



江苏长晶科技股份有限公司
JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD.

产 品 规 格 书

SPECIFICATIONS FOR PRODUCT

产品类型 TYPE : Crystal Oscillator

产品规格 SPEC : 20MHz/3225/3.3V

产品型号 P/N : CJO05-200003320B30

日期 DATE : 2024/12/02

核准及签名

R&D APPR. SIGNATURED

拟制 ISSUE	审核 CHECK	批准 APPROVAL
Ivan 2024/12/02	Abbey 2024/12/02	Ken 2024/12/02

江 苏 长 晶 科 技 股 份 有 限 公 司

JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD.

地址：中国江苏省南京江北新区产业技术研创园江淼路88号腾飞大厦C座13楼

Add: 13Th Floor, C Block, Tengfei Building, No. 88 Jiangmiao Rd. Pukou

District, Nanjing City, Jiangsu Province, China

Specification Revision Record Sheet

**SMD3.2 * 2.5 Crystal Oscillator****CJO05-200003320B30****1. Scope:**

- 1.1 This specification applies to the RoHS/HF crystal oscillator with a frequency of 20MHz which will be used in electronic equipment.

2. Construction:

- 2.1 Oscillators series: SMD 3.2×2.5 XO
2.2 Package: SMD 3.2×2.5

3. Electrical Characteristics

- | | | |
|------|--|---|
| 3.1 | Nominal Frequency: | 20MHz |
| 3.2 | Frequency Stability:
(incl. 25°C tolerance) | ±20ppm |
| 3.3 | Aging: | ±3ppm/year |
| 3.4 | Operating Temperature Range: | -40°C to +85°C |
| 3.5 | Storage Temperature Range: | -55°C to +125°C |
| 3.6 | Input Voltage (V_{DD}): | +3.3 Vdc±10% |
| 3.7 | Input Current (I_{DD}): | 10mA max |
| 3.8 | Output Waveform: | CMOS |
| 3.9 | Output Symmetry: | 50±10% |
| 3.10 | Rise/Fall Time: | 8ns max |
| 3.11 | Output Voltage V_{OL} :
V_{OH} : | 10%VDD
90%VDD |
| 3.12 | Output Load: | 15pF |
| 3.13 | Output State Control(Input to Pin1): | >70%VDD(High voltage or floating),Enable
<30%VDD(Low voltage or GND),Disable |
| 3.14 | Start-up Time: | 5ms max |
| 3.15 | Standby current: | 10μA max |
| 3.16 | Period Jitter: | 40ps max (PK-PK) |
| 3.17 | Phase Jitter(RMS): | 1ps max (12KHz to 20MHz) |
| 3.18 | Oscillation mode: | A1 |
| 3.19 | Others: | Not recommended for safety applications |

Reliability Specifications

4. Reliability Specifications

This is the quality control and quality assurance and reliability tests performance data for the RoHS/HF compliance 20MHz SMD3225 4pads crystal oscillator related to the specification and approval sheet provided by JSCJ.

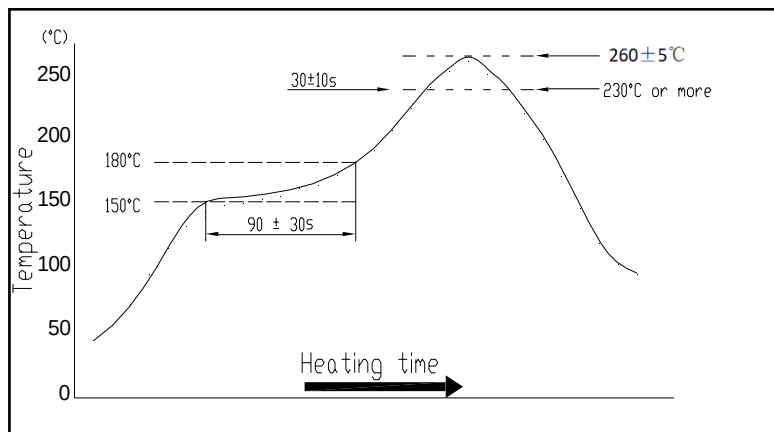
NO.	ITEM	SPECIFICATION	TEST METHOD
4.1	Gross leak	$\Delta FL \leq \pm 10 \text{ ppm}$	Dipped in DO2 2h 0.5 $\pm$ 0.02Mpa.
4.2	Fine leak	LEAK<1*10-8atm cc/sec	Helium Bombing, 0.5 $\pm$ 0.02Mpa, at least 1h.
4.3	Free fall	$\Delta FL \leq \pm 5 \text{ ppm}$	Free fall from 75cm table to 3cm thickness hard wood board 3 times.
4.4	Resistance to soldering heat	$\Delta FL \leq \pm 5 \text{ ppm}$	260°C 10s min, 183°C 120s, 2times.
4.5	Low temperature storage	$\Delta FL \leq \pm 10 \text{ ppm}$	In the -40°C icebox 500h.
4.6	High temperature storage	$\Delta FL \leq \pm 10 \text{ ppm}$	In the 125°C for 500h.
4.7	Mechanical shock	$\Delta FL \leq \pm 5 \text{ ppm}$	1000G, 0.5ms, 3times each axis.
4.8	High temp. and humidity	$\Delta FL \leq \pm 10 \text{ ppm}$	85°C $\pm$ 3°C/RH 85% 500h.
4.9	Temperature cycle	$\Delta FL \leq \pm 10 \text{ ppm}$	-40~85°C dwel 15' 100 cycles.
4.10	Aging	$\Delta FL \leq \pm 7 \text{ ppm}$	85°C aging 500h.
4.11	OTHERS		

Notes : The above test items and judgment standards are for reference only, and the actual reliability report shall prevail.

5. Recommended Reflow soldering condition (SMD)

Solder profile

Peak: $260 \pm 5^{\circ}\text{C}$ Soldering zone: 230°C or more, $30 \pm 10\text{s}$. Pre-heating zone 1: $150 \sim 180^{\circ}\text{C}$, $90 \pm 30\text{s}$

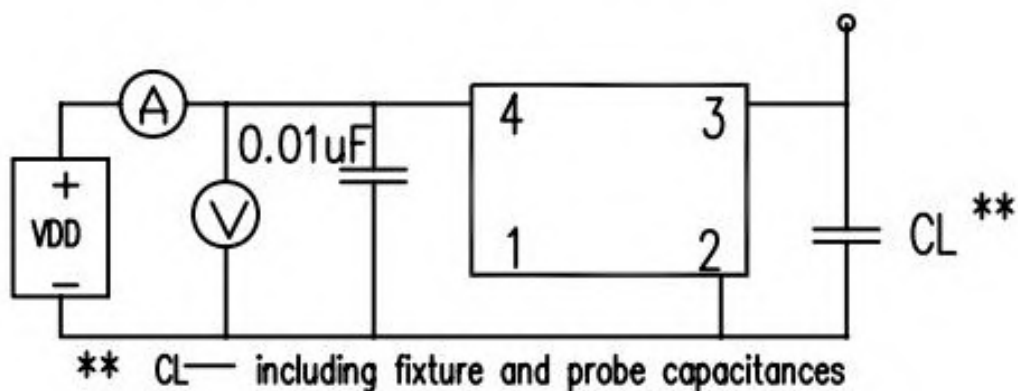


Temperature profile for reflow soldering

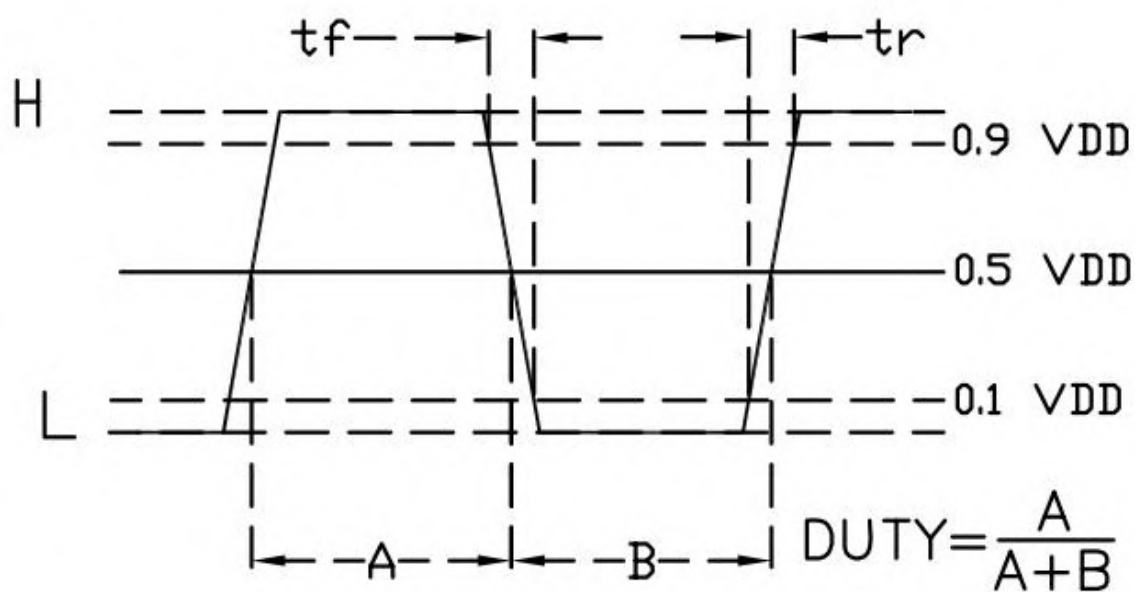
6. Soldering iron method

Bit temperature: $350 \pm 10^{\circ}\text{C}$ Application time of soldering iron: $3 \pm 1\text{s}$.

CMOS TEST CIRCUIT

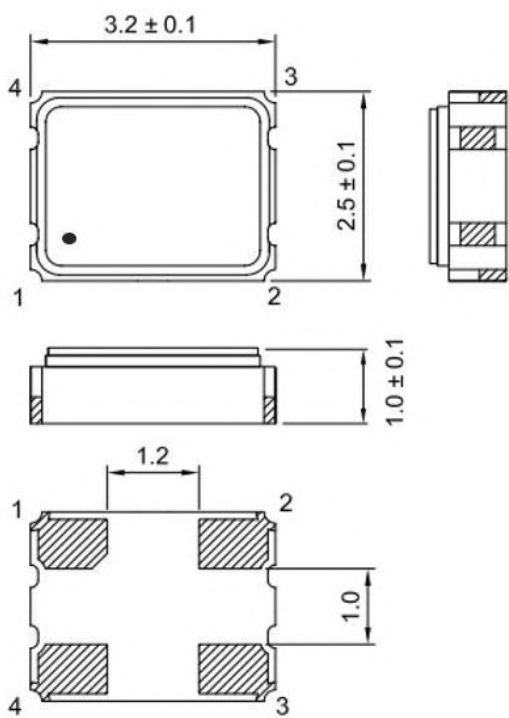


TYPICAL CMOS WAVE FORM



Package Outline Dimensions

Units:mm



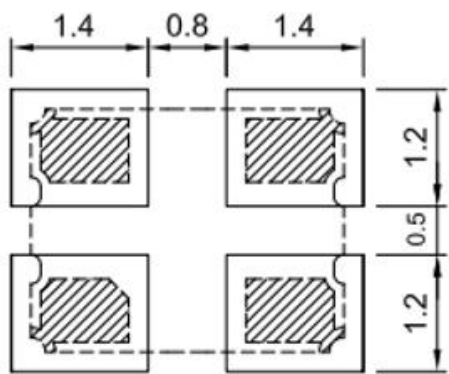
PIN CONNECTION

P/N	CJO05
1	Enable/Disable [*]
2	GND
3	Output
4	VDD

*

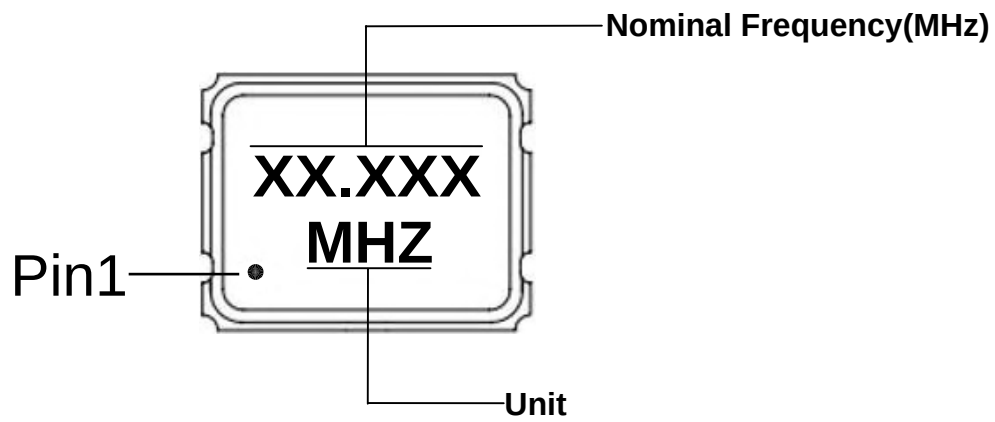
Enable/Disable functional description
When pin1 goes high ($\geq 0.7VDD$) or open ,the Oscillator in normal operation and has output in frequency. When pin1 goes low ($\leq 0.3VDD$) ,the oscillator stops and the oscillator output (Pin3) becomes high impedance.

Suggested Pad Layout

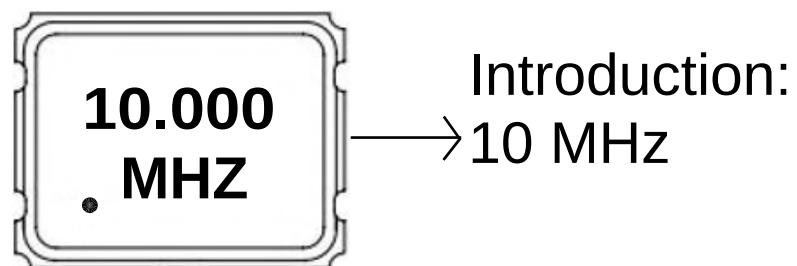


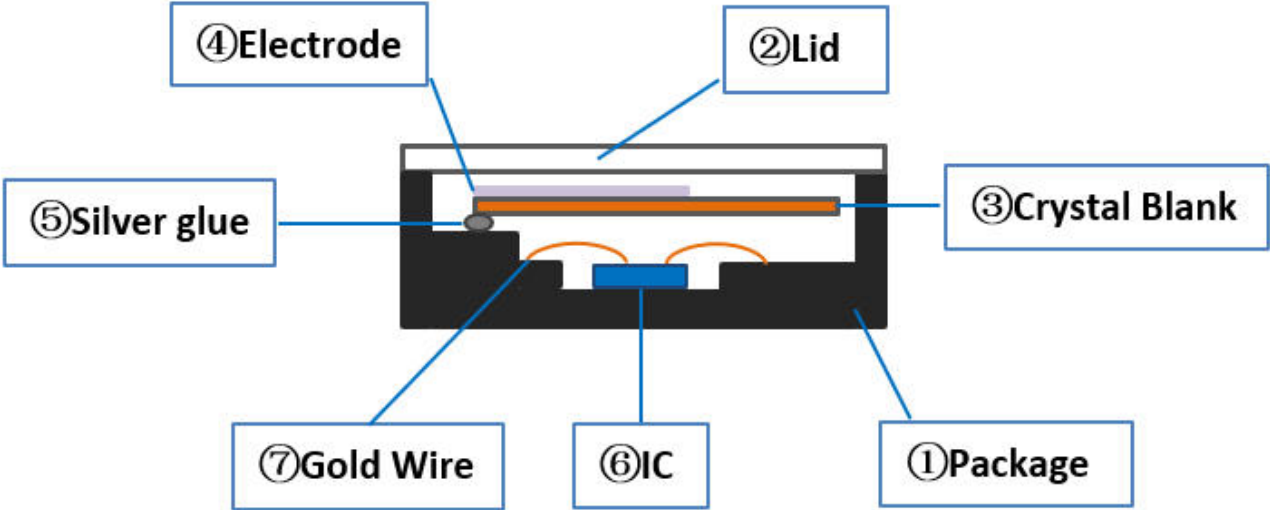
Marking

Procedure: Laser



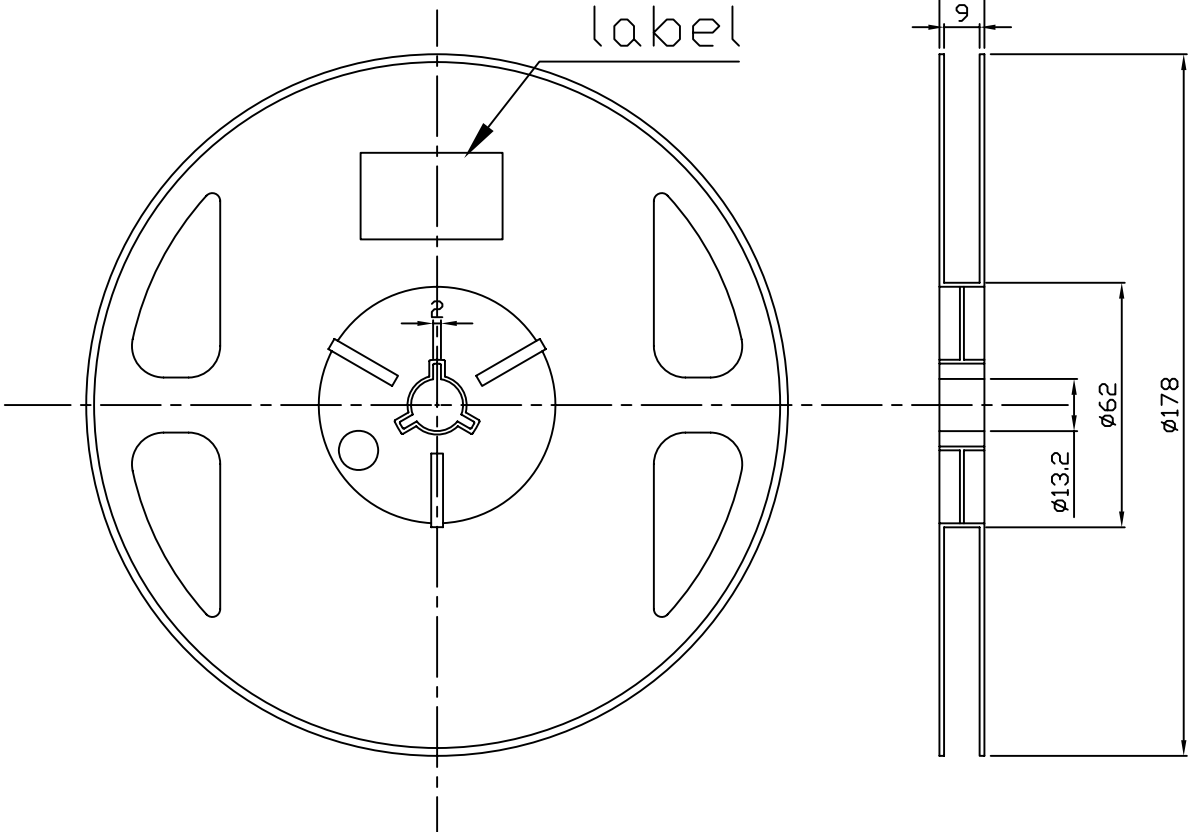
For example:



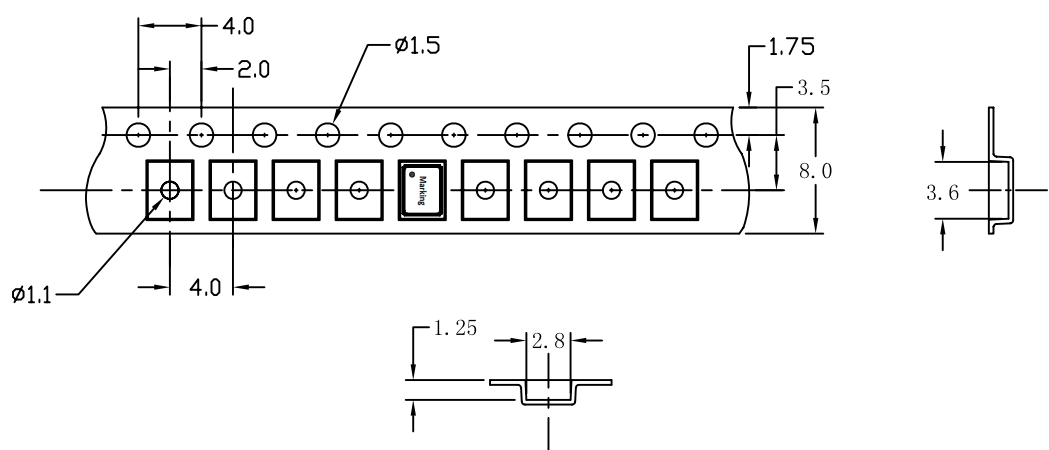


No.	Components	Materials
1	Package	Ceramic(Al_2O_3)
2	Lid	KV($\text{Fe}/\text{Ni}/\text{Co}$)
3	Crystal blank	SiO_2
4	Electrode	Ag、Cr
5	Silver glue	Resin、Ag
6	IC	Si
7	Gold Wire	Au

REEL DIMENSIONS
label



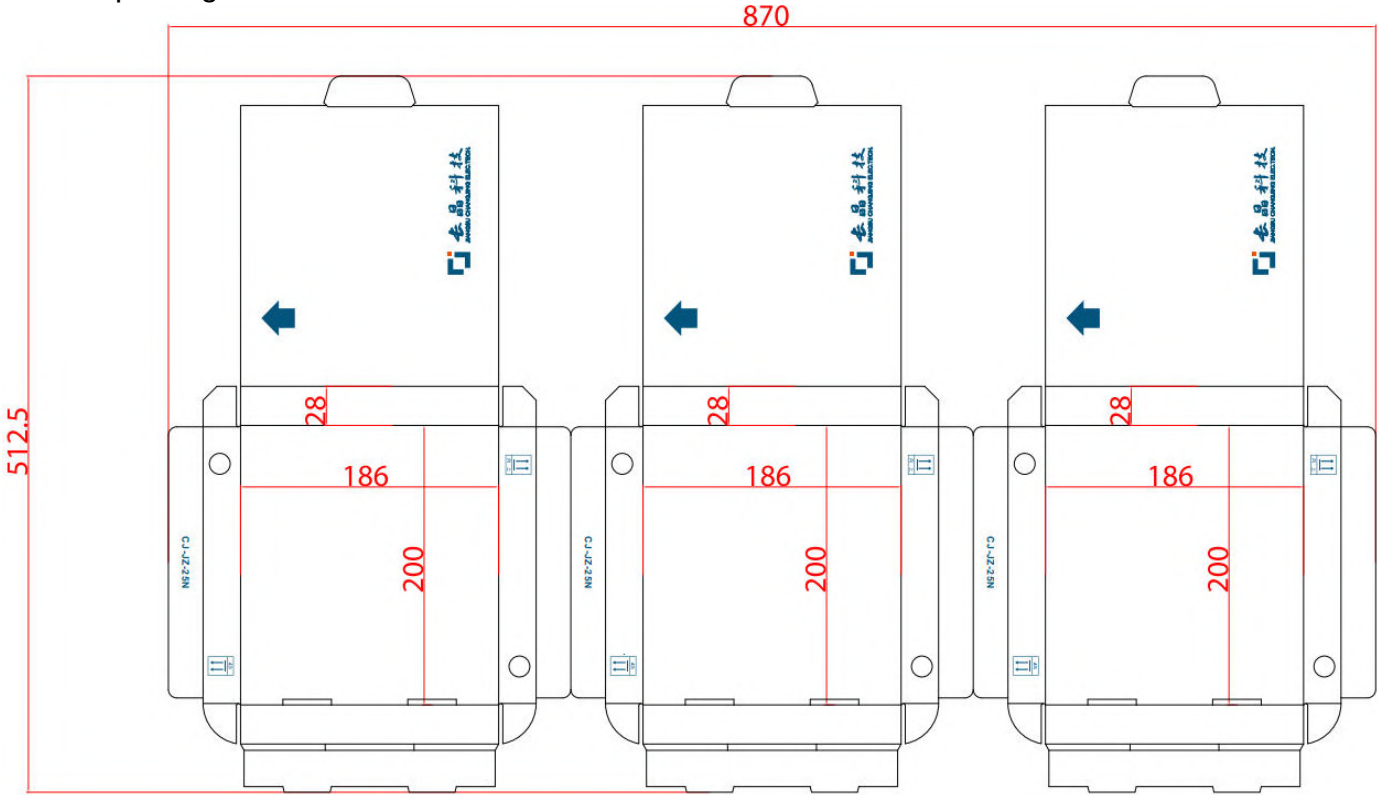
EMBOSSED TYPE DIMENSIONS



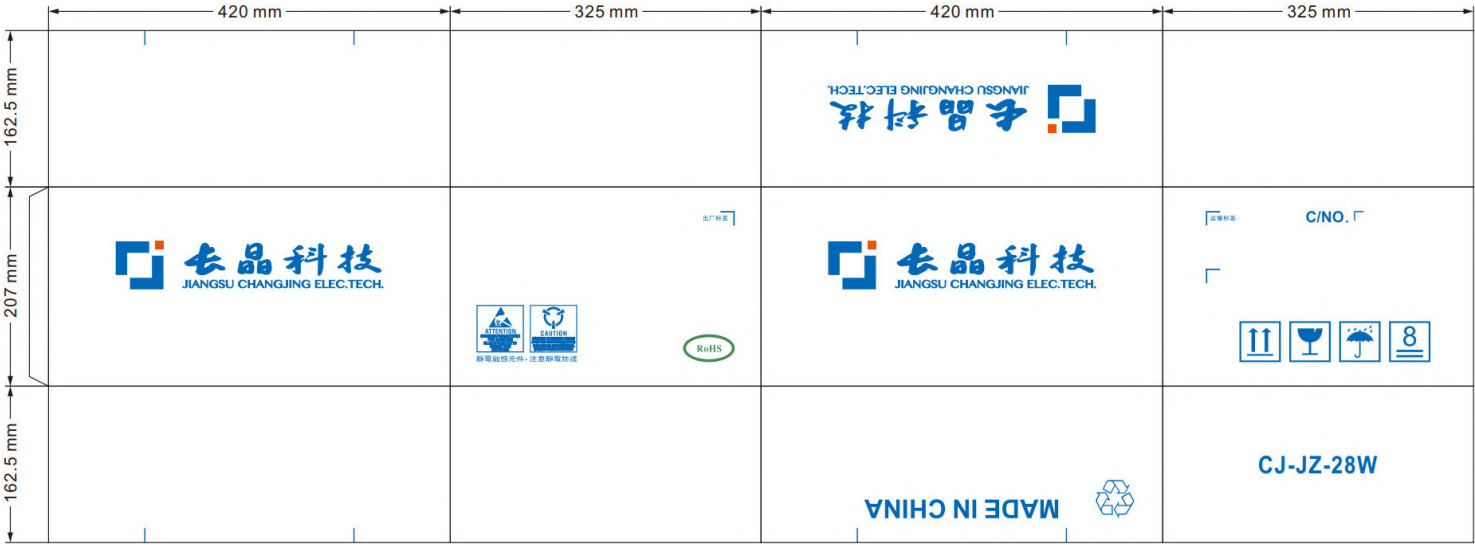
USER FEED DIRECTION
→

Package

Inside package



Outside package



NOTICE

JSCJ reserve the right to make modifications,enhancements, improvements, corrections or other changes without further notice to any product herein.JSCJ does not assume any liability arising out of the application or use of any product described herein.