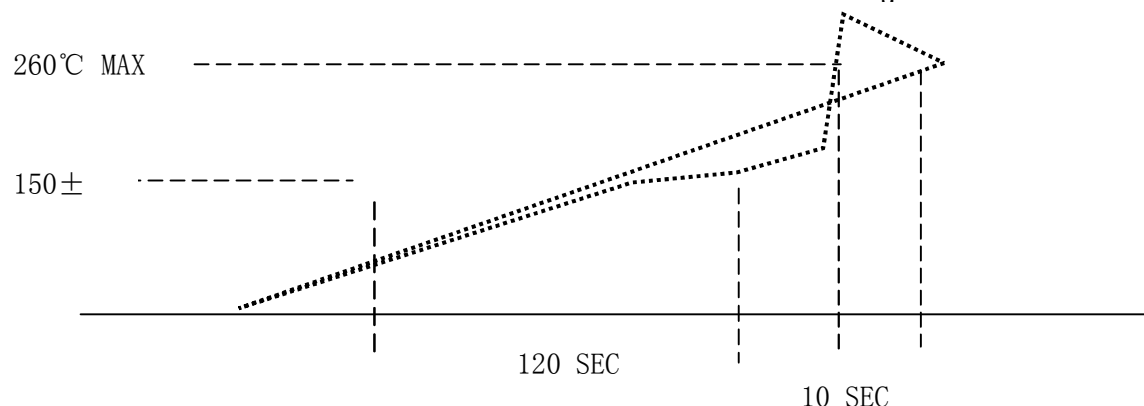


NO.	module	material	quantity
1	Cover	kovar	1
2	foundation	Al ₂ O ₃	1
3	Pin	Au	4
4	Paste Film	Ag + Silicone resin	4
5	Pole	Cr + Ag	2
6	Chip	SiO ₂	1

6. Reliability experiment

RELIABILITY SPECIFICATION

NUM	RELIABILITY	RELIABILITY CONDITIONS	SPECIFICATION
1	ELECTRODE TERMINAL PULL	1KG FORCE IN AXES OF ELECTRODE TERMINATION 10 ± 1 sec	1. GLASS HERMETICITY & VISUAL.
2	ELECTRODE WIRE-LEAD BEND	2. 5mm FROM ELECTRODE TERMINAL, BEND 90° , ' 0.45KG MASS APPLIED 3TIMES.	2. LEAD CRACKED or BROKEN NOT ALLOWED'
3	SOLDERABILITY	SOLDER: $235 \pm 5^\circ\text{C}$, DIPPING: 5 ± 0.5 sec.	AT LEAST 95% COATING.
4	RESISTANCE TO	SOLDER: $260 \pm 5^\circ\text{C}$, DIPPING: 10 ± 1 sec. <p>1.max 180 sec 2.max 10 sec 3.max 80 sec 4.max 90 sec</p>	1. AT LEAST 95% COATING. 2. $\Delta F/F \leq \pm 5\text{ppm}$ $\Delta F/Rr \leq \pm 10\%$ or $2\ \Omega$ BETTER, 20%
5	VIBRATION TEST	10g, 10~55~10hz 1MINUTE, X、Y、Z PLANE EACH 2hrs.	$\Delta F/F \leq \pm 5\text{ppm}$ $\Delta F/Rr \leq \pm 10\%$ or $2\ \Omega$ BETTER, 20%
6	DROP TEST	75CM HIGH, 3 TIMES ON HARD BOARD	$F/F \leq \pm 5\text{ppm}$ $\Delta F/Rr \leq \pm 10\%$ or $2\ \Omega$ BETTER, 20%
7	AGING TEST	85°C Dynamic 1000hrs	$F/F \leq \pm 5\text{ppm}$ $\Delta F/Rr \leq \pm 10\%$ or $2\ \Omega$ BETTER, 20%
8	CCELERATED AGING	$125^\circ\text{C} \pm 3^\circ\text{C}$, TIME:168 hrs. Dynamic	$F/F \leq \pm 5\text{ppm}$ $\Delta F/Rr \leq \pm 10\%$ or $2\ \Omega$ BETTER, 20%
9	SALT SPRAY	5%NaCL $35^\circ\text{C} \pm 2^\circ\text{C}$ CHAMBER, 48hrs. PH:6.5~7.2	1. NO CORROSION ON LEAD&CAN $F/F \leq \pm 5\text{ppm}$ $\Delta F/Rr \leq \pm 10\%$ or $2\ \Omega$ BETTER, 20%

10	HIGH-LOW TEM. STORAGE (STATIC)	HIGH TEM: 125°C ± 2°C, 1000hrs LOW TEM: -40°C ± 3°C, 1000hrs	F/F ≤ ± 5ppm ΔF/Rr ≤ ± 10% or 2 Ω BETTER, 20%
11	HIGH TEM. & HUM. STORAGE TEST	TEM: 40°C ± 2°C HUM: 83%-88%, 96hrs	F/F ≤ ± 5ppm ΔF/Rr ≤ ± 10% or 2 Ω BETTER, 20%
12	TEM. & HUM. CYCLING TEST	TEM: -10°C ± 2°C ~ 65°C ± 2°C 24hrs 1 cycle' HUM: 93 ± 3% 5 cycles	F/F ≤ ± 5ppm ΔF/Rr ≤ ± 10% or 2 Ω BETTER, 20%
13	HIGH-LOW TEM. OPERATING TEST	HIGH TEM: 85°C ± 2°C, 2hrs LOW TEM: -30°C ± 2°C, 2hrs	F/F ≤ ± 5ppm ΔF/Rr ≤ ± 10% or 2 Ω BETTER, 20%
14	FREQUENCY/Rr V. S OPERATING TEM. .	TEM: -10°C ~ +60°C、-20°C ~ +70°C、 0°C ~ 70°C ' MEASURE POINT: EVERY 10°C DEVIATION.	AS SPECIFICATION
15	HIGH LOW SHOCK	<p>1. 150°C 60--120Sec Max 2. 200°C 20--30Sec</p>  <p>SPECIFICATION $\Delta F/F \leq \pm 5\text{ppm}$ $\Delta F/Rr \leq \pm 10\%$ or 2 Ω BETTER, 20%</p>	