



STANDARD SPECIFICATION

产品规格书

客户 Customer: _____

客户料号 Customer P/N NO.: _____

产品描述 Product Description: 49S 3.579545MHZ 20PF ±20PPM

TKD 料号 TKD P/N. NO.: CD05M003579545RDCAD1

客户批准 Customer Approval :

(请批准后回签一份 PLEASE RETURN A COPY WITH APPROVAL)

TKD SCIENCE AND TECHNOLOGY Co., LTD
泰晶科技股份有限公司
Shen zhen Tai jing Industry Co., Ltd.

深 圳 市 泰 晶 实 业 有 限 公 司

批准 APPROVED	审核 CHECK	制作 DESIGNER
叶保平	金龙腾	苏婷婷





CRYSTAL SPECIFICATION

1. Description: Quartz Crystal
2. Nominal Frequency: 3.579545MHz
3. Oscillation Mode: Fundamental
4. Cutting Mode: AT cut
5. Measurement Instrument: S&A 250B(Measured FL)
6. Electrical Characteristics:

[1]Operation Conditions:

Item	Symbol	MIN.	TYP.	MAX.	Unit	Condition
Operating Temperature Range	Topt	-40		85	℃	
Storage Temperature Range	Tstg	-40		85	℃	
Load Capacitance	CL		20		pF	
Drive Level	DL	0.1		100	uW	

[2]Frequency Stability:

Item	Symbol	MIN.	TYP.	MAX.	Unit	Condition
Tolerance	dF/Fo	20		20	ppm	Refer to Center Frequency@25±3℃
Stability Over Temperature	dF/F25	-30		30	ppm	Refer to Operating Temperature @-40~+85℃
Aging	dF/F25	-5		5	ppm	Per Year

dF/Fo:Frequency Deviation Refer to Center Frequency

dF/F25:Frequency Deviation Refer to 25℃ Frequency

[3]Electrical Performance:

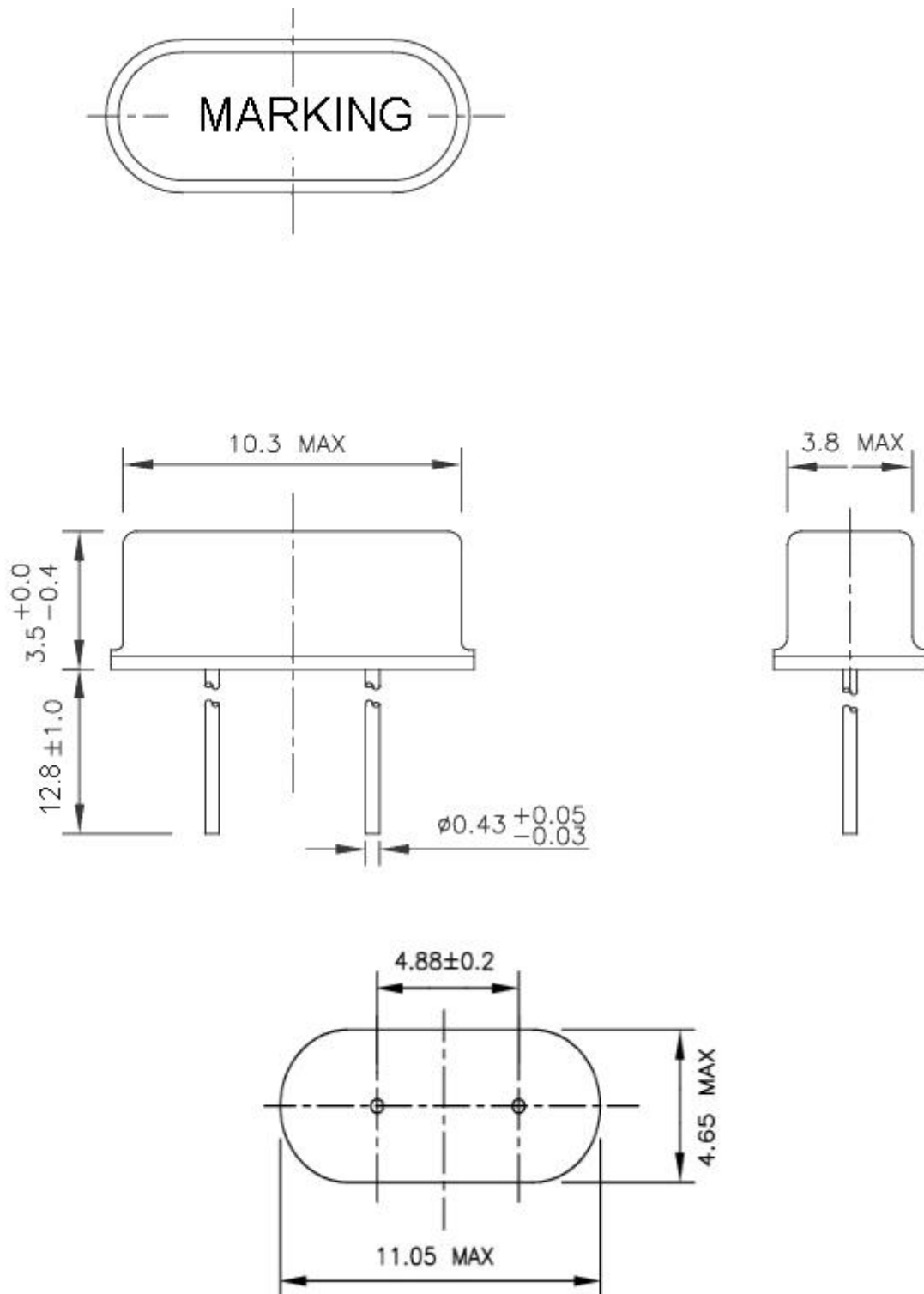
Item	Symbol	MIN.	TYP.	MAX.	Unit	Condition
Equivalent Series Resistance	ESR			120	Ω	@Series
Shunt Capacitance	C0			7	pF	
Insulation Resistance	IR	500			MΩ	@DC 100 Volt

7. Marking:Laser

TKD:Company Logo
3.579545:Nominal Frequency

TKD3.579545

8. Outline drawing (unit: mm)

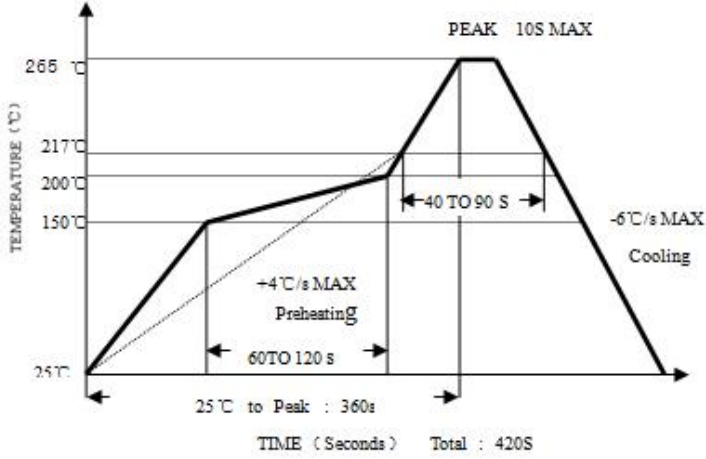




9. Reliability Specification

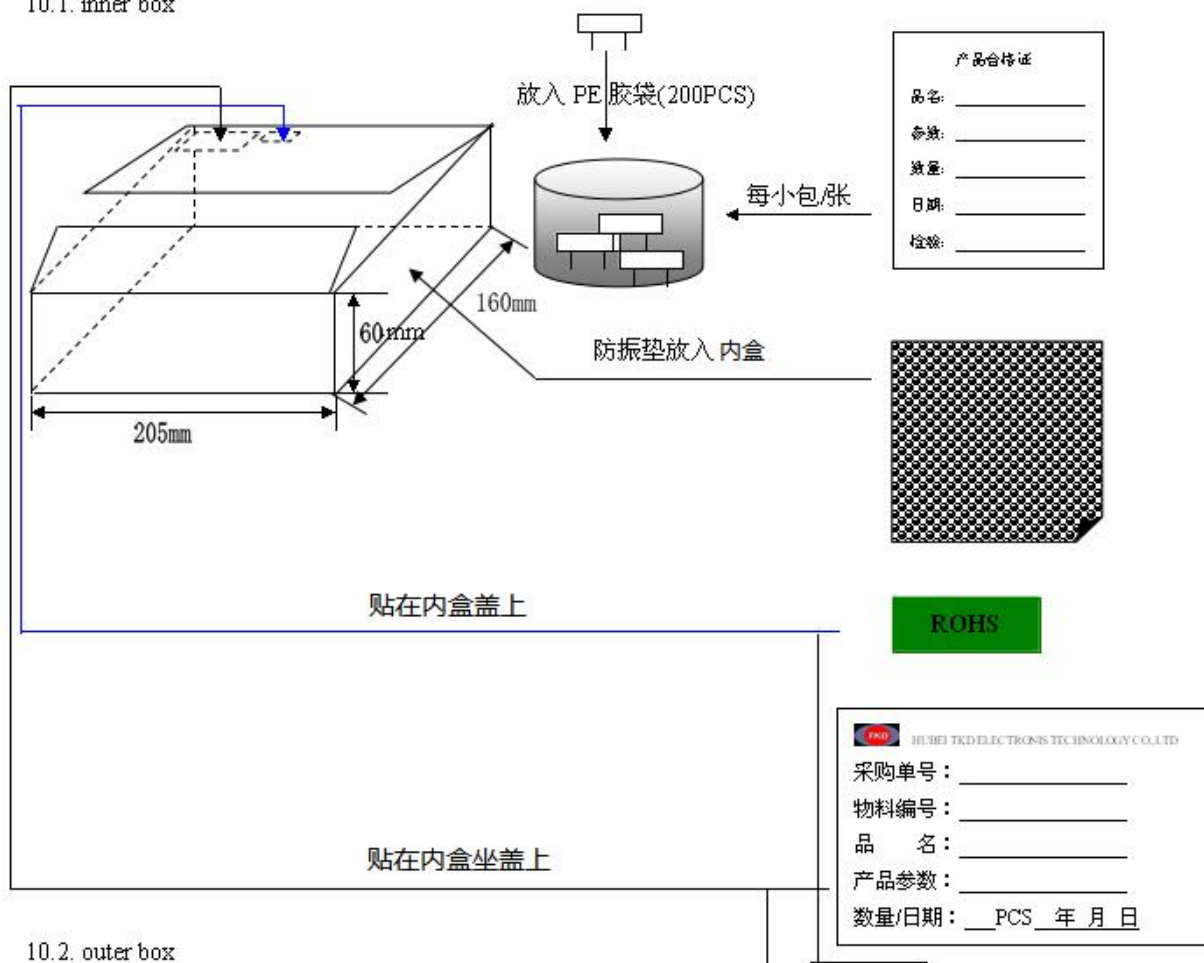
Test Item	Condition of test	Performance Requirements															
Tensile Strength Termination	The unit's lead wire should withstand a tensile force applied to the termination in the direction of its draw-out axis of up to 1000g maintained as is for 10±2s	There should be no abnormalities detected on the unit															
Solder ability	The lead is immersed in a 235±5℃ solder bath within 2±0.5 seconds.	A new uniform coating of solder shall cover minimum 95% of the surface being immersed.															
Vibration	Endurance condition by a frequency sweep shall be made. The entire frequency range from 10HZ to 50HZ and return to 10HZ, shall be transverse in 1min. Amplitude (total excursion): 1.5mm this motion shall be applied for a period of 2h each of 3 mutually perpendicular axes (a total of 6h)	(1). Frequency Change: ±5ppm (2). Resistance: ±15%															
Drop	Form 70cm height 3 times on 3cm hard wooden floor	(1). Frequency Change: ±5ppm (2). Resistance: ±15%															
Damp heat	The unit shall be stored at a temperature of 40±2℃ with relative humidity of 90% to 95% for 48h, then it shall be subjected to standard atmospheric conditions for 1 ~ 2h after which measurement shall be made.	(1). Frequency Change: ±5ppm (2). Resistance: ±15%															
Dry heat	The unit shall be stored at a temperature of 100℃±5℃ for 24h, then it shall be subjected to standard atmospheric conditions for 1~2h after which measurement shall be made.	(1). Frequency Change: ±5ppm (2). Resistance: ±15%															
Cold	The unit shall be stored at a temperature of -40℃±5℃ for 48h, then it shall be subjected to standard atmospheric conditions for 1~2h after which measurement shall be made.	(1). Frequency Change: ±5ppm (2). Resistance: ±15%															
Aging	The unit shall be stored at a temperature of 85℃±5℃ for 7d then it shall be subjected to standard atmospheric conditions for 1~2h after which measurement shall be made.	Refer to verdict specification															
Temperature cycling	The unit shall be subjected to 5 successive change of temperature cycles, each as show in table below, then it shall be subjected to standard atmospheric conditions for 1 ~ 2h after which measurement shall be made <table border="1"> <thead> <tr> <th></th><th>Temperature</th><th>Duration</th></tr> </thead> <tbody> <tr> <td>1</td><td>-40℃±3℃</td><td>30min</td></tr> <tr> <td>2</td><td>Standard atmospheric conditions</td><td>Within 30s</td></tr> <tr> <td>3</td><td>100℃±3℃</td><td>30min</td></tr> <tr> <td>4</td><td>Standard atmospheric conditions</td><td>Within 30s</td></tr> </tbody> </table>		Temperature	Duration	1	-40℃±3℃	30min	2	Standard atmospheric conditions	Within 30s	3	100℃±3℃	30min	4	Standard atmospheric conditions	Within 30s	Refer to verdict specification
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1	-40℃±3℃	30min															
2	Standard atmospheric conditions	Within 30s															
3	100℃±3℃	30min															
4	Standard atmospheric conditions	Within 30s															



Test Item	Condition of test	Performance Requirements
Sealing	The crystal filter unit shall be immersed in a industry alcohol for 5 ± 0.5 minutes then $25\pm3^{\circ}\text{C}$ 1~2 Hr before testing	Insulation Resistance>500M Ω
Resistance to soldering heat	 Reflow soldering cure see the chart. Soldering iron method: Bit temperature: $350^{\circ}\text{C}\pm10^{\circ}\text{C}$ Application time of soldering iron: 5s Max	Refer to verdict specification



10.1. inner box



10.2. outer box

