# Welcome to O-leading

O-Leading strives to be your one stop solution partner in EMS supply chain, including PCB design , PCB fabrication and PCB assembly (PCBA),We provide some of the most advanced PCB technology, including HDI PCBs,multilayer PCBs, Rigid-Flexible PCBs.We can support from quick turn prototype to medium & mass Production. (**Fast Delivery Double Side Pcb Board Manufacturer**)

In general, our global customers are very impressed with our services:Rapid response, competitive price and quality commitment.Providing more valuable technical service and overall solution is the way O-leading forward.

Looking to the future, O-leading will concentrate on the innovation and development of electronics manufacturing technology as always, and make persistent efforts on PCB & PCBA one-stop service to provide first-class services and create more value for our customers.

**PLEASE CLICK THESE FOR MORE INFORMATION**[Double Side Pcb Hard Gold Plating Circuit Board Factory]

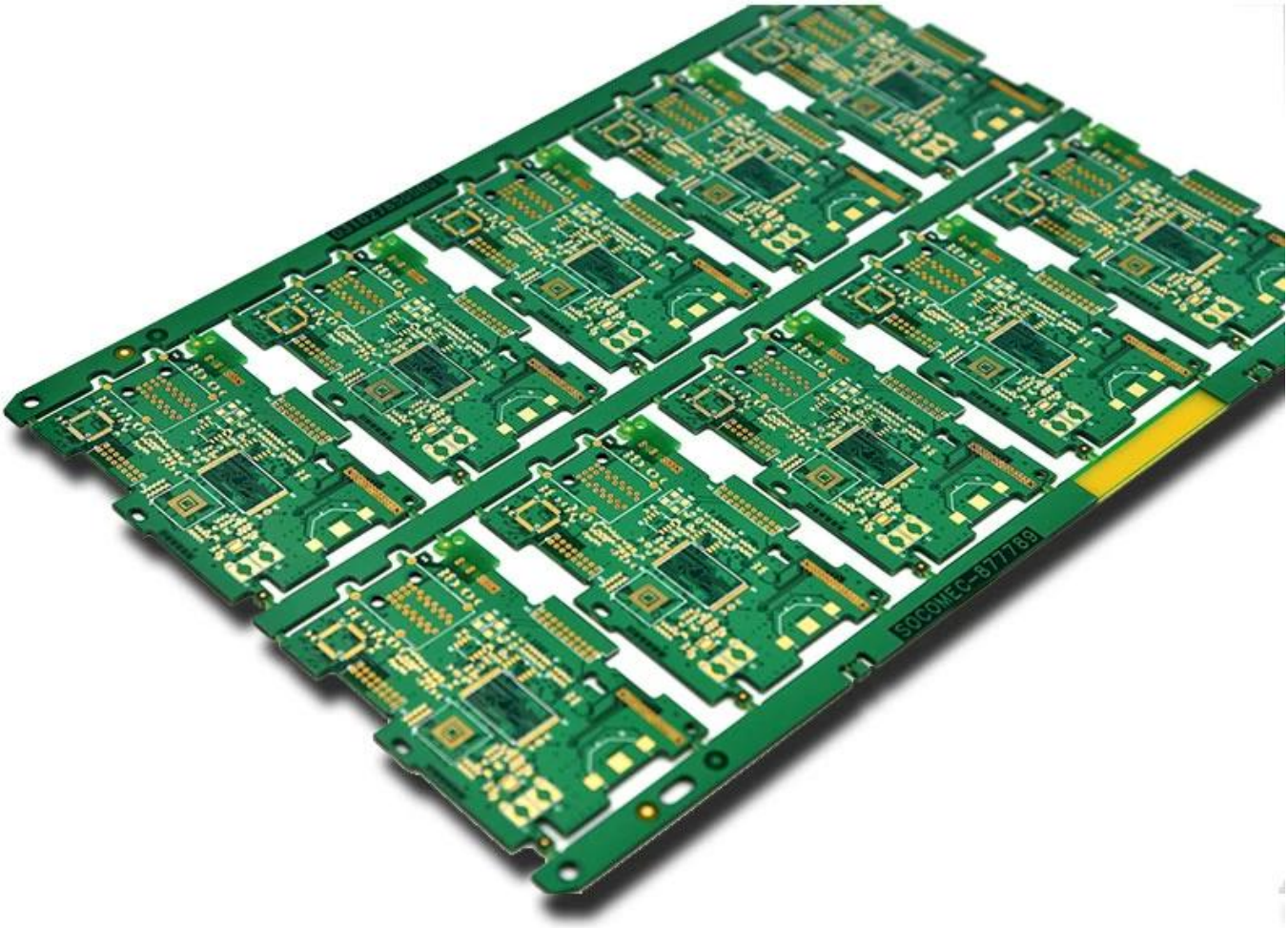
# Product Description

Guangdong  Circuit Board Supplier pcb board manufacturer professional oem pcb circuit board,Pcb Board Manufacturer Double Side Pcb Hard Gold Factory Price 0.2 6mm Thickness Electronic Hardware Plating Circuit Board

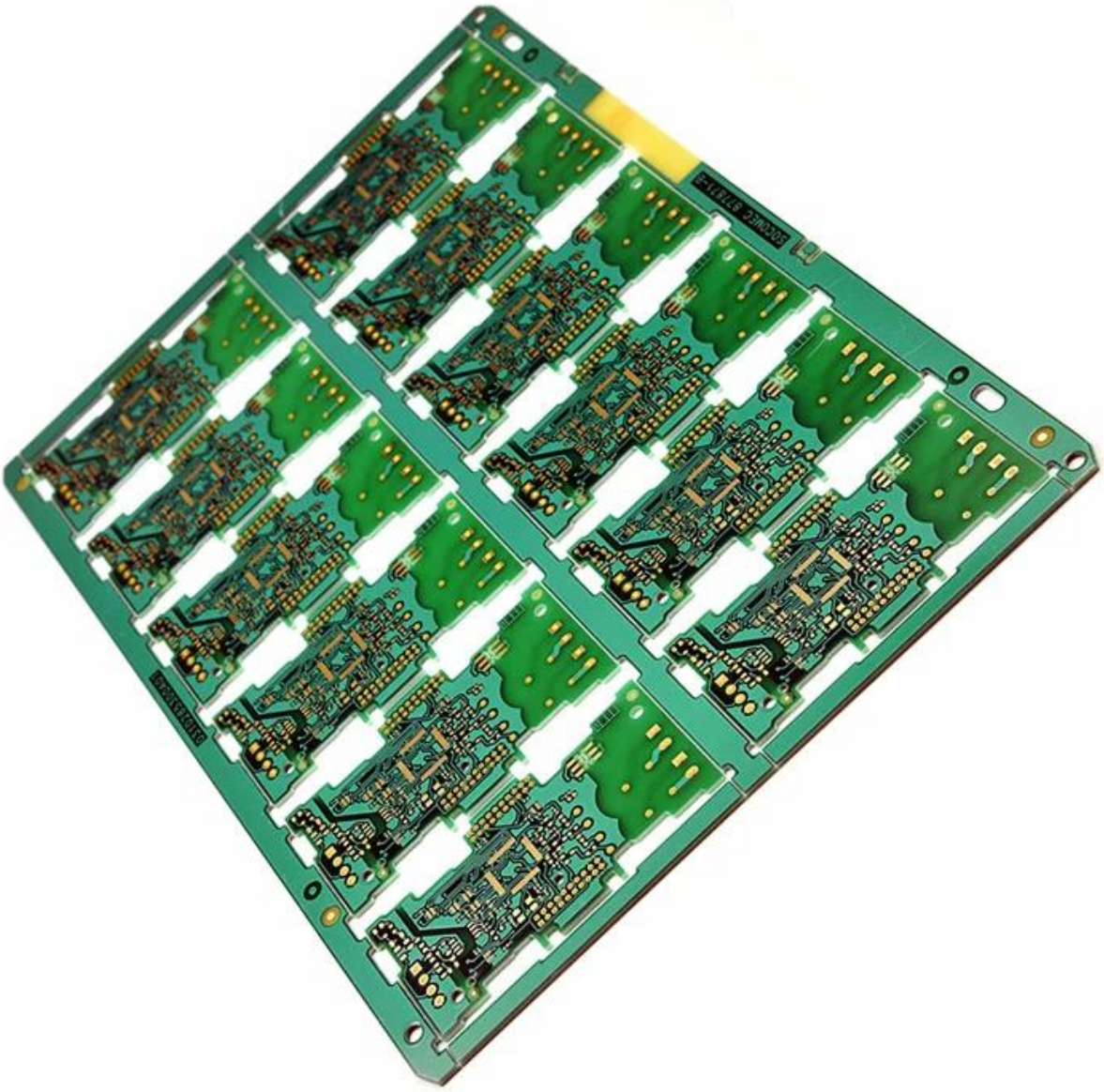
TOP QUALITY PCBA

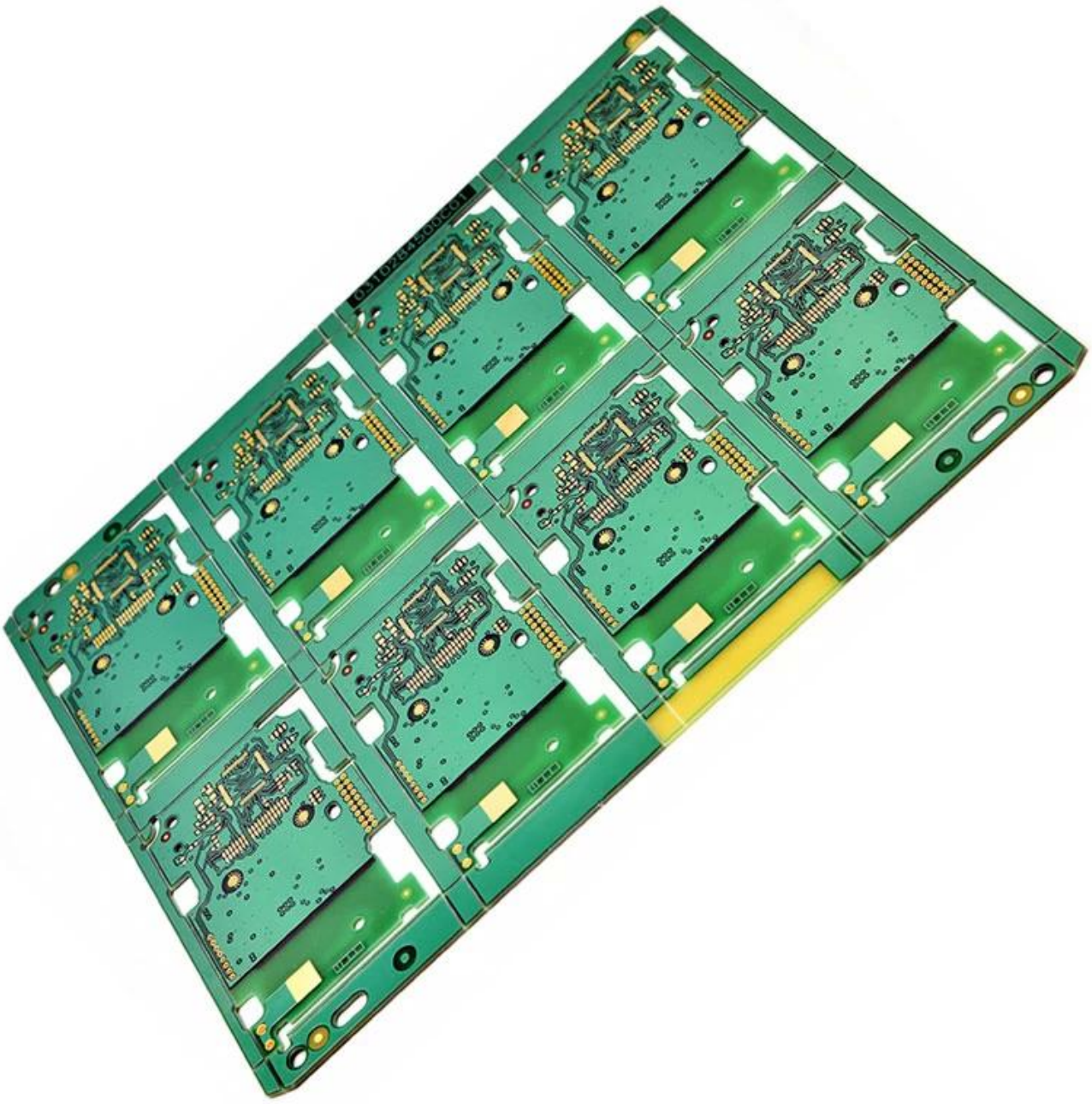
# O-LEADING

To Be Reliable, To Be Valuable



MAKE YOUR IDEA COME TRUE





TOP QUALITY PCBA

# O-LEADING

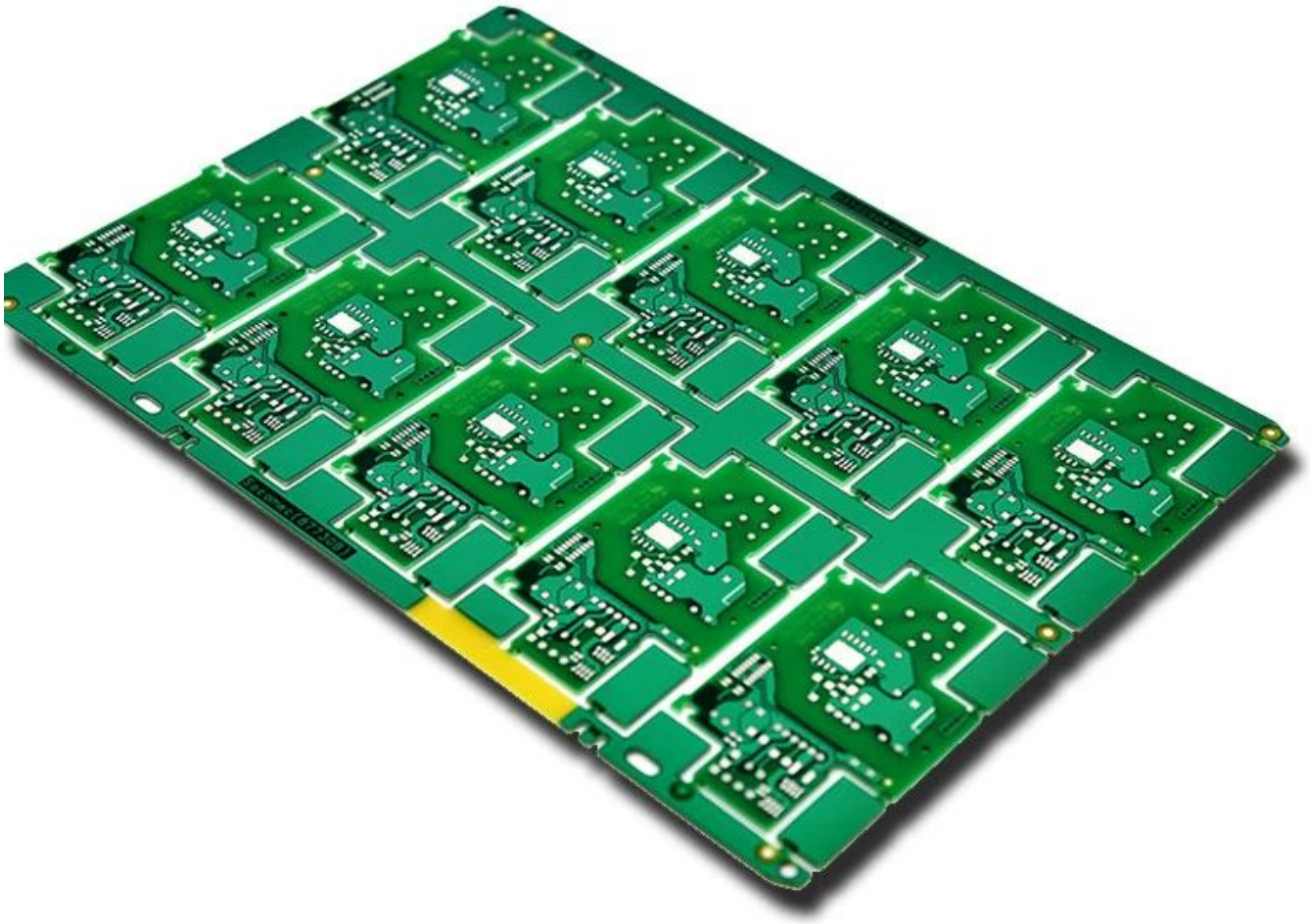
To Be Reliable, To Be Valuable

MAKE YOUR IDEA COME TRUE

TOP QUALITY PCBA

# O-LEADING

To Be Reliable, To Be Valuable

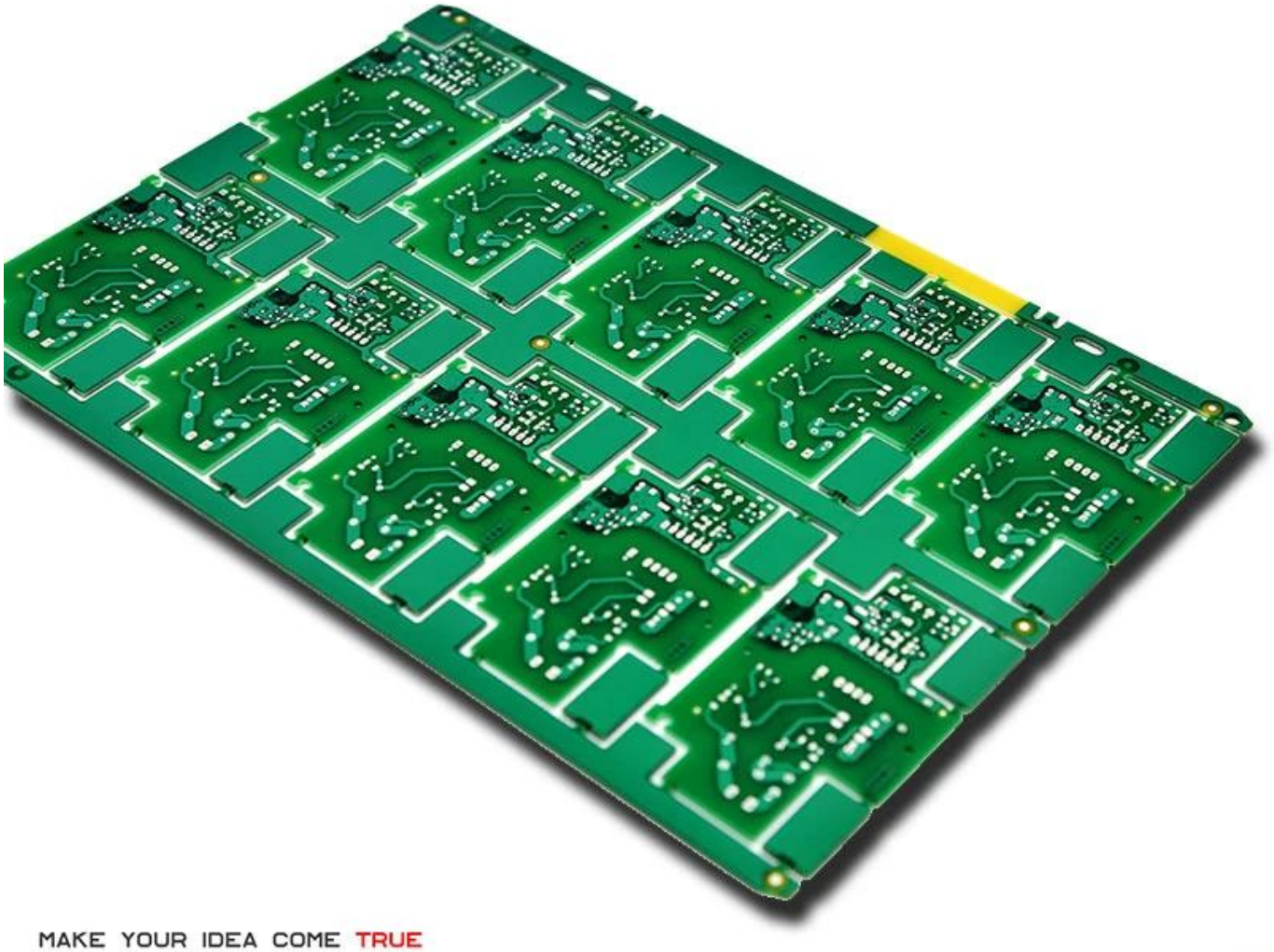


MAKE YOUR IDEA COME TRUE

TOP QUALITY PCBA

# O-LEADING

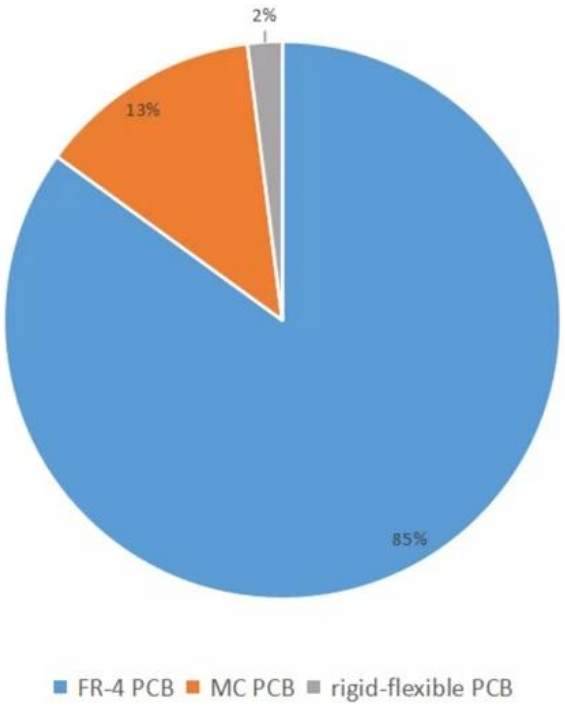
To Be Reliable, To Be Valuable



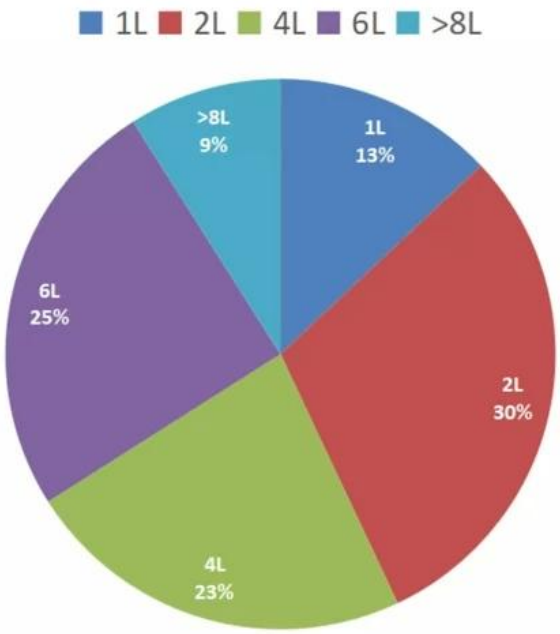
MAKE YOUR IDEA COME TRUE

# Market Share

## Product types




## Product layers



# Production Process

**18 years experience in one-stop PCB and PCBA,we can make your idea come true,**

## Our Team

O-LEADING

## Factory PCB

Automatic vacuum press machine

Drilling Machine

Pattern Plating Machine

Scrubbing Machine

Developing Machine

Routing Machine

High-speed flying probe machine

E-test Machine

## Factory SMT

# HOW O-LEADING MAKE A PROJECT FOR YOU

O-LEADING

rdware Dispenser Application Not

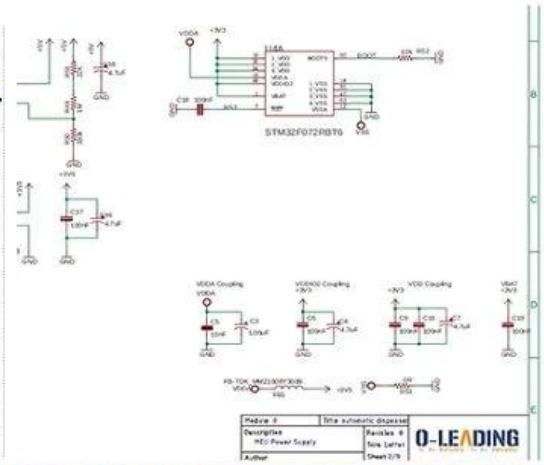
**Automatic Dispenser Application Not**

Voltage Table

| Volt Pin Number | Description |
|---|---|
| VDD | Battery Voltage |
| +3V3 | +3.3V |
| +5V | +5V |
| USB_+5V | USB 5V input |
| +5V/2 | Isolated +5V |
| +12V | 12V DC Drive |

STM32F072 PINOUT table

| Wire Name | Description | DIO | Mode | Note |
|---|---|---|---|---|
| SHTN_TOF | Shutdown Time of flight sensor | | Output | Logic '0' to shutdown |
| I2C_SCL_TOF | I2C communication with time of | | I2C1 SCL | |
| I2C_SDA_TOF | flight sensor | | I2C1 SDA | |
| I2C_SCL_IR | I2C communication with | | I2C2 SCL | |
| I2C_SDA_IR | thermopile sensor | | I2C2 SDA | |
| RATE_LC | Load cell control pins | | Output | |
| DOUT_LC | | | Output | |

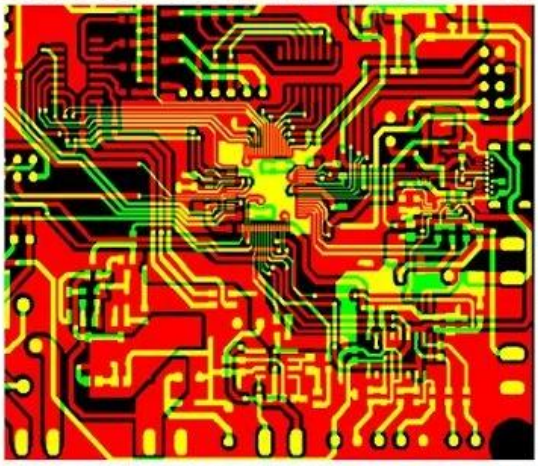


STM32F072RBT6

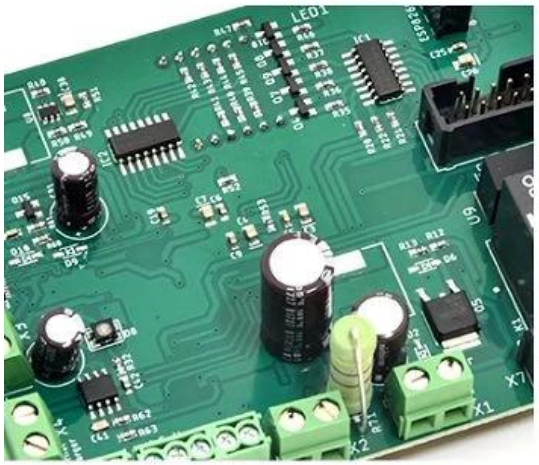
O-LEADING

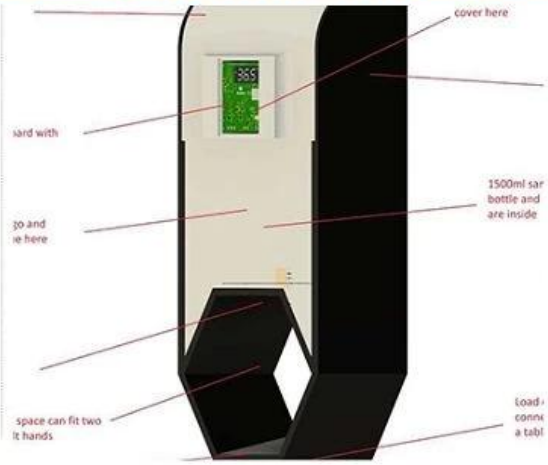
## HARDWARE schematics

## PCB PRODUCTION COMPONNETS SOURCING



| Qty | Value | Device | Parts | Description |
|---|---|---|---|---|
| 4 | AK500/2 | AK500/2 | X1, X2, | CONNECTOR |
| 1 | AK500/3 | AK500/3 | X7 | CONNECTOR |
| 1 | 1241148 | MA04-2 | SV2 | |
| 1 | PPPC04 | MA04-2 | SV1 | 8 POS , 4*2 FEMALE PIN HEADE |
| 1 | ML10 | ML10 | SV4 | HARTING |
| 1 | 8MHZ | XTALL CSTCE8M | X5 | CSTCE8M00G52-R0 RESONATOR |
| 1 | 0R | R-0603 | R53 | Thick Film Resistors - SMD 0603 |
| 2 | 10R | R-0603 | R12, R5 | Thick Film Resistors - SMD 0603 |
| 8 | 100R | R-0603 | R1, R2, | Thick Film Resistors - SMD 0603 |
| 1 | 270R | R-0805 | R15 | Thick Film Resistors - SMD 0605 |
| 1 | 330R | R-0603 | R11 | Thick Film Resistors - SMD 0603 |
| 9 | 680R | R-0603 | R20, R3 | Thick Film Resistors - SMD 0603 |
| 17 | 1k | R-0603 | R9, R10 | Thick Film Resistors - SMD 0603 |
| 2 | 4.7k | R-0603 | R17, R6 | Thick Film Resistors - SMD 0603 |
| 2 | 5.1k | R-0603 | R18, R1 | Thick Film Resistors - SMD 0603 |
| 9 | 10k | R-0603 | R16, R3 | Thick Film Resistors - SMD 0603 |






## PCB Assembly MECHANICAL DESIGN

## O-LEADING CUSTOMER

### To be RELIABLE

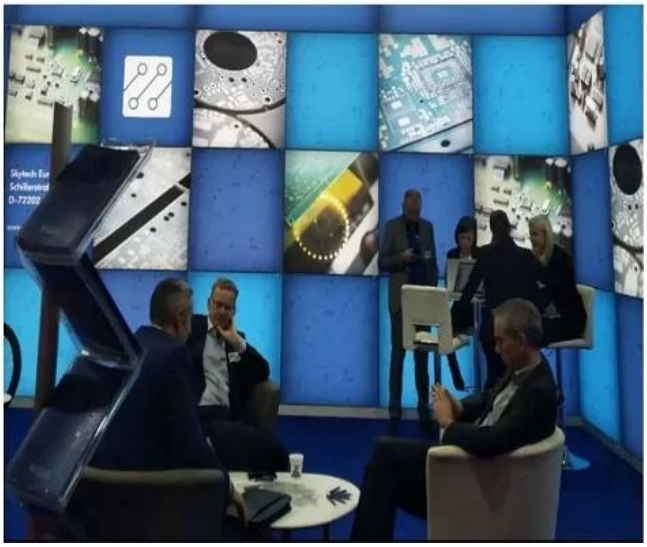
Quality first ,

Customer supreme ,

Scientifically management ,

Striving for famous brand

# THE CUSTOMER IS KING



### To be VALUABLE

Science and technology keeps head ,

Put people first,

Be precise and practical,

contribute sincerely

Skyworth 创维

HOT 和而泰
H&T INTELLIGENT CONTROL

dongweikeji
东威科技

美的 Midea

STAR-NET
星网锐捷

FORYOU
ADAYO
华阳集团

EDIFIER®

Cultraview 金锐显

3nod三诺

T&W

TCL

AcBel
康舒科技
ACBEL POLYTECH INC.

Honeywell

Schneider
Electric

ZTE中兴

EMERSON.

BYD

PHILIPS

TE
connectivity

VIDEOTON

# O-LEADING CUSTOMER REVIEW

## CUSTOMER VOICE IS EXTREMELY IMPORTANT TO US

订单编号: 49335463501024670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)

**High quality usb power pcb , pcba manufacturer**

Fancy has done an exllent job, whenever we write, she answered us within 1 second, O-leading is very perfe ct with fast delivery, fast logistics, the most important thing is good quality, good packaging, thank you!

回复该评论

**oem customized rohs pcb drawing schematic s...**

We received the boards, the quality is very good,the price is very reasonable, Fancy is very nice & smart & e xperienced, the logistics is super fast, I will come to see more in the future.

回复该评论

订单编号: 49298271001024670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)

**High TG180 FR-4 Circuit HDI PCB 94V0 Board ...**

perfect product,perfect PCB supplier!

回复该评论

**oem customized rohs pcb drawing schematic s...**

Very good and professional PCB product as usual!

回复该评论

**Strip LED Aluminum FR-4 lighting PCB board 9...**

High quality, fast delivery, good service, competitve price, lucky and happy to purchase from O-leading!

回复该评论

订单编号: 49322411001024670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)

**High TG180 FR-4 Circuit HDI PCB 94V0 Board ...**

This is a very difficult PCB design, but we are lucky to find O-leading to support the PCB for us,very good to p PCB supplier!

**universal FR4 Multilayer PCB washing machine...**

Fancy gives us very excellent service, very professional and experienced, O-leading is the best one of our su ppliers, very happy to work with them

订单编号: 49024962001024670

United States

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)

**High quality Keyboard pcb & pcba Factory SMT...**

Top quality,it's the right choice to choose O-leading to make the PCB & PCBA

回复该评论

订单编号: 40938622501024670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)

**Professional Printed Circuit Board Manufactur...**

Very high quality PCB products, O-leading is the best PCB supplier that we have ever worked with,

订单编号: 44068794501024670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)

**High TG180 FR-4 Circuit HDI PCB 94V0 Board ...**

We bought two batches, one by DHL the other one by air, good quality and fast delivery!

## LISTEN TO CUSTOMER VOICE

订单编号: 40903347501024670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)

**Strip LED Aluminum FR-4 lighting PCB board 9...**

Very fast delivery! Fantastic, good job!!!

**Professional Printed Circuit Board Manufactur...**

Very happy to great support from O-leading,they are not only professional on the PCB, but also provide goo d PCBA products, very good supplier!!!

**hot sale rigid-flexible PCB with 0.2mm BGA an...**

very professional supplier

**High Quality custom FPCB/Flex PCB/FPC/Flexi...**

Good product

**OEM ODM PCBA Bluetooth Wireless Marking G...**

high soldering quality

**Electronic parts haptic pcba Circuit Board asse...**

Very Good product

订单编号: 36919647001024670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)

**AML-S802 Quad-core Android embedded boar...**

Good products

**Fast delivery low cost pcb fabrication O-leadin...**

Good supplier

**Lidar IR Sensor board pcba(H08R6x)**

perfect product

**Customized PCBA design PCB design**

perfect

**Audio Speaker and Headphone Jack (H07R3x)**

High quality, good

订单编号: 37378603001024670

供应商服务: 非常满意 (5 stars) 按时发货: 非常满意 (5 stars)

**Raspberry pi 0 Zero Raspberry Pi Zero Pi W ver...**

Fantastic products!!

**double layer pcb with red S/M and LF-HASL su...**

Good!

**half hole pcb, half hole pcb module, half hole m...**

Top half hole pcb supplier, very perfect goods

**High Quality custom FPCB/Flex PCB/FPC/Flexi...**

this rigid-flexible pcb quality is perfect!

**Electronic parts haptic pcba Circuit Board asse...**

Very satisfied with O-leading products and quality,especially their on-time delivery, fantastic!

**Be kind to your client, because he has many choices, but he chooses you instead.**

# Certifications

CICC INSPECTION CERTIFICATION

CICC CERTIFICATION
嘉泰认证

QUALITY MANAGEMENT SYSTEM CERTIFICATE

Certificate No: 18118Q10347R0S

We hereby certify that

O-LEADING SUPPLY CHAIN(HK) CO.,LIMITED

Credit No: 61691591-000-07-18-7

Registration Add: FLAT/RM 1205 12/F TAI SANG BANK BUILDING 130-132 DES VOEUS ROAD CENTRAL HK

Business Add: 1313, Floor 13, Fortune Building, Danshui Town, Huiyang District, Huizhou, Guangdong, China

Has implemented and maintains a **Quality Management System**

Which fulfils the requirements of the following standards

GB/T19001-2016 idt ISO9001:2015

**Scope of certification**

Sales of printed circuit boards

Initial Issuance period: February 27, 2018

Renewal date: April 22, 2019

This certificate is valid during: April 22, 2019 ~ February 26, 2021

This certificate is invalid without CICC qualified label in the following period

| First supervision and audit | | Second supervision and audit | Qualified mark |
|---|---|---|---|

CICC IAF CNAS

CICC INSPECTION CERTIFICATION

CICC CERTIFICATION
嘉泰认证

质量管理体系认证证书

证书号：18118Q10347R0S

兹证明

诚领供应链（香港）有限公司

统一社会信用代码：61691591-000-07-18-7

注册地址：香港中環德輔道中 130-132 號大生銀行大廈 1205 室

经营地址：广东惠州惠阳淡水南亨西路财富大厦 13 楼 1313

建立的质量管理体系符合

GB/T19001-2016 idt ISO9001:2015 质量标准适用条款的要求

认证范围

印刷线路板的销售

初次获证日期：2018 年 02 月 27 日

换 证 日 期 ：2019 年 04 月 22 日

证 书 有 效 期：自 2019 年 04 月 22 日至 2021 年 02 月 26 日

在下列期间内，未经 CICC 贴防伪标贴，本证书无效

| 第一次监审 | | 第二次监审 | 贴标处 |
|---|---|---|---|

本证书认证范围不包括未获得有效的国家规定的相关行政许可、资质许可的产品/服务范围；

本证书通过CICC定期监督审核保持，与年度《保持认证通知书》共同方为有效；

本证书信息可在国家认监委网站：www.cnca.gov.cn及CICC网站www.cicc-cqc.com查询。

CICC IAF CNAS

O-LEADING SUPPLY CHAIN (HK) CO.,LIMITED

1313,FLOOR 13, FORTUNE BUILDING, DANSHUI TOWN, HUIYANG DISTRICT, HUIZHOU, GUANGDONG, CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : OSP

| | |
|---|---|
| SGS Job No. : | RP19-005089 - SZ |
| Date of Sample Received : | 22 Mar 2019 |
| Testing Period : | 22 Mar 2019 - 30 Mar 2019 |
| Test Requested : | Selected test(s) as requested by client. |
| Test Method : | Please refer to next page(s). |
| Test Results : | Please refer to next page(s). |
| Conclusion : | Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP) , Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) , and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU. |

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Tina Fan
Approved Signatory

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com
SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch
SGS Bldg, No.2, Jingshan Industrial Park, No.498, Jihua Road, Bantian, Longgang District, Shenzhen, China 518129 t (86-755) 25328888 f (86-755) 83106190 www.sgsgroup.com.cn
中国·深圳·龙岗区坂田吉华路430号江灏工业园4栋SGS大楼 邮编: 518129 t (86-755) 25328888 f (86-755) 83106190 e sgs.china@sgs.com
Member of the SGS Group (SGS SA)



Test Results :

Test Part Description :

| Specimen No. | SGS Sample ID | Description |
|---|---|---|
| SN1 | SZX19-005304.001 | Green"PCB" |

Remarks :

(1) 1 mg/kg = 1 ppm = 0.0001%
(2) MDL = Method Detection Limit
(3) ND = Not Detected ( < MDL )
(4) "-" = Not Regulated

**RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU**

Test Method : With reference to IEC 62321-4:2013+A1:2017, IEC62321-5:2013, IEC62321-7-2:2017, IEC 62321-6:2015 and IEC62321-8:2017, analyzed by ICP-OES, UV-Vis and GC-MS.

| Test Item(s) | Limit | Unit | MDL | 001 |
|---|---|---|---|---|
| Cadmium (Cd) | 100 | mg/kg | 2 | ND |
| Lead (Pb) | 1,000 | mg/kg | 2 | 8 |
| Mercury (Hg) | 1,000 | mg/kg | 2 | ND |
| Hexavalent Chromium (Cr(VI)) | 1,000 | mg/kg | 8 | ND |
| Sum of PBBs | 1,000 | mg/kg | - | ND |
| Monobromobiphenyl | - | mg/kg | 5 | ND |
| Dibromobiphenyl | - | mg/kg | 5 | ND |
| Tribromobiphenyl | - | mg/kg | 5 | ND |
| Tetrabromobiphenyl | - | mg/kg | 5 | ND |
| Pentabromobiphenyl | - | mg/kg | 5 | ND |
| Hexabromobiphenyl | - | mg/kg | 5 | ND |
| Heptabromobiphenyl | - | mg/kg | 5 | ND |
| Octabromobiphenyl | - | mg/kg | 5 | ND |
| Nonabromobiphenyl | - | mg/kg | 5 | ND |
| Decabromobiphenyl | - | mg/kg | 5 | ND |
| Sum of PBDEs | 1,000 | mg/kg | - | ND |
| Monobromodiphenyl ether | - | mg/kg | 5 | ND |
| Dibromodiphenyl ether | - | mg/kg | 5 | ND |
| Tribromodiphenyl ether | - | mg/kg | 5 | ND |
| Tetrabromodiphenyl ether | - | mg/kg | 5 | ND |
| Pentabromodiphenyl ether | - | mg/kg | 5 | ND |

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com
SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch
SGS Bldg, No.2, Jingshan Industrial Park, No.498, Jihua Road, Bantian, Longgang District, Shenzhen, China 518129 t (86-755) 25328888 f (86-755) 83106190 www.sgsgroup.com.cn
中国·深圳·龙岗区坂田吉华路430号江灏工业园4栋SGS大楼 邮编: 518129 t (86-755) 25328888 f (86-755) 83106190 e sgs.china@sgs.com
Member of the SGS Group (SGS SA)

UL Product iQ™

# ZPMV2.E490354 - WIRING, PRINTED - COMPONENT

## Wiring, Printed - Component

See General Information for Wiring, Printed - Component

**O-LEADING SUPPLY CHAIN (HK) CO LTD**
ROOM 1205, 12/F
TAI SANG BANK BLDG
130-132 DES VOEUS ROAD
CENTRAL, HONG KONG

E490354

| Type | Cond Width Min mm(in) | Min Edge mm(in) | Cond Thk mic(mil) | SS/ DS/ DSO | Max Area Diam mm(in) | Solder Limits C | sec | Max Oper Temp C | Flame Class | Meets UL796 DSR | CTI |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Multilayer (mass laminate) printed wiring boards.** | | | | | | | | | | | |
| **O-LEADING-401** | 0.1 (0.004) | 0.3 (0.012) | 34 (1.34) | DS | 12.7 (0.5) | 260 | 10 | 130 | V-0 | - | - |
| **O-LEADING-407** | 0.08 (0.003) | 0.2 (0.008) | 17 (0.67) | DS | 9.7 (0.4) | 260 | 10 | 130 | V-0 | All | - |
| **Multilayer printed wiring boards.** | | | | | | | | | | | |
| **O-LEADING-408** | 0.125 (0.005) | 0.125 (0.005) | 12 (0.47) Int:136 | DS | 50.8 (2.0) | 280 | 20 | 130 | V-0 | All | * |
| **Single layer printed wiring boards.** | | | | | | | | | | | |
| **O-LEADING-002** | 0.38 (0.015) | 1.14 (0.045) | 34 (1.34) | SS | 19.1 (0.8) | 260 | 10 | 105 | V-0 | All | - |
| **O-LEADING-003** | 0.38 (0.015) | 1.14 (0.045) | 34 (1.34) | SS | 19.1 (0.8) | 260 | 10 | 130 | V-0 | ▲ | - |
| **O-LEADING-033** | 0.15 (0.006) | 0.3 (0.012) | 34 (1.34) | SS | 25.4 (1.0) | 260 | 10 | 120 | V-0 | All | - |
| **O-LEADING-205** | 0.1 (0.004) | 0.3 (0.012) | 34 (1.34) | DS | 69.6 (2.7) | 260 | 10 | 130 | V-0 | All | - |
| **O-LEADING-206** | 0.15 (0.006) | 0.33 (0.013) | 17 (0.67) | DS | 69.6 (2.7) | 260 | 10 | 130 | V-0 | All | - |
| **O-LEADING-D01** | 0.14 (0.006) | 0.15 (0.006) | 33 (1.30) | DS | 25.4 (1.0) | 260 | 10 | 130 | V-0 | All | * |
| **O-LEADING-S01** | 0.25 (0.010) | 0.25 (0.010) | 17 (0.67) | SS | 25.4 (1.0) | 260 | 4 | 130 | V-0 | All | * |

WIRING, PRINTED - COMPONENT | UL Product iQ

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **O-LEADING-S02** | 0.2 (0.008) | 0.2 (0.008) | 17 (0.67) | SS | 25.4 (1.0) | 260 | 4 | 130 | HB | ▲ | * |
| **O-LEADING-S03** | 0.25 (0.010) | 0.25 (0.010) | 34 (1.34) | SS | 25.4 (1.0) | 260 | 4 | 130 | V-0 | All | * |

* - CTI marking is optional and may be marked on the printed wiring board.

Marking: Company name or file number and type designation. May be followed by a suffix to denote factory identification or burning test classification.

并不是所有出现在本数据库中的公司名称和产品都满足了UL 跟踪检验服务的要求。只有带有 UL 标志的产品，才应该被视为经过UL认证，并满足UL 跟踪检验服务的要求。注意查看产品上的标志。

UL 允许在线认证目录中所含材料的复制遵循以下条件：1.指南信息、装配、构造、设计、系统和/或认证（文件）必须在不篡改任何数据（或图纸）的情况下完整且无误导性地呈现。2.“经 UL 允许从在线认证目录转载”声明必须出现在所摘取材料的邻近位置。此外，转载材料必须包含以下格式的版权声明： "© 2019 UL LLC"

# Process Capability

| PCB Production Capabilities | |
|---|---|
| Layer Count | 1Layer-32Layer |
| Finished copper thickness | 1/3oz-12oz |
| Min Line width/spacing internal | 3.0mil/3.0mil |
| Min Line width/spacing external | 4.0mil/4.0mil |
| Max Aspect Ratio | 10:1 |
| Board thickness | 0.2mm-5.0mm |
| Max Panel size(inches) | 635*1500mm |
| Minimum Drilled Hole Size | 4mil |
| PIated Hole Tolerance | +/-3mil |
| BIind/Buried Vias (AII Types) | YES |
| Via Fill(Conductive,Non-Conductive) | YES |
| Base Material | FR-4,FR-4high Tg.Halogen free material,Rogers,Aluminium base,Polyimide,Heavy Copper |
| Surface finishes | HASL,OSP,ENIG,HAL-LF,Immersion silver,Immersion Tin,Gold fingers,Carbon ink |

## SMT Production Capabilities

| | |
|---|---|
| PCB Material | FR-4,CEM-1,CEM-3,Aluminum-based board,FPC |
| Max PCB size | 510x1500mm |
| Min PCB size | 50x50mm |
| PCB Thickness | 0.5mm-4.5mm |
| Board thickness | 0.5-4mm |
| Min Components size | 0201 |
| Standard chip size component | 0603 and larger |
| Component max height | 15mm |
| Min lead pitch | 0.3mm |
| Min BGA ball pitch | 0.4mm |
| Placement precision | +/-0.03mm |

# Packaging & Delivery

# Shipping service

DHL WORLDWIDE EXPRESS TNT FedEx Express UPS

| Quick Turn Lead Time | | |
|---|---|---|
| Layer Count: | Lead Tim | Special Requirement |
| 1L/2L | 2-3days | 24 Hours,48 Hours |
| 4L | 3-4days | 48 Hours |
| 6L | 4-5days | 72 Hours |
| 8L | 5-6days | NA |
| 10L | 6-7days | NA |
| 12L | 7-8days | NA |
| 14L | 8-9days | NA |

| Standard Lead Time | | |
|---|---|---|
| Layer Count: | Sample Lead Time | Volume order lead time |
| 2L | 4 days | 10 days |
| 4L | 5 days | 11 days |
| 6L | 6 days | 12 days |
| 8L | 8 days | 14 days |
| 10L | 10 days | 16 days |
| 12L | 12 days | 18 days |
| 14L | 14 days | 20 days |
| 16-32L | 18 days | 24 days |

# FAQ

**1. How do O-Leading ensure quality?Our high quality standard is achieved with the following.**

1.1 The process is strictly controlled under ISO 9001:2008 standards.
1.2 Extensive use of software in managing the production process
1.3 State-of-art testing equipments and tools. E.g. Flying Probe, X-ray Inspection, AOI (Automated Optical Inspector) and ICT(in-circuit testing).
1.4.Dedicated quality assurance team with failure case analysis process
1.5.Continuous staff training and education

**2. How do O-Leading keep your price competitive?**
Over the last decade, prices of many raw materials (e.g. copper, chemicals) had doubled, tripled or quadrupled; Chinese currency RMB had appreciated 31% over US dollar; And our labor cost also increased significantly.
However, O-Leading have kept our pricing steady. This owns entirely to our innovations in reducing cost, avoiding wastes and improving efficiency. Our prices are very competitive in the industry at the same quality level.
We believe in a win-win partnership with our customers. Our partnership will be mutually beneficial if we can provide you anedgeon cost and quality.

**3. What kinds of boards can O-Leading process?**
Common FR4, high-TG and halogen-free boards, Rogers, Arlon, Telfon, aluminum/copper-based boards, PI, etc.

**4. What data are needed for PCB & PCBA production?**
4.1 BOM (Bill of Materials) with reference designators: component description, manufacturer's name and part number.
4.2 PCB Gerber files.
4.3 PCB fabrication drawing and PCBA assembly drawing.
4.4 Test procedures.
4.5 Any mechanical restrictions such as assembly height requirements.

**5. What's the typical process flow for multi-layer PCB?**
Material cutting → Inner dry film → inner etching → Inner AOI → Multi-bond→ Layer stack up Pressing → Drilling → PTH → Panel Plating → Outer Dry Film → Pattern Plating → Outer etching → Outer AOI → Solder Mask → Component Mark → Surface finish → Routing → E/T → Visual Inspection.

**6. What's the key equipments for HDI manufacturing?**
Key equipment list is as following: Laser drilling machine, Pressing machine, VCP line, Automatic Exposing machine, LDI and etc. The equipments we have are the best in the industry, laser drilling machines are from Mitsubishi and Hitachi, LDI machines are from Screen(Japan), Automatic Exposing machines are also from Hitachi, all of them make we can meet customer's technical requirements.

**7. How many types of surface finish O-lead can do?**
O-the leader has the full series of surface finish, such as: ENIG, OSP, LF-HASL, gold plating (soft/hard), immersion silver, Tin, silver plating, immersion tin plating, carbon ink and etc. .. OSP, ENIG, OSP + ENIG commonly used on the HDI, we usually recommend that you use a client or OSP OSP + ENIG if BGA PAD size less than 0.3 mm.

**8. What's your capability for FPC? Can O-Leading provide SMT service also?**
O-Leading can fabricate FPC from single layer to 8layer, the working panel size can be as large as 2000mm*240mm, please find the details in the page "Flex Capability". We also provide SMT one stop service to customer.

**9. What are the main factors which will affect the price of PCB?**
Material;
Surface finish;
Technology difficulty;
Different quality criteria;
PCB characteristics;
Payment terms;
Different manufacturing countries.

**10. What's the definition of PCB, PWB and FPC and what's the difference?**
PCB is short for Printed Circuit Board;
PWB is short for Printed Wire Board, same meaning as Printed Circuit Board;
FPC is short for Flexible Printed Board.

**11. What factors should be considered when choosing the material for a PCB board?**
Below factors should be considered when we choose the material for PCB:
The material's Tg value should be greater than the operation temperature;
Low CTE material has good performance of thermal stability;
Good thermal resistance performance: Normally PCBs are required to resist 250℃ for at least 50s.

Good flatness; In consideration of the electrical properties, low loss/high permittivity material is used on high frequency PCB;
Polyimide glass fiber substrate used for flexible PCB; Metal core is used when the product has strict requirement of heat
dissipation.

**12. What’s the merits of O-leading's rIgid-flex PCB?**
O-leading’s rigid-flex PCB has the characters of both FPC and PCB, so it can be used in some special products. Some part is flexible while the other part rigid, it can help save product’s interior space, reduce product volume and improve performance.

**13. How to you make the impedance calculation?**
The impedance control system is done using some test coupons, the SI6000 soft and the CITS 500s equipment from POLAR INSTRUMENTS. The equipment measures the impedance on a representative track configuration coupon of which the client has given us a determinate value and tolerance.