SMD2016 Quartz crystal resonator

40.000MHz/TOL:±10ppm/CL:12PF

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		40.000		MHz	____
operation temperature	-40	____	+85	℃	TC Temperature measuring equipment
storage temperature	-40	____	+85	℃	____
Load		12		PF	____

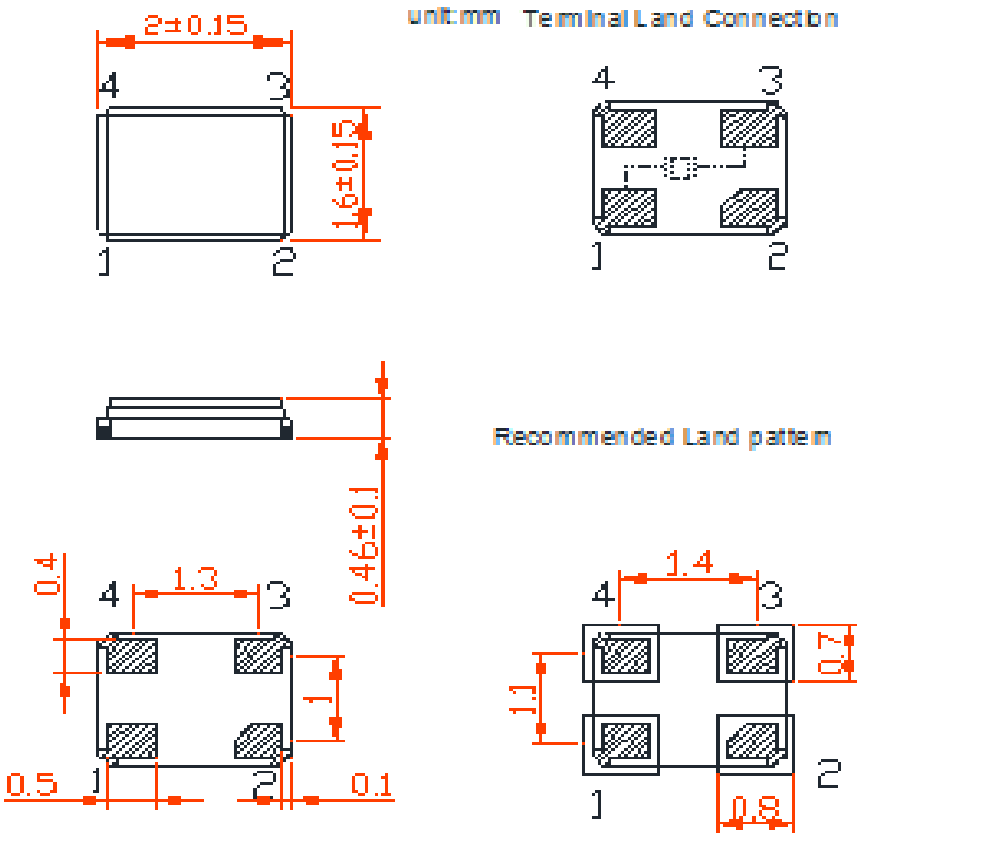
note: The instrument can use testing equipment equivalent to 250B;
When measuring the frequency tolerance characteristic value, it is necessary to conduct the test in a temperature stable room temperature environment of 25 ± 2 ℃。

3. Frequency and electrical performance

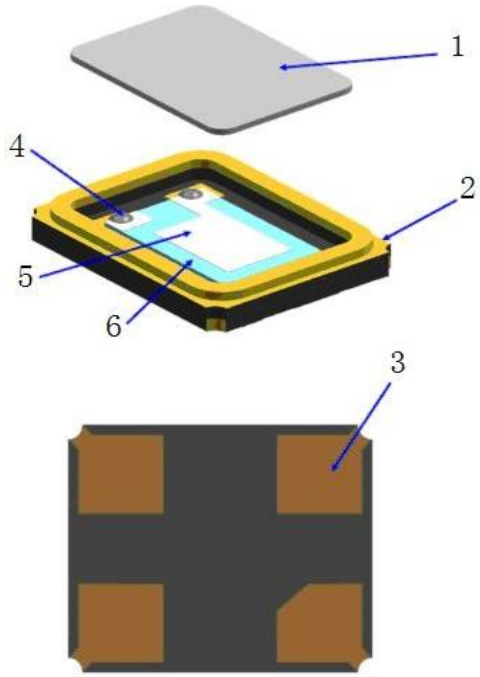
	parameters	Symbol	MIN	TYP	MAX	Unit	Condition
1	Output Frequency	FL		40.000		MHz	____
2	Oscillation Mode	OT		AT Cut fundamental frequency		____	____
3	Load Capacitance	CL		12		pf	____
4	Frequency Tolerance	Δ F/F		±10		ppm	Room temperature deviation
5	Frequency Temperature Characteristics	Δ F/F		±20		ppm	Temperature frequency difference
6	operation temperature	T_{OPR}	-40	____	+85	℃	____
7	storage temperature	T_{STR}	-40	____	+85	℃	____
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	1st year

4. External dimensions



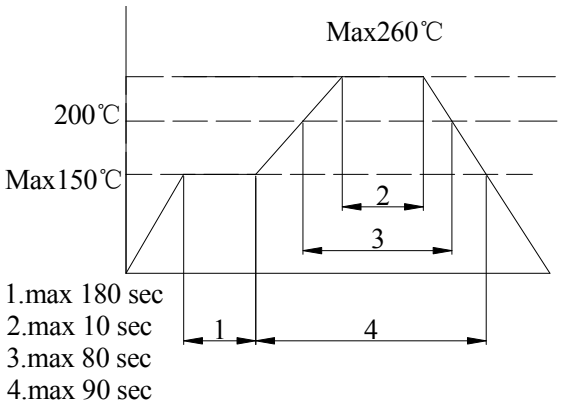
5. Structure and materials

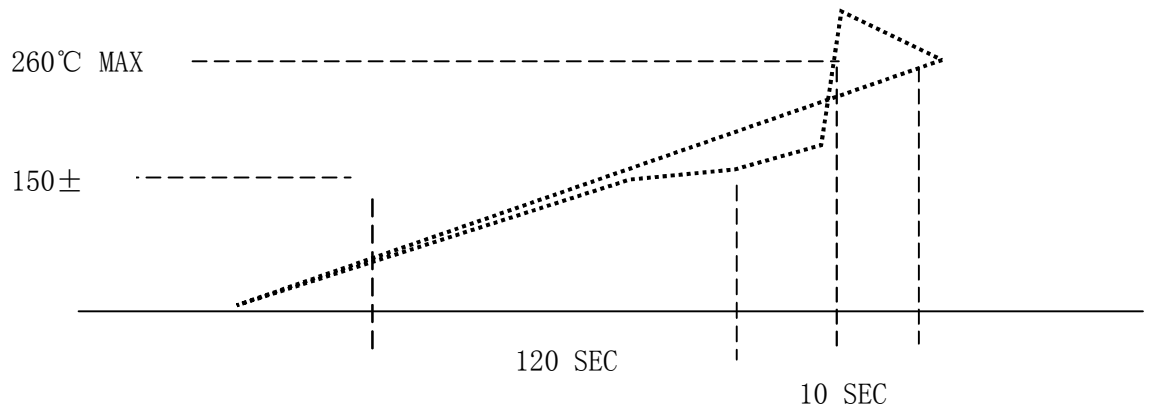


NO.	module	material	quantity
1	Cover	kovar	1
2	foundation	Al_2O_3	1
3	Pin	Au	4
4	Paste Film	Ag + Silicon resin	4
5	Pole	Cr + Ag	2
6	Chip	SiO_2	1

6. Reliability experiment

RELIABILITY SPECIFICATION

NUM	RELIABILITY	RELIABILITY CONDITIONS	SPECIFICATION
1	ELECTRODE TERMINAL PULL	1KG FORCE IN AXES OF ELECTRODE TERMINATION 10±1sec	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±5℃, DIPPING:5±0.5sec.	AT LEAST 95% COATING.
4	RESISTANCE TO	SOLDER:260+5℃, DIPPING:10±1sec. 	1. AT LEAST 95% COATING. 2. △F/F≤±5ppm △F/Rr≤±10% or 2Ω BETTER, 20%
5	VIBRATION TEST	10g, 10～55～10hz 1MINUTE, X、Y、Z PLANE EACH 2hrs.	△F/F≤±5ppm △F/Rr≤±10% or 2Ω BETTER, 20%
6	DROP TEST	75CM HIGH, 3 TIMES ON HARD BOARD	F/F≤±5ppm △F/Rr≤±10% 0or 2Ω BETTER, 20%
7	AGING TEST	85℃ Dynamic 1000hrs	F/F≤±5ppm △F/Rr≤±10% or 2Ω BETTER, 20%
8	CCELERATED AGING	125℃±3℃, TIME:168 hrs. Dynamic	F/F≤±5ppm △F/Rr≤±10% or 2Ω BETTER, 20%
9	SALT SPRAY	5%NaCL 35℃±2℃CHAMBER, 48hrs. PH:6.5 ~7.2	1. NO CORROSION ON LEAD&CAN F/F≤±5ppm △F/Rr≤±10% or 2Ω BETTER, 20%

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