

承 认 书

SPECIFICATIONS FOR APPROVAL

客户名称:
Customer: _____产品名称: 石英晶体谐振器
Description: CRYSTAL RESONATOR _____产品型号: 3225 12M 20PF 10PPM
SPECIES _____标称频率: 12.000MHz
FREQUENC _____料 号:
MATERIAL CODE **S322512M20PF10PPM** _____

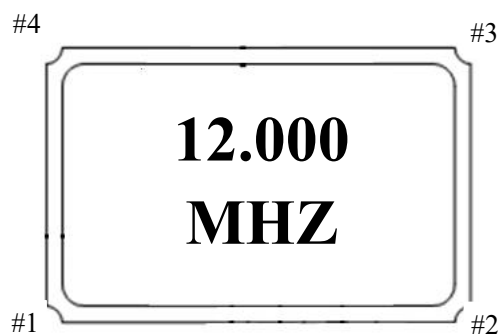
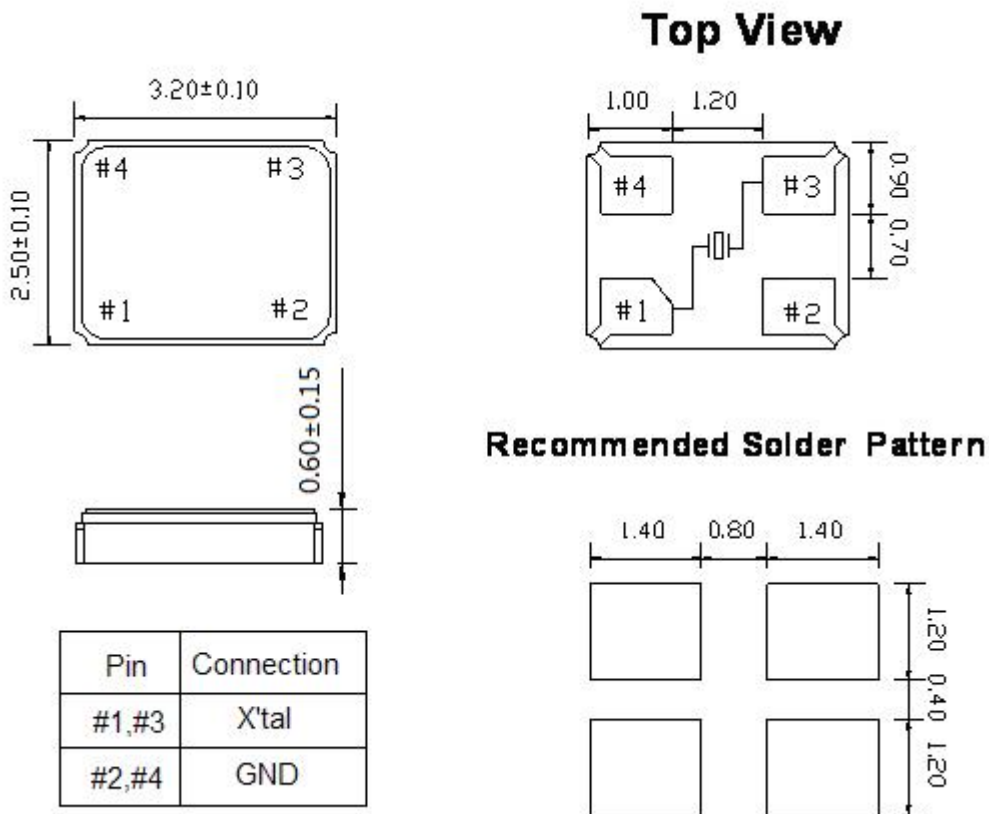
供应商确认				客户确认			
品管部 QC Dept	工程部 Engineer Dept	业务部 Trade Dept	☒ 合格 PASS	品管部 QC Dept	工程部 Engineer Dept	采购部 Purchase Dept	☐ 合格 PASS
莫 平 会	梁 雄	陈 晓 群	☐ 不合格 NG				☐ 不合格 NG

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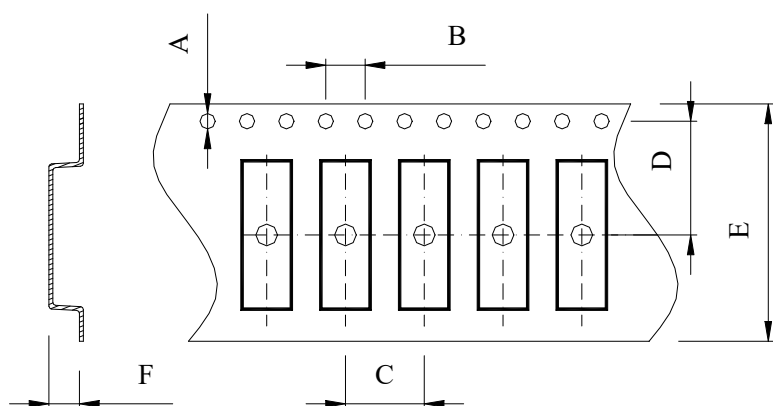
GENERAL SPECIFICATIONS (电气特性):

No.	Parameters	Symb.	Electrical Specification				Notes
			Min.	Typ.	Max.	Units	
1	Nominal Frequency	F0	12.000000			MHz	
2	Overtone order		Fundamental				
3	Frequency Tolerance	$\Delta F/F0$	-10	-	+10	ppm	at 25°C±3°C
4	Operating Temperature Range	T _{OPR}	-40	-	+85	°C	
5	Frequency Stability	TC	-30	-	+30	ppm	The reference temperature shall be +25°C
6	Storage Temperature	T _{STG}	-55	-	+125	°C	
7	Load capacitance	CL	-	20	-	pF	
8	Equivalent resistance	ESR	-	-	100	Ω	
9	Level of drive	DL	-	100	300	μW	
10	Insulation Resistance		500	-	-	MΩ	DC100V ±15V.
11	Shunt Capacitance	C0	-	-	7	pF	
12	Aging Per Year	Fa	-3	-	+3	ppm	First Year
13	Package type	3225 seam					

DIMENSIONS SPECIFICATIONS (外形尺寸)

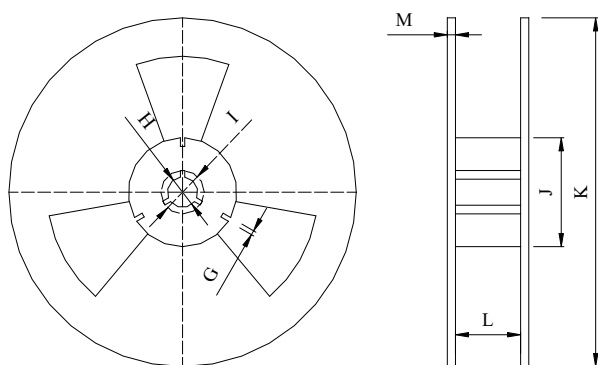


Tape Dimensions(unit : mm)



A	B	C	D	E	F
1.50	4.0	4.0	3.5	8.0	1.0

Reel Dimensions(unit: mm)



G	H	I	J	K	L	M
2.5	13.5	21.6	60.0	178	9.5	1.6

***3000pcs/Reel**

No.	Test Item	Test Conditions	Spec Code
1	High Temperature Storage	Temperature: $125^{\circ}\text{C} \pm 5^{\circ}\text{C}$ Time: 1000 ± 12 Hours	A
2	Temperature Cycle	Temperature 1: $-55^{\circ}\text{C} \pm 5^{\circ}\text{C}$ Temperature 2: $125^{\circ}\text{C} \pm 5^{\circ}\text{C}$ Temperature change between T1 and T2 at soonest Run 1000 cycles, maintain T1 and T2 30 minutes each in one cycle	A
3	High Temperature, High Humidity Storage	Temperature: $85^{\circ}\text{C} \pm 5^{\circ}\text{C}$ Relative Humidity: 80%--85% Time: 250Hours $\pm$ 24 Hours	A
4	Steam Aging	Temperature: $97^{\circ}\text{C} \pm 5^{\circ}\text{C}$; Time: 24 Hours 260°C solder pot to check solderability	A
5	Solderability	Pre-heat temperature: $+150 \pm 10^{\circ}\text{C}$ Pre-heat time: 60~120s When the temperature of the specimen is reached at $+215 \pm 3^{\circ}\text{C}$, it shall be left for 30 ± 1 sec. Peak temperature $240 \pm 5^{\circ}\text{C}$ Material: Pb-free (Sn-3.0Ag-0.5Cu) Flux: Rosin resin methyl alcohol solvent (1: 4)	B
6	Aging	Temperature: $85^{\circ}\text{C} \pm 5^{\circ}\text{C}$; Time: 250 ± 12 Hours	A
7	Drop Test	Preparation: Test pieces should be fixed on the dummy load with 200g weight. Condition: Height 1.5m onto concrete Drop times :10 times in 6 mutually perpendicular axes	A
8	Vibration	Frequency Range: 10Hz~2000Hz Amplitude: 1.5mm or 20G 4Hours in each direction, total 12Hours	A
9	Reflow resistance	Pre-heat temperature : $+150 \sim 180^{\circ}\text{C}$ Pre-heat time: 90 ± 30 s Heat temperature : more than $+230^{\circ}\text{C}$ Heat time: $30\text{s} \pm 10\text{s}$ Peak temperature : $+260 \pm 5^{\circ}\text{C}$ Peak time: less than 10s	A

Specification code	Specification
A	$\Delta f/f \leq \pm 3$ ppm $\Delta CI/CI \leq \pm 15\%$ or $5\ \Omega$ make use larger value
B	The electrodes should be covered by a new solder at least 90% of immersed area.