



## Tangshan Guoxin Jingyuan Electronics Co.,Ltd

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### APPROVAL SHEET

Customer : \_\_\_\_\_

Part Number : \_\_\_\_\_

JYEG P/N : JYOD7-(CMOS)

Holder : SMD 7050OSC

Frequency : 0.032768~98.304MHZ

Manufacturer : Guoxin Jingyuan Electronics

Date : 2025/12/29

Prepared	Checked	Approved
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(For Customer Use)

Acceptable	Non-Acceptable



1. This specification applies to SMD clock oscillator with a frequency of 0.032768~98.304MHz.

## 2. Electrical characteristics

ITEM/TYPE		OSC SMD7050	
Frequency Range		0.032768~50.000MHz(AT1), 50.000~98.304MHz(AT3)	
Frequency Stability		±25ppm/±30ppm/±50ppm/±100ppm, or specify	
Operating Temperature Range		-20~70°C/-40~85°C/-40~105°C/-40~125°C	
Output Load		1-5TTL or CMOS 30PF Max	
Input Current		1.8V~3.3V	5V
	32.768KHz	≤0.5mA	≤1mA
	≤35MHz	≤8mA	≤12mA
	35~54MHz	≤16mA	≤16mA
	54~70MHz	≤25mA	≤50mA
	70~98.304MHz	≤45mA	≤60mA
Supply Voltage		5V±10%/3.3V±10%/2.5V±10%/1.8V±10%	
Start-up Time		1ms Max.(AT1),3ms Max.(AT3)	
Duty Cycle		40%-60% Normal,45%-55% Tight	
Rise/FallTime		5ns Max	
Out "0"Level		TTL	CMOS
		0.4VMax	10%VDD Max
Out "1"Level		TTL	CMOS
		2.4V Min	90% VDD Min
Tri-state		Pin1: 0.7VDD Min.(High) or open,Output: Enable Pin1: 0.3VDD Max.(Low), Out: Disable	
Jitter(12KHz-20MHz)		1ps Max	
Aging		±3ppm/year Max	
Storage Temperature Range		-55-125°C	

Note 1:frequency [tolerance@25°C](#) and frequency stability vs. operating temperature range and voltage variance.

### 3. Construction

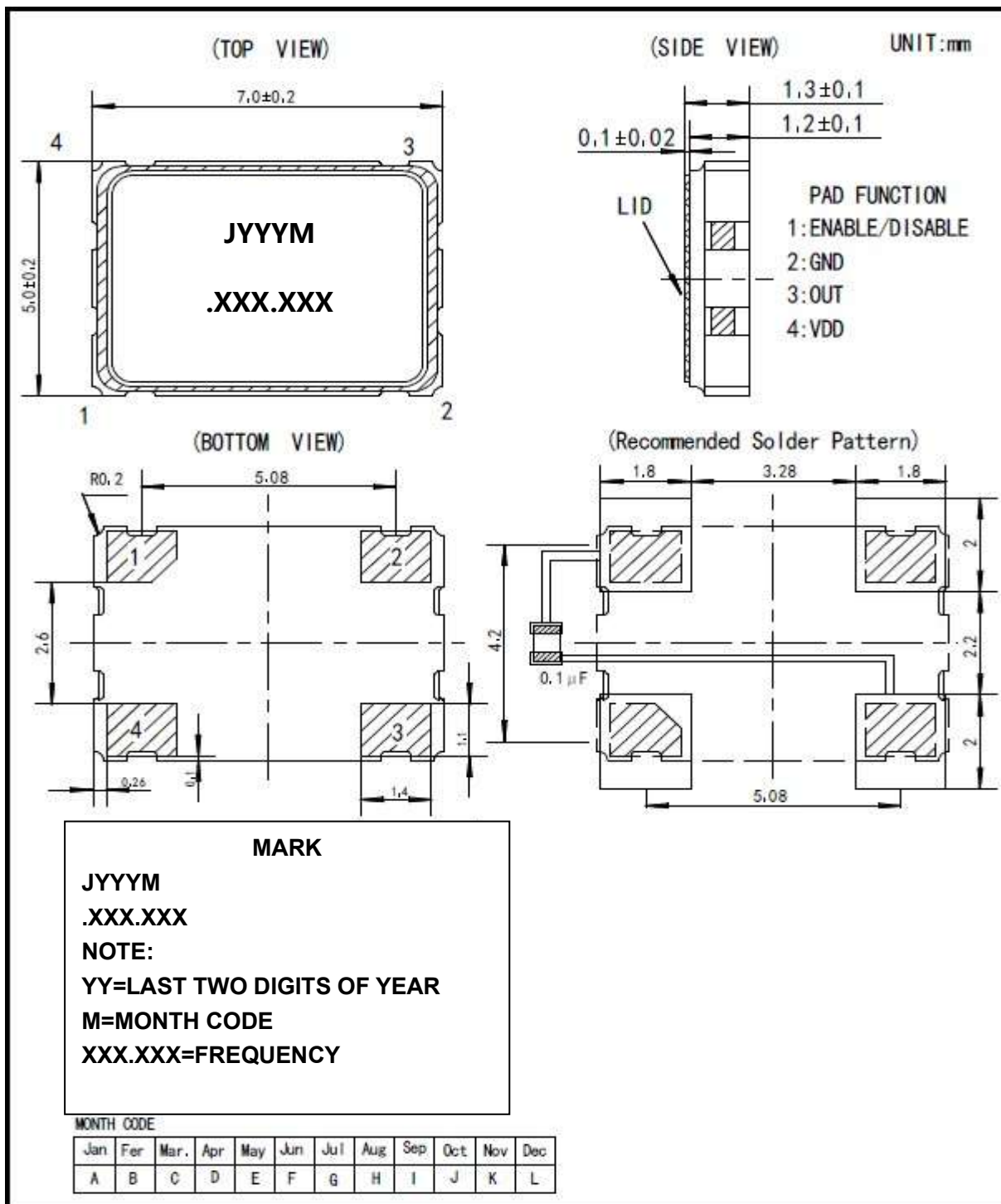
#### 3.1 Crystal enclosure seal:

- Seam seal
- resistance weld
- cold weld

#### 3.2 crystal enclosure medium

- nitrogen
- vacuum
- dry air

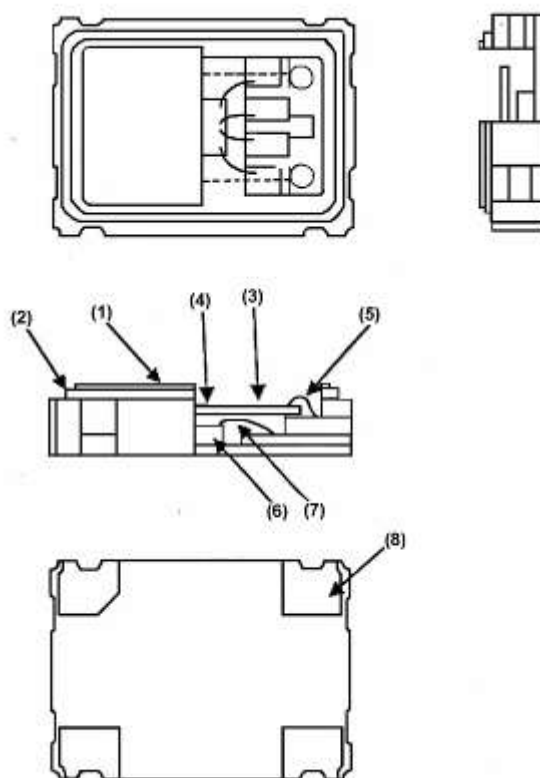
### 4.Dimension:



### 5. Marking

- Laser Marking
- Ink Marking

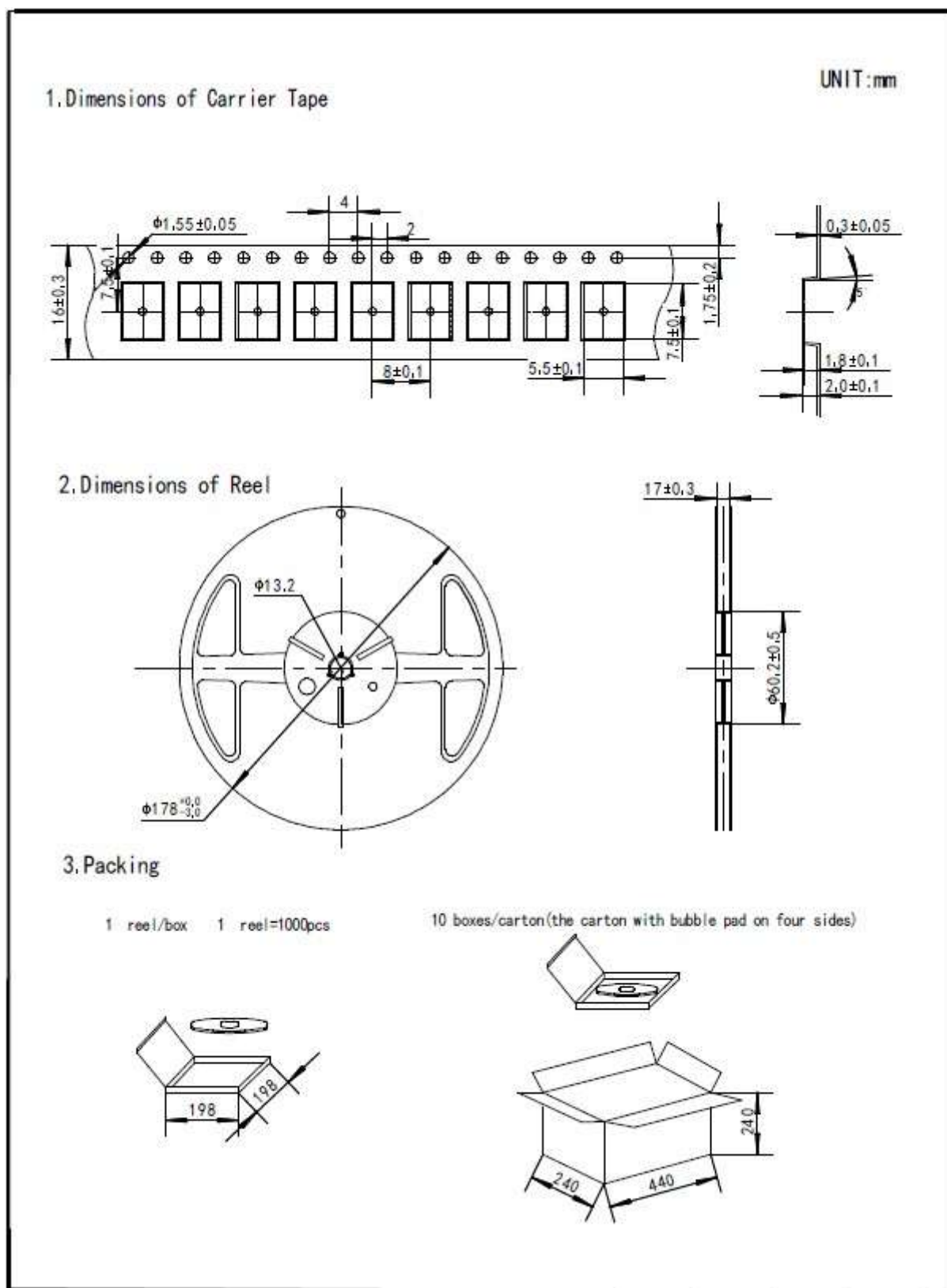
## 6. Inside Structure



No.	Name	Material
(1)	Can	Fe-Co-Ni
(2)	Base	Ceramic
(3)	Blank	Quartz
(4)	Electrode	Ag
(5)	Epoxy	Silicon +Ag
(6)	IC	Silicon
(7)	Wire	Au
(8)	Soldering pads	Au plated

## 7.Taping Dimension and Packing Instruction

### 7.1



7.2

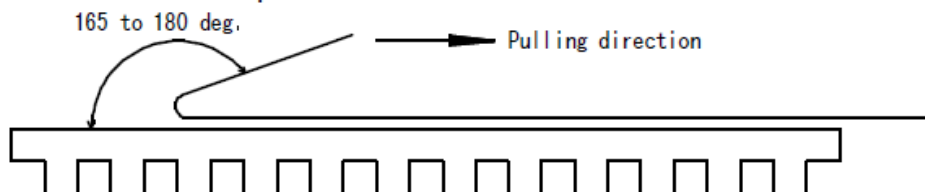
Release strength of cover tape

It has to be between 30g to 90g under following condition.

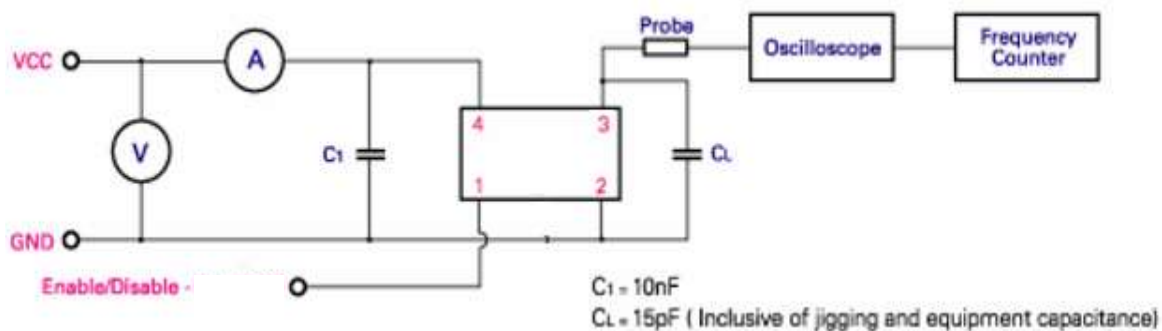
Pulling direction : 165 deg. to 180 deg.

Speed : 300mm/min.

Otherwise unless specified.



8. Test circuit



9. Electro-static Discharges

9.1 HBM/ESD and MM/ESD Classification

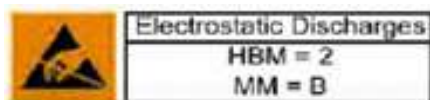
HBM/ESD Component Classification:

HBM/ESD	Voltage Range(V)
1	0~1999
2	2000~3999
3	4000~ABOVE

MM/ESD Component Classification:

MM/ESD	Voltage Range(V)
A	0~199
B	200~399
C	400~ABOVE

9.2 OSCILLATOR Production For ESD Classification:



**10. Reliability characteristic:**

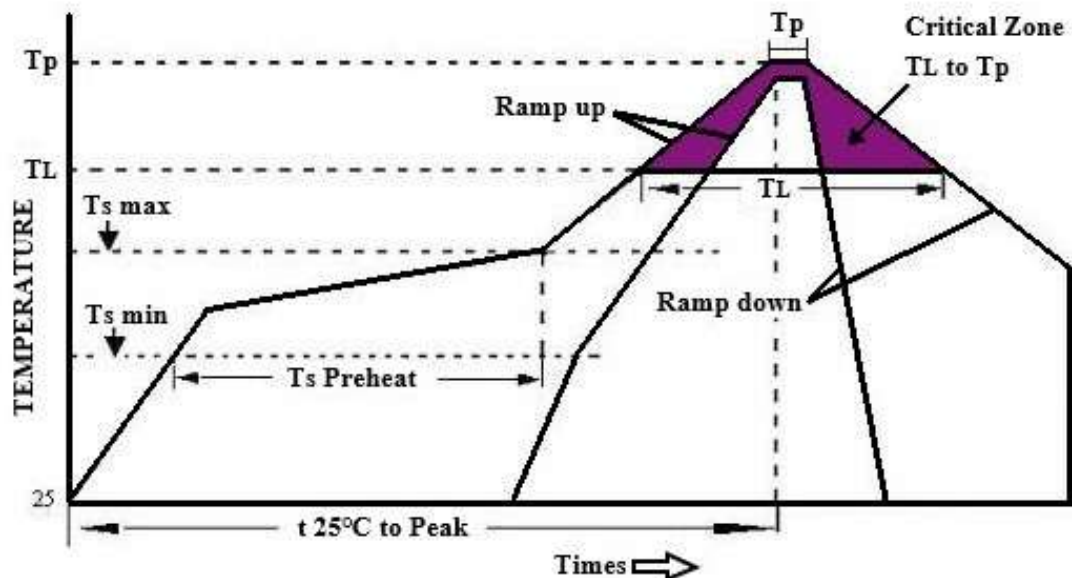
NO	Item	Condition	Specifications	Reference
10.1	High Temperature Exposure (Storage) 高温存储	1000 hrs. at rated operating temperature r 1000 hrs at 85°C. npowered.Measurement at 24±2 hours after test conclusion. 元件就贮存在 85°C 下 1000 小时, 在试验结 束后 24±2 小时测试。	$\Delta F/F_0 \leq \pm 10 \text{ppm}$ $I \leq 5 \text{mA or } 20\%$	MIL-STD-202 Method 108
10.2	Temperature Cycling 温度循环	-40° C to 125°C part the 1000 cycles will be at that perature rating.Measurement at 24 ± 2 hours after test conclusion. 30min maximum dwell time at each temperature extreme. 1 min. maximum transition time. 从 -40°C ~ +125°C 1000 次循环。在试验结束后 24 ± 2 小时测试。每个温度的停留时间不超过 30 分钟。转换时间不超过 1 分钟。	$\Delta F/F_0 \leq \pm 10 \text{ppm}$ $I \leq 5 \text{mA or } 20\%$	JESD22 Method JA-104
10.3	Biased Humidity 稳态湿热	1000 hours 85°C/85%RH. Rated VDD applied with 1MΩ and inverter in parallel, 2X resonator CL capacitors between each resonator leg and GND.Measurement at 24±2 hours after test conclusion. 在温度 85°C, 湿度 85% 的条件下放置 1000 个小时在试验结束后 24±2 小时测试。	$\Delta F/F_0 \leq \pm 10 \text{ppm}$ $I \leq 5 \text{mA or } 20\%$	MIL-STD-202 Method 103
10.4	Operational Life 高温寿命	125°C 1000 hrs. Measurement at 24±2 hours after test conclusion. 125°C 下 1000 个小时, 用相同测试线路在时 间结束后 24±2 小时测试。	$\Delta F/F_0 \leq \pm 10 \text{ppm}$ $I \leq 5 \text{mA or } 20\%$	MIL-STD-202 Method 108
10.5	Mechanical Shock 机械冲击	MIL-STD-202 Method 213 Figure 1 of Method 213. Condition C 见 213 方法, 试验条件: 半正弦波 峰值 100g 持续时间 6ms 速度变化 3.75m/s, 对样品 6 个方向 3 次, 共 18 次施以冲击	$\Delta F/F_0 \leq \pm 10 \text{ppm}$ $I \leq 5 \text{mA or } 20\%$	MIL-STD-202 Method 213
10.6	Vibration 振动	MIL-STD-202 Method 204 5g 的力 20 分钟, 用 8*5*0.031 英寸的 PCB 在 3 个方向各做 12 个循环。在 8 英寸边上有 7 个支撑点, 在对面的角上两个支撑点。器件 安装在任意一个支撑点的 2 英寸范围内。测试 从 10HZ-2000HZ.	$\Delta F/F_0 \leq \pm 10 \text{ppm}$ $I \leq 5 \text{mA or } 20\%$	MIL-STD-202 Method 204

10.7	Resistance to Soldering Heat 耐焊接热	Condition B No pre-heat of samples. Note: SingleWave solder - Procedure 1 with solder within 1.5 mm of device body for Leaded. Procedure 1 except 245°C and immerse only to level to cover terminals for SMD. 未预热的样品 Condition B. 备注：单波焊接 -Porcedure 1 引脚产品焊料少于 1.5mm,除了 245°C外其他 Procedure 1, SMD 产品浸到覆盖 SMD 引脚。	$\Delta F/F0 \leq \pm 10\text{ppm}$ $I \leq 5\text{mA or } 20\%$	MIL-STD-202 Method 210
10.8	Solderability 可焊性	引脚产品: Method A@245°C, category 3. SMD 产品: Method D category3 @260°C ✓	Electrical Test not required. Magnification 50X. >95%tin 不测电参数 >95%浸润.	J-STD-002
10.9	Board Flex 线路板弯曲	60 sec minimum holding time. 最少保留 60 秒。	10 倍放大镜下检查没有明显伤痕。	AEC Q200-005
10.10	Terminal Strength 引线、引脚强度 (SMD)	Terminal Strength Surface Mount / Shear Stress Test 施加 1.8kg 力 60 sec 测试带引脚器件的引脚整体试验。 条件: A(2.27Kg) C(227g)	有明显断裂、伤痕。	AEC Q200-006

**11.All products are RoHs compliant**



## 12. Reflow Profile



### High Temperature Infrared /Convection

Note: Temperature shown are applied to body of device

Ts max to TL(Ramp-up Rate)	3°C/second max
Preheat	
Temperature Min(Ts Min)	150°C
Temperature Typical( Ts Typ)	175°C
Temperature Max.(Ts Max)	200°C
Time(ts)	60-180 seconds
Ram-up Rate(TL to Tp)	3°C/second Max
Time Maintained Above:	
--Temperature(TL)	217°C
--Time(TL)	60-150seconds
Peak Temperature (Tp)	260°C Max for 10 seconds
Time within 5°C of actual peak(tp)	20-40 seconds
Ramp-down Rate	6°C/seconds Max
Tune 25°C to Peak Temperature(t)	8 minutes Max
Moisture Sensitivity Level	Level 1

### High Temperature Manual Soldering

Note: Temperature shown are applied to body of device

260°C Max for 10 seconds Max, 4 times Max