

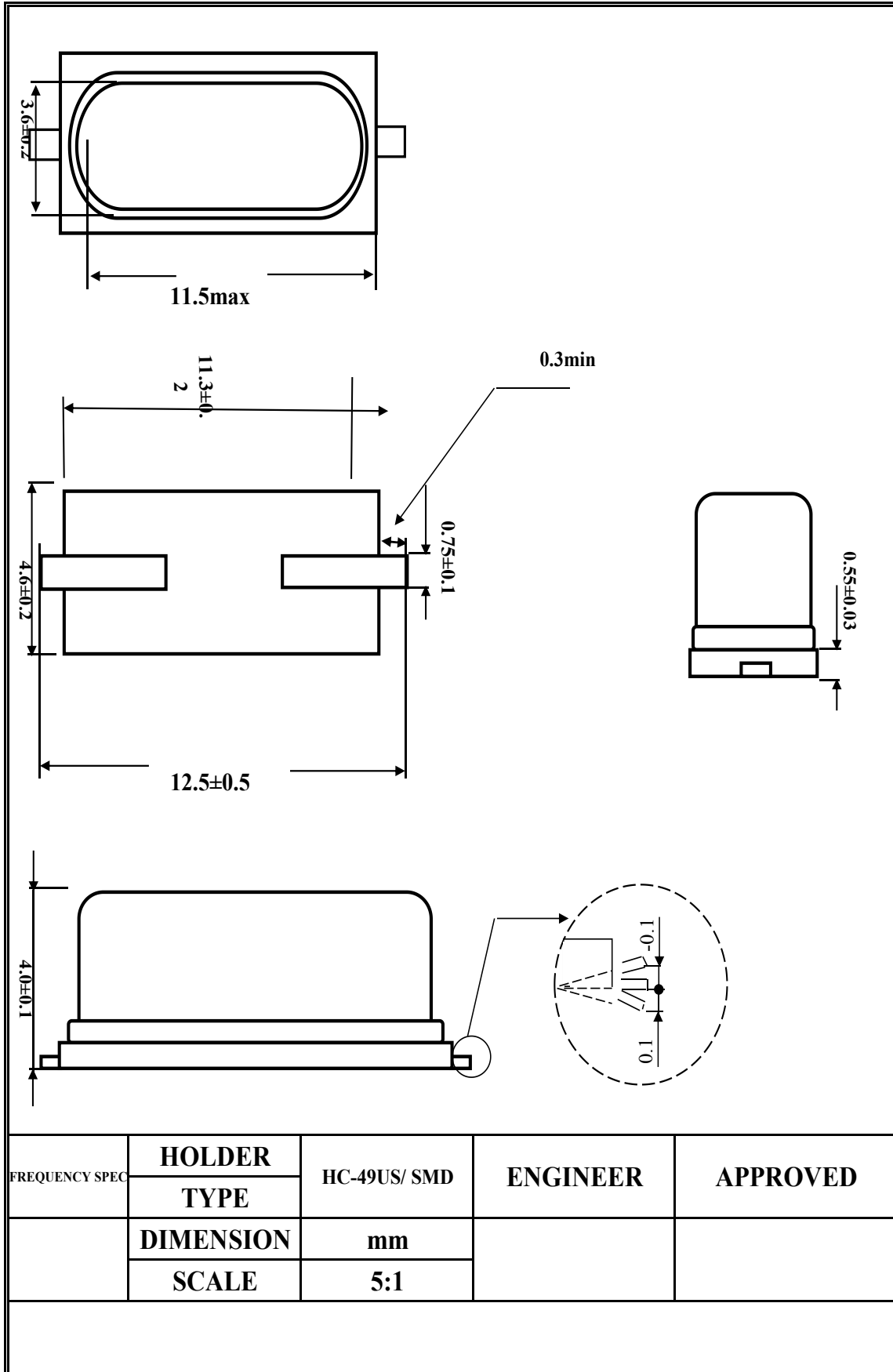


# M49SMD 24.000MHZ 10PF±10PPM QUARTZ CRYSTAL



## Parameters of the product 产品参数性能

Parameters 参数	
1. Nominal Frequency	24.000MHZ
2. Oscillation Mode	<input checked="" type="checkbox"/> Fundamental <input type="checkbox"/> 3RD overtone <input type="checkbox"/> 5th overtone
3. Frequency stability(Tol)	± 10ppm(ref. at 25°C)
4. Operation Temperature	-20°C to+70°C
5. Storage Temperature	-40°C to+85°C
6. Temperature Characteristic	± 20ppm
7. Load Capacitance( CL )	10pF
8. Series Resisitance(ESR)	≤ 40 Ω
9. Drive Level	100uW
10. Shunt Capacitance (Co)	≤ 5pF Max ( Or    PF~    PF )
11. Aging Rate Per Year	± 3ppm/year
12. Insulation Resistance	500M Ω min.at DC 100V ± 10V
13. Test Circuit.	Measured by S&A 250B
14. Marking	LGE24.000M



FREQUENCY SPEC	<b>HOLDER TYPE</b>	HC-49US/ SMD	<b>ENGINEER</b>	<b>APPROVED</b>
	<b>DIMENSION</b>	mm		
	<b>SCALE</b>	5:1		



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序号	RELIABILITY 试验名称	JTC RELIABILITY CONDITIONS 可靠度试验条件	SPECIFICATION 规格说明
1	ELECTRODE TERMINAL PULL 电极端子拉力	1KG FORCE IN AXES OF ELECTRODE TERMINATION 10±1sec 1KG力垂直施于电极端子上10±1秒	1.GLASS HERMETICITY & VISUAL. 玻璃密封性和外观检视
2	ELECTRODE WIRE-LEAD BEND 电极端子弯曲拉力	2.5mm FROM ELECTRODE TERMINAL,BEND 90°, 0.45kg MASS APPLIED 3TIMES. 2.5毫米处电极端子弯曲 90°	2. LEAD CRACKED or BROKEN NOT ALLOWED' 不允许引线断裂或破裂
3	SOLDERABILITY 产品可焊性	SOLDER:235±5°C ,DIPPING:5±0.5sec. 焊接温度:235±5°C ,浸渍时间:5±0.5秒	AT LEAST 95% COATING. 至少覆盖率为95%
4	RESISTANCE TO 产品可焊耐热时间	SOLDER:260+5°C ,DIPPING:10±1sec. 焊接温度:260±5°C ,浸渍时间:10±1秒  1.max 180 sec 2.max 10 sec 3.max 80 sec 4.max 90 sec	1.AT LEAST 95% COATING. 至少覆盖率为95% 2.ΔF/F≤±5ppm ΔF/Rr≤±10% or 2Ω BETTER,20%
5	VIBRATION TEST 振动测试	10g,10~55~10hz 1MINUTE,X、Y、Z PLANE EACH 2hrs. 10G, 10~55~10赫兹 1分钟,X、Y、Z 水平面,每2小时	ΔF/F≤±5ppm ΔF/Rr≤±10% or 2Ω BETTER,20%
6	DROP TEST 跌落测试	75CM HIGH,3 TIMES ON HARD BOARD 75厘米高, 3次坠落在硬木质板上	ΔF/F≤±5ppm ΔF/Rr≤±10% Oor 2Ω BETTER,20%
7	AGING TEST 老化测试	85°C Dynamic 1000hrs 85°C 动态测试1000小时	ΔF/F≤±5ppm ΔF/Rr≤±10% or 2Ω BETTER,20%
8	CCELERATED AGING 加速老化测试	125°C±3°C ,TIME:168 hrs. Dynamic 125°C ±3°C ,的动态下:168小时.	ΔF/F≤±5ppm ΔF/Rr≤±10% or 2Ω BETTER,20%

9	SALT SPRAY 盐水喷雾试验	5% NaCL 35°C±2°C CHAMBER,48hrs.PH:6.5~7.2	1.NO CORROSION ON LEAD&CAN1. 基座和外壳无腐蚀
		5% NaCL(碳酸钠),35°C±2°C的温箱里,48小时 PH值:6.5~7.2	△F/F≤±5ppm △F/Rr≤±10% or 2 Ω BETTER,20%
10	HIGH-LOW TEM.STORAGE(STATIC	HIGH TEM:125°C±2°C,1000hrs LOW TEM:- 40°C±3°C,1000hrs高温:125°C±2°C,1000小时	△F/F≤±5ppm
	STORAGE(STATIC) 高低温储存(静态测试)	LOW TEM:-40°C±3°C,1000hrs 低温:-40°C±3°C,1000小时	△F/Rr≤±10% or 2 Ω BETTER,20%
11	HIGH TEM. & HUM. STORAGE TEST 高温高湿储存试验	TEM:40°C±2°C HUM:83%-88%,96hrs 温度:40°C±2 湿度:83%-88% ,储存96小时	△F/F≤±5ppm △F/Rr≤±10% or 2 Ω BETTER,20%
		TEM:-10°C±2°C ~65°C±2°C 24hrs 1 cycle' HUM:93±3% 5 cycles	△F/F≤±5ppm
12	TEM. & HUM. CYCLING TEST	温度:-10°C±2°C~65°C±2°C,湿度:93±3%, 24小时 为1循环, 运行5个循环	△F/Rr≤±10% or 2 Ω BETTER,20%
	温湿度循环测试		
13	HIGH-LOW TEM.OPERATING TEST	HIGH TEM:70°C±2°C,2hrs LOW TEM:-20°C ±2°C,2hrs 高温:70°C±2	△F/F≤±5ppm
	OPERATING TEST 高-低温运行测试	LOW TEM:-20°C±2°C,2hrs 低温:-20°C±2°C运行2小时	△F/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
	频率/电阻在操作温度下之变化测试	温度:-10°C ~+60°C、-20°C ~+70°C 0°C ~70°C测试点:依每10°C测试一值	依客户要求
15	<p>HIGH LOW SHOCK 高低温冲击</p> <p>260°C MAX 150±5°C</p> <p>1. 150°C 60--120Sec Max 2. 200°C 20--30Sec Max 3. 260°C 10Sec Max</p> <p>10 SEC</p> <p><b>SPECIFICATION</b></p> <p>规格说明: △F/F≤±5ppm △F/Rr≤±10% or 2 Ω BETTER,20%</p>		