

新品 变更



产 品 规 格 书

SPECIFICATION FOR APPROVAL

产品名称 Product Name:	石英晶体振荡器
产品型号 Product Type:	SMD3225 OSC LVDS
标称频率 Nominal Freq:	125.00000 MHz
明德亨料号 MDH P/N:	2.1.3.C500017
客户料号 Customer P/N:	

客户承认
Approved By Customer签章
Signature:日期
Date:

Date: 2024年3月21日

批准	审核	拟制
Accepted	Checked	Issued
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RoHS Compliant

Revision Record

[illegible]

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1.0 石英晶体产品规格及特性 / Product specification and features

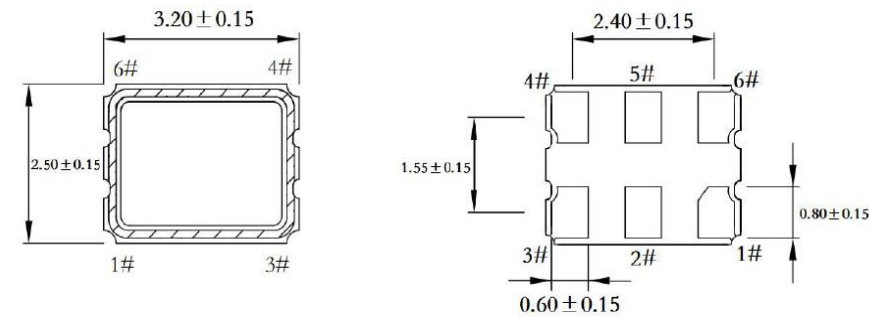
1.1 一般特性 / General characteristics

Items	Electrical spec.			Unit	Notes
	Min.	Typ.	Max.		
1.Frequency(FL)	125.000000			MHz	-
2.Type	SMD3225 OSC LVDS			-	-
3.Frequency tolerance	-25	~	25	ppm	At 25°C ±3°C
4.Input Voltage	2.97	3.3	3.63	V	VDD
5.Output load condition	-	100	-	Ω	-
6.Input Current	-	-	40	mA	-
7.Start-up Time	-	-	10	mSec	-
8.Rise Time /Fall Time	-	-	4	nSec	20%~80% output swing level
9.Temperature stability	-25	~	25	ppm	Ref. to 25°C
10.Operating temperature range	-40	~	85	°C	-
11.Storage temperature range	-55	~	125	°C	-
12.Duty Cycle	45%	-	55%	-	-
13.Output High	-	1.4	1.6	V	-
14.Output Low	0.9	1.1	-	V	-
15.Aging	-3	-	3	ppm/year	At 25°C ±5°C
16.RMS Phase Jitter	-	-	1	pSec	12kHz to 20MHz
17.High level input voltage	70% VDD	-	-	V	Tri-State Enable
18.Low level input voltage	-	-	30% VDD	V	Tri-State Disable

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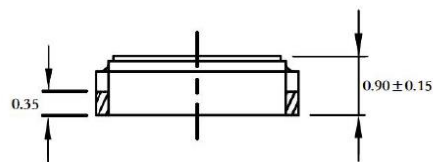
2.0 外形尺寸、外观 / Outline dimensions、Appearances

2.1 产品外形尺寸(mm)/ Product outline dimension(mm)



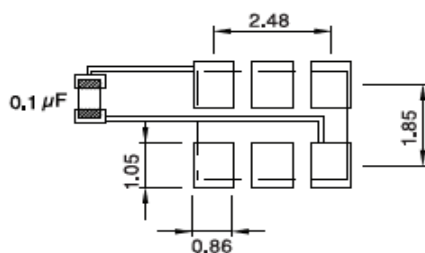
TOP VIEW

BOTTOM VIEW



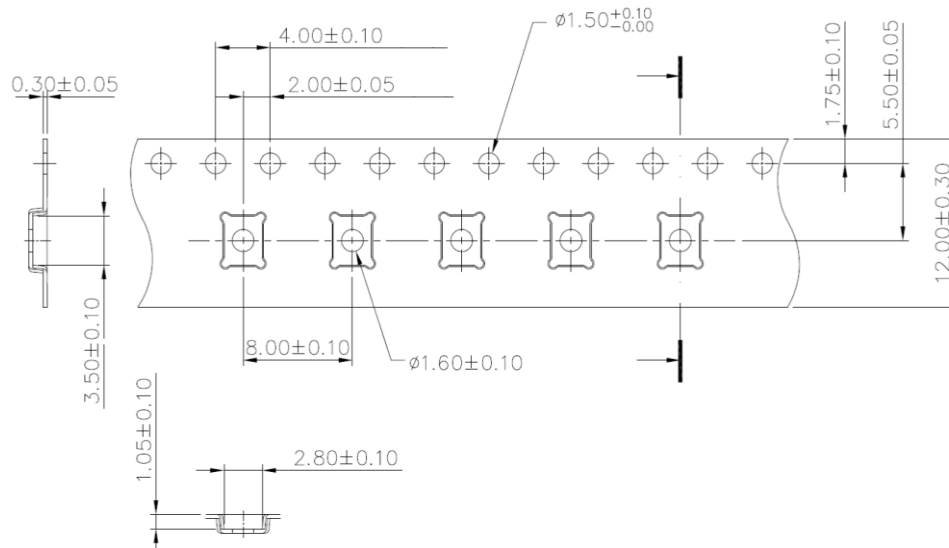
SIDE VIEW

Pin	Function
1#	Tri-State
2#	NC
3#	GND
4#	Output
5#	Comp. Output
6#	Supply Voltage



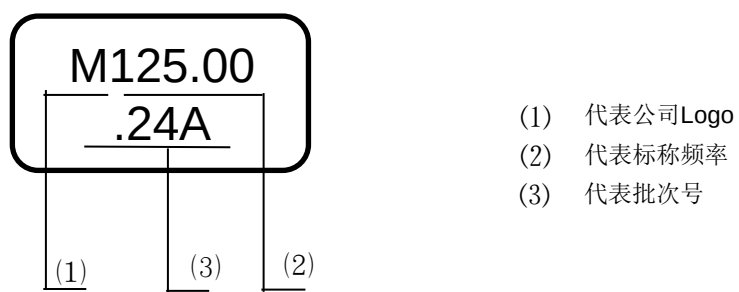
To ensure optimal oscillator performance, place a by-pass capacitor of 0.1µF as close to the part as possible between Vdd and GND pads.

2.2 载带外形尺寸图(mm)/Carrier Dimensional Drawing (mm)

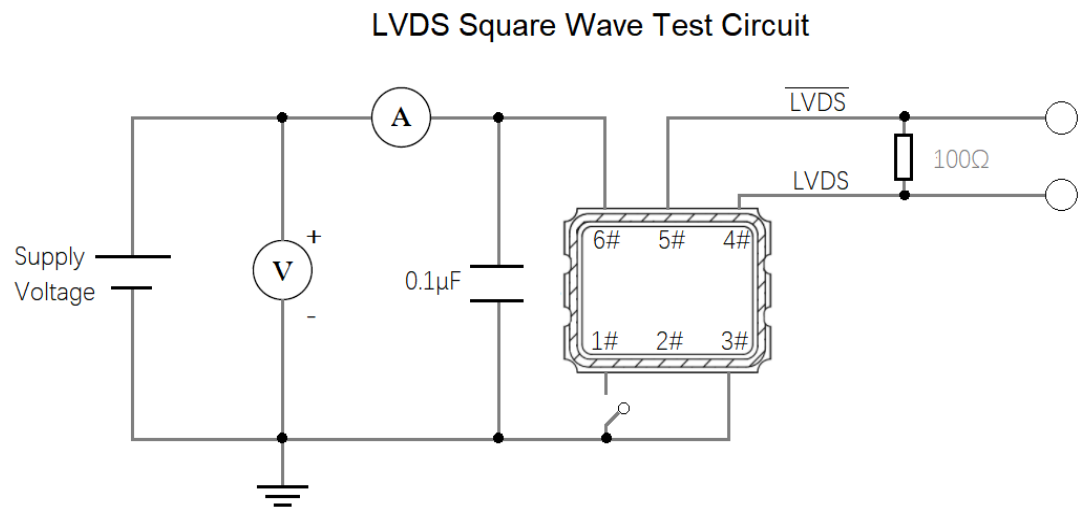


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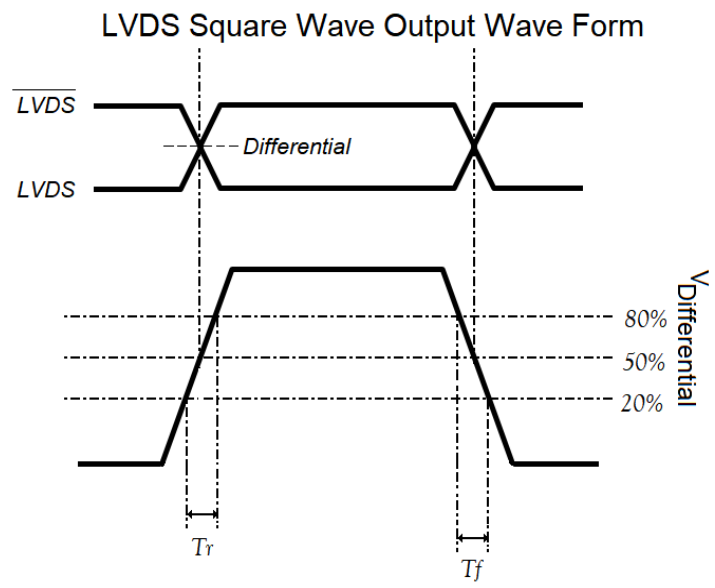
2.3 印字 Marking



2.4 测试图 Test Diagram

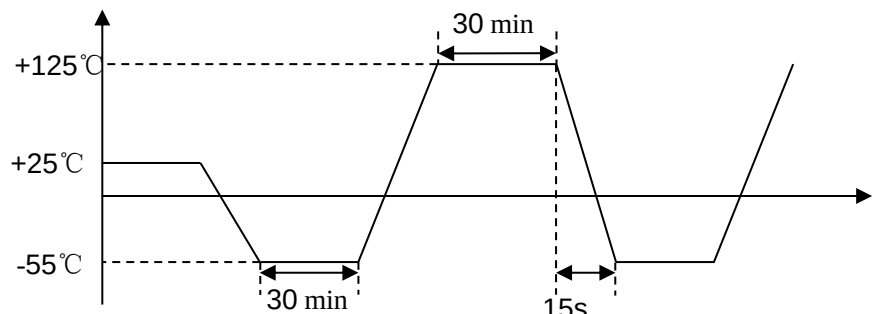


2.5 输出波形 Output Waveform



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3.0 石英晶体之可靠性 / Product reliability

项目 (Item)	条件 (Condition)	结果 (Result)
A.1	耐低温性（耐寒性）测试（Cold resistance）	(I)
	Stored at $-40\pm 2^{\circ}\text{C}$ for 500 ± 2 hrs then $25\pm 2^{\circ}\text{C}$ 2 hrs before testing	
A.2	耐高温性（耐热性）测试（Heat resistance）	(I)
	Stored at $125\pm 2^{\circ}\text{C}$ for 500 ± 2 hrs then $25\pm 2^{\circ}\text{C}$ 2 hrs before testing	
A.3	耐湿热性 (Humidity Resistance Result)	(I)
	稳态温度: $85\pm 2^{\circ}\text{C}$; 湿度: $85\pm 3\%\text{RH}$; 时间: 500 ± 2 hrs	
	Steady temperature: $85\pm 2^{\circ}\text{C}$; humidity: $85\pm 3\%\text{RH}$; time: 500 ± 2 hrs	
A.4	气密性 (Leakage)	(IV)
	细漏 Fine leak: Put the product in the Helium pressure tank, 4 ~ 5kgf/cm ² , 0.5hrs.	
A.5	盐雾试验（Salt Spray Test）	(I) (V)
	$35^{\circ}\text{C}\pm 2^{\circ}\text{C}$; NaCl concentration (5 ± 1) %; Salt water PH 6.5~7.2; Salt fog settlement in horizontal area 1.5mL/h $\pm$ 0.5mL/h; 48Hrs	
A.6	冷热冲击实验 温度循环（Temperature Cycle） $-55^{\circ}\text{C} \sim 125^{\circ}\text{C}$, Retain 30Min, 100 cycles  温度循环（Temperature Cycle）	(I)

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3.1机械性能 / Mechanism characteristics

B.1	跌落测试（Drop Test）	(I)
	Device are dropped from a height of 150 cm onto 20mm thickness stainless plate executing 3 times of random drops.	
B.2	耐振性（Resistance of Vibration）	(I)
	Frequency: 10~55Hz, amplitude(total excursion): 1.5mm±15%,3 direction (X,Y,Z) each 2 hrs then 25±2℃ 2 hrs before testing	
B.3	可焊性试验（Solderability)	(III)
	245±5℃，5±1s	
B.4	耐焊接热（Reflow）Resistance to soldering heat（Reflow）	(I)
	参考曲线图（Reference Curve）：	
	The graph illustrates the temperature profile for the reflow soldering process. The y-axis represents temperature in degrees Celsius, ranging from 50 to 300. The x-axis represents time in seconds. The profile shows a pre-heat phase from 50°C to 180°C (90-120s), a heating phase to the peak temperature of 260±5°C (10~20s), and a cooling phase to 180±10°C (≥40s). A lower temperature threshold of 230±5°C is also indicated.	

项目 Item	结果编号Result NO.	规格要求 Specification Requirements
1	(I)	频率变化<±10ppm; Frequency variation <±10ppm;
2	(II)	电流变化<±15%; Current variation <±15%;
3	(III)	上锡覆盖率高于95% The covering rate of Tin-plating is more than 95%.
4	(IV)	<1*10 ⁻⁹ Pa.m³/s
5	(V)	腐蚀缺陷面积≤整体表面积的5% (依照GJB360B-2009标准) Corrosion defect area ≤5% of total surface area (according to GJB360B-2009 standard) .

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4.0 生产商及产地说明 / Manufacturer and origin

生产商/Manufacturer: 烟台明德亨电子科技有限公司 ☒
 YanTai MDH Technology Co.,Ltd

四川明德亨电子科技有限公司
 SiChuan MDH Technology Co.,Ltd

4.1 包装规格 Package specification

