



TAE雅晶

序号Serial No. 2018101103

日期Date:2018-10-11

致TO: 深圳市猎芯科技有限公司

产品ITEM: 石英晶体谐振器 QUARTZ CRYSTAL UNITS

型号TYPE: SMD-2520 4PIN

标称频率NOMINAL FREQUENCY: 16MHz 9PF +/-10PPM

请收到我们的规格书后，签字回传。

Please confirm you received this specification,sign and fax it to us.

接收确认RECEIVING CONFIRMATION	
日期DATA	
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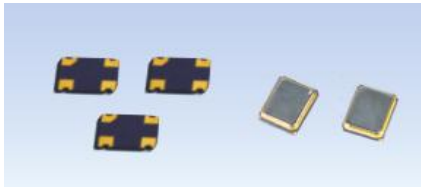
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拟制Prepared by: 应金会

批准Confirmed by: 王琴飞

RoHS Compliant Standard

T-2520-4PIN-SEAM

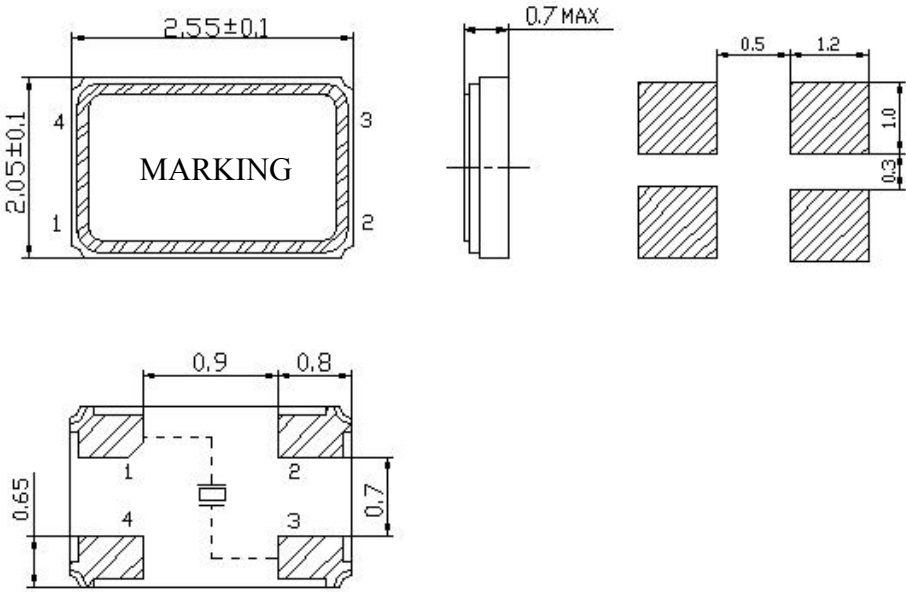


Features 特性

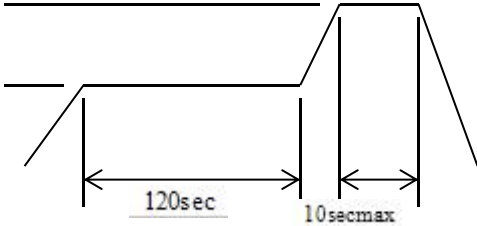
- Nominal Frequency 标称频率: 16 MHz
- Suited for portable devices with low current consumption
適合於低功耗的便攜設備
- For a clock source in electronic equipments 適用於电子設備的時鐘源

tem	Model	T-2520-4PIN-SEAM	Conditions
Frequency Range	标称频率	16MHz	
Frequency Tolerance	調整頻差	± 10 ppm Max	at 25℃
Freq. Tol. Over Temp.	溫度頻差	±50ppm Max	
Operating Temp. Range	工作溫度範圍	-40~+85℃	
Storage Temp. Range	保存溫度範圍	-40~+85℃	
Series Resistance	諧振電阻	80Ω Max	
Load Capacitance	負載電容	9pF	
Shunt Capacitance	靜態電容	/	
Drive Level	激勵電平	100μw Max	
Aging	老化率	±3ppm/year Max	
Insulation Resistance	絕緣阻抗	500Mohm/Min	DC100V±15V

OUTLINE DIMENSIONS (unit: mm)



序号 NO	项目 ITEM	条件 CONDITIONS	合格标准 BASIS OF VERDICT
1	老化 AGING	温度：85℃；时间：1000小时 Temperature: 85℃;Times: 1000 hours	$\Delta FR = \pm 10 \text{ ppm MAX}$ $\Delta Rs = \text{平均阻抗} * 20\% \text{ 或 } 5 \Omega \text{ MAX (两者取大值)}$ $\Delta FL \leq \pm 10 \text{ ppm}$ $\Delta RS \leq 5 \Omega \text{ or } \pm 20\%$ (Whichever is Larger)
2	湿度抗性 MOISTURE RESISTANCE	高温：65℃（10小时，含升温），低温：25℃（2小时，含降温），湿度90%，循环10次，每循环24小时 High-Temperature: 65℃ $\pm 2^\circ\text{C}$ (10 hours, including heating), Low-Temperature: 25℃ $\pm 2^\circ\text{C}$ (2 hours, including cooling), Humidity: 85%, for 10 cycles (24 hours/cycle)	$\Delta FR = \pm 10 \text{ ppm MAX}$ $\Delta Rs = \text{平均阻抗} * 20\% \text{ 或 } 5 \Omega \text{ MAX (两者取大值)}$ $\Delta FL \leq \pm 10 \text{ ppm}$ $\Delta RS \leq 5 \Omega \text{ or } \pm 20\%$ (Whichever is Larger)
3	湿热 HUMIDITY	温度：85℃ $\pm 2^\circ\text{C}$ ；湿度85%；时间：1000小时 Temperature: 85℃ $\pm 2^\circ\text{C}$; Humidity: 85%; Time: 1000 hours	$\Delta FR = \pm 10 \text{ ppm MAX}$ $\Delta Rs = \text{平均阻抗} * 20\% \text{ 或 } 5 \Omega \text{ MAX (两者取大值)}$ $\Delta FL \leq \pm 10 \text{ ppm}$ $\Delta RS \leq 5 \Omega \text{ or } \pm 20\%$ (Whichever is Larger)
4	低温 LOW-TEMPERATURE	温度：-40℃ $\pm 2^\circ\text{C}$ ；时间：1000小时 Temperature: -40℃ $\pm 2^\circ\text{C}$; Time: 1000hours	$\Delta FR = \pm 10 \text{ ppm MAX}$ $\Delta Rs = \text{平均阻抗} * 20\% \text{ 或 } 5 \Omega \text{ MAX (两者取大值)}$ $\Delta FL \leq \pm 10 \text{ ppm}$ $\Delta RS \leq 5 \Omega \text{ or } \pm 20\%$ (Whichever is Larger)
5	热冲击 TEMPERATURE SHOCK	-55℃ $\pm 2^\circ\text{C}$ (5 min) $\longleftrightarrow$ 125℃ $\pm 2^\circ\text{C}$ (5 min)；循环1000次 -55℃ $\pm 2^\circ\text{C}$ (5 min) $\longleftrightarrow$ 125℃ $\pm 2^\circ\text{C}$ (5 min); For 1000 cycles	$\Delta FR = \pm 10 \text{ ppm MAX}$ $\Delta Rs = \text{平均阻抗} * 20\% \text{ 或 } 5 \Omega \text{ MAX (两者取大值)}$ $\Delta FL \leq \pm 10 \text{ ppm}$ $\Delta RS \leq 5 \Omega \text{ or } \pm 20\%$ (Whichever is Larger)
6	跌落 DROP	1m高处自由跌落到硬木板上，循环3次 Height: 1m; 3 times	$\Delta FR = \pm 5 \text{ ppm MAX}$ $\Delta Rs = \text{平均阻抗} * 15\% \text{ 或 } 2 \Omega \text{ MAX (两者取大值)}$ $\Delta FL \leq \pm 5 \text{ ppm}$ $\Delta RS \leq 2 \Omega \text{ or } \pm 15\%$ (whichever is larger)

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7	机械冲击 MECHANICAL SHOCK	峰值 Peak: 100g/s 持续时间 Duration: 6ms 波形 Waveform: 半正弦波 Half-sine;变化速度 Velocity Change; 12.3 ft / sec; 振动方向 Direction: +X, -X, +Y, -Y, +Z, -Z; 每个方向各3次 3 times/direction	$\Delta FR = \pm 5 \text{ ppm MAX}$ $\Delta RS = \text{平均阻抗} * 15\% \text{ 或 } 2 \Omega \text{ MAX (两者取大值)}$ $\Delta FL \leq \pm 5 \text{ ppm}$ $\Delta RS \leq 2 \Omega \text{ or } \pm 15\%$ (Whichever is Larger)
8	振动 VIBRATION	频率 Frequency: 10~2000Hz; 加速度幅度 Acceleration: 5g/s 振动方向 Direction: X, Y, Z; 振动时间 Duration: 每个方向 20分钟20 min/direction; 循环次数 Times: 12次	$\Delta FR = \pm 5 \text{ ppm MAX}$ $\Delta RS = \text{平均阻抗} * 15\% \text{ 或 } 2 \Omega \text{ MAX (两者取大值)}$ $\Delta FL \leq \pm 5 \text{ ppm}$ $\Delta RS \leq 2 \Omega \text{ or } \pm 15\%$ (Whichever is Larger)
9	回流焊 REFLOW	 260°C±5°C 150°C±5°C 120sec 10secmax CYCLE TIME周期: 200sec Max.(回流2次)	$\Delta FR = \pm 5 \text{ ppm MAX}$ $\Delta RS = \text{平均阻抗} * 15\% \text{ 或 } 2 \Omega \text{ MAX (两者取大值)}$ 外观完好 $\Delta FL \leq \pm 5 \text{ ppm}$, $\Delta RS \leq 2 \Omega \text{ or } \pm 15\%$, (Whichever is Larger) No Rusty
10	可焊性 SOLDER	温度: 250°C, 蒸汽老化8小时 Temperature: 250°C, Time: 8hours	浸锡率≥95% Solder Coverage ≥95%
11	引出端强度 TERMINAL STRENGTH	1.8kg的切向推力(60秒)以及1.8kg的垂直拉力(60秒) 1.8kg, of the tangential thrust (60 s) 1.8kg of the perpendicular tension (60 s)	电极不断裂 No Rupture Observed