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Comchips

KX6126
Module Data sheet

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Module Data sheet

Website: www.comchips.com

Customer Approval

Company _____

Title _____

Signature _____

Date _____

FTY _____

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Version Update Record

Version approval	Date	Revision Content	Editorialstaff
V1.0	2021/4/15	The first version	

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1 Overview

1.1 Introduction

The KX6126 is a highly integrated Wi-Fi module which supports 150 Mbps PHY rate. It fully complies with IEEE 802.11n and IEEE 802.11 b/g standards, offering feature-rich wireless connectivity.At high standards,and delivering eliable,cost- effective throughput om an extended distance.Optimized RF architecture and baseband algorithms provide superb performance and low power consumption. Intelligent MAC design deploys a high efficient DMA engine and hardware data processing accelerators which offloads the host processor.The MT7601 is designed to support standard based features in the areas of security, quality of service and international regulations,giving end users the greatest performance any time and in any circumstance.

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1.2 Features

- IEEE 802.11 b/g/n client
- Embedded high-performance 32-bit RISC microprocessor
- Highly integrated RF with 55nm CMOS technology
- 1T1R mode with support of 150Mbps PHY rate
- Integrate high efficiency switching regulator
- Best-in-class power consumption performance
- Compact 5mm x 5mm QFN40L package
- 1/2/3/4-wire PTA Wi-Fi / Bluetooth coexistence support
- 802.11 d/h/k compliant
- Security support for WFA WPA/WPA2 personal, WPS2.0, WAPI
- Supports 802.11w protected managed frames
- QoS support of WFA WMM, WMM PS
- Supports Wi-Fi Direct
- Fully compliance with USB v2.0 High-speed mode
- Per packet transmit power control
- Antenna diversity
- Auto-calibration
- Up to 180 meters in open space Operation Range

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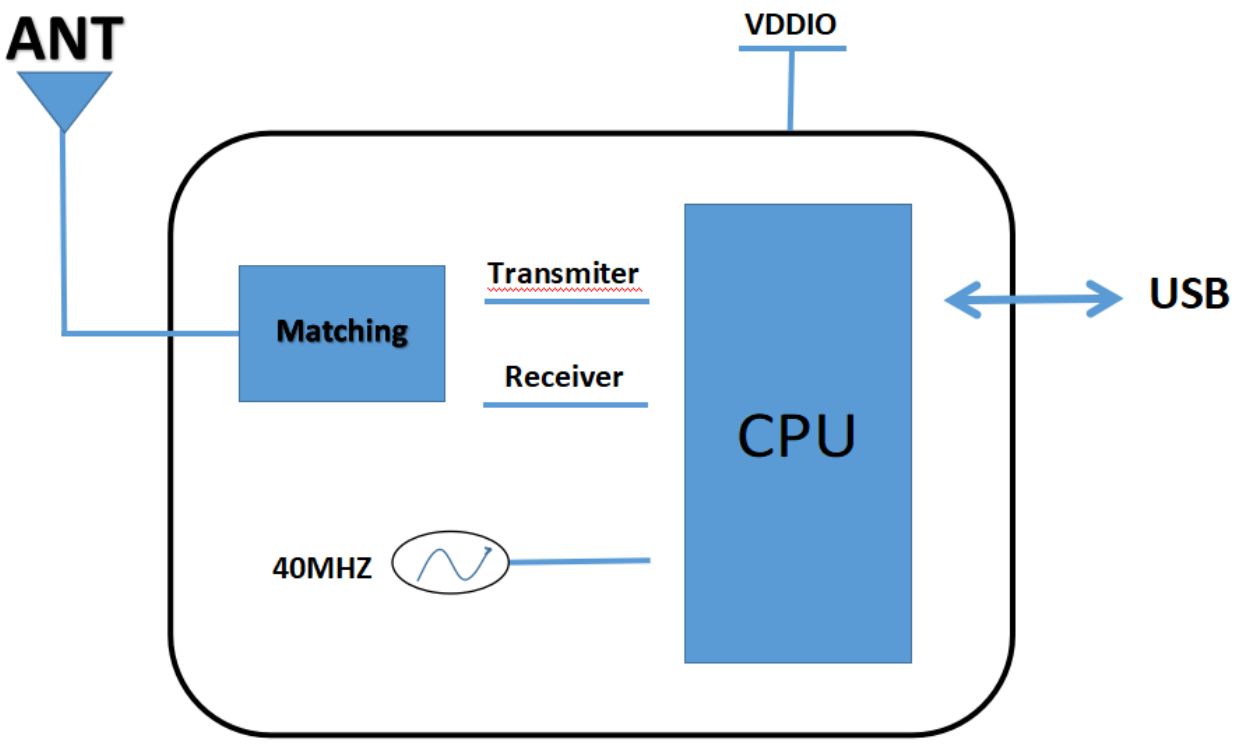
1.3 Block Diagra



1.4 General Specification

Model Name	KX6126
Product Description	Support WIFI:IEEE802.11 11b/g/n
Dimension	L x W x H: 12 x 13 x 1.6mm
Wi-Fi Interface	Support USB2.0
BT interface	N/C
Operating temperature	0 to +70° C
Storage temperature	-55°C to 125°C
RoHS	All hardware components are fully compliant with EU RoHS directive

1.5 DC Characteristics

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Power Supply Characteristics

Symbol	Parameter	Minimum	Typical	Maximum	Units
VDD33	3.3V Supply Voltage	3.2	3.3	3.4	V
VDD12	1.2V Core Supply Voltage	/	/	/	V
IDD33	3.3V Rating Current	/	160	/	mA

2 RF Specification

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Features	Description
WLAN Standard	WLAN 11b/g/n
Frequency Range	2.412 ~ 2.484 GHz
Data Transfer Rate	1,2,5.5,6,11,12,18,22,24,30,36,48,54,60,90,120 and maximum of 150Mbps
Modulation Method	DSSS,DBPSK, DQPSK, CCK and OFDM (BPSK/QPSK/16-QAM/ 64-QAM)
Number of Channel	WiFi 2.4GHz: 11: (Ch. 1-11) – United States； 13: (Ch. 1-13) –Europe ； 14: (Ch. 1-14) – Japan
OS Support	Windows 2000,XP32-64,Vista 32/64,Win7 32/64, Linux,Mac, Android,WIN CE

2.4G Transmitter Specifications

TX Rate	TX Power	TX Power Tolerance	EVM
802.1 1b @ 11 Mbps	17dBm	±2dBm	≤-13dB
802.11g@54Mbps	14dBm	±2dBm	≤-25dB
802.11n@BW20_MCS7	13dBrn	±2dBm	≤-28dB
802.11n@BW40_MCS7	13dBrn	±2dBm	≤-28dB

2.4G Receiver Specifications

RX Rate	Min Input Level(Typ)	Max Input Level(Typ)	PER
802.1 1b @ 11 Mbps	-85dBm	-85dBm	8%
802.11g@54Mbps	-68dBm	-68dBm	10%
802.11n@BW20_MCS7	-66dBrn	-66dBrn	10%
802.11n@BW40_MCS7	-65dBrn	-65dBrn	10%

3 Pin Assignments

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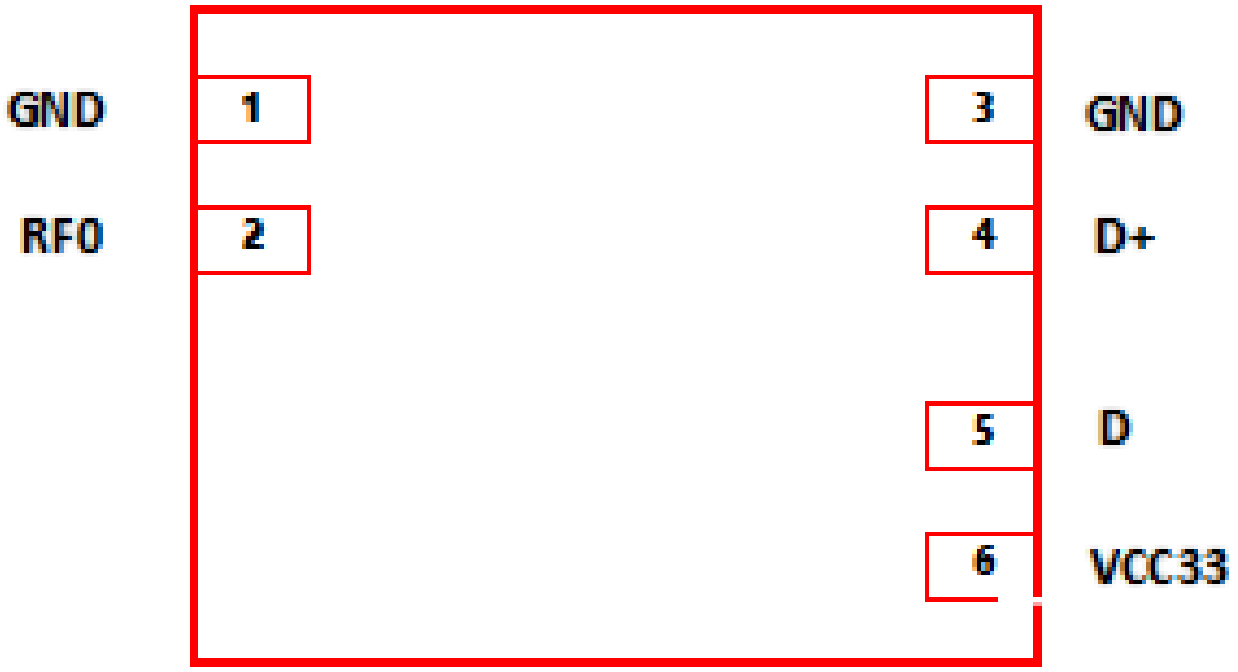
3.1 Pin Outline



3.2 Pin Definition

Pin	Definition	Description
1	3.3V	VDD3.3V±0.1V
2	D-	USB D-
3	D+	USB D+
4	GND	Ground
5	GND	Ground
6	ANT	WIFI ANT OUTPUT
	3.3V	VDD3.3V±0.1V

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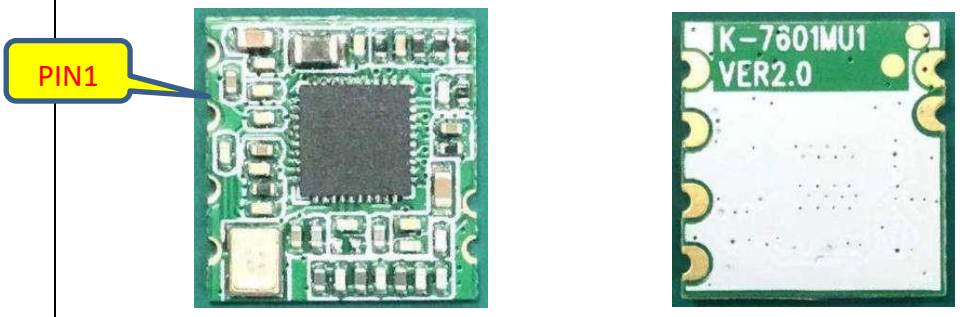
4 Dimensions

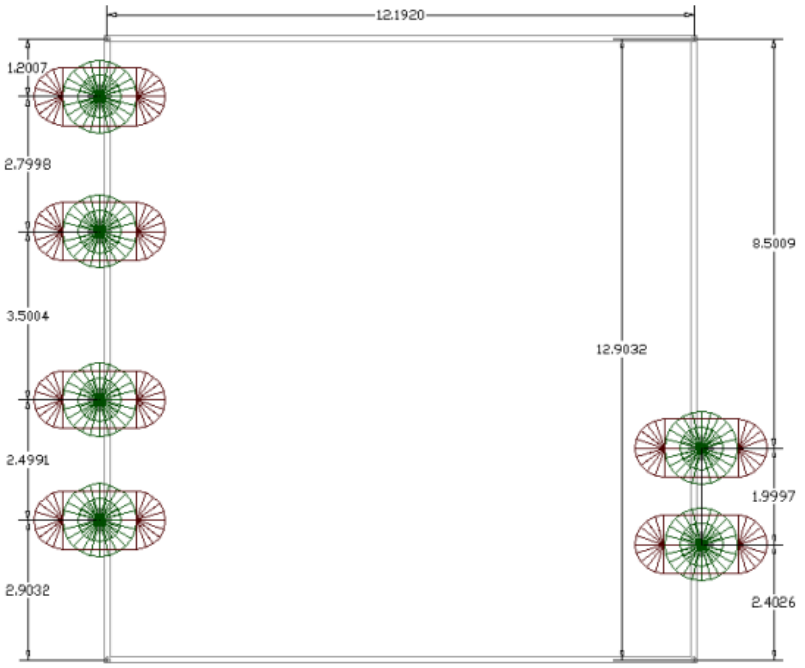
4.1Module Picture

L x W : 12.2 x 13.2 (±0.2) mm



H:1.6(±0.2)mm

4.2 Module Physical Dimensions

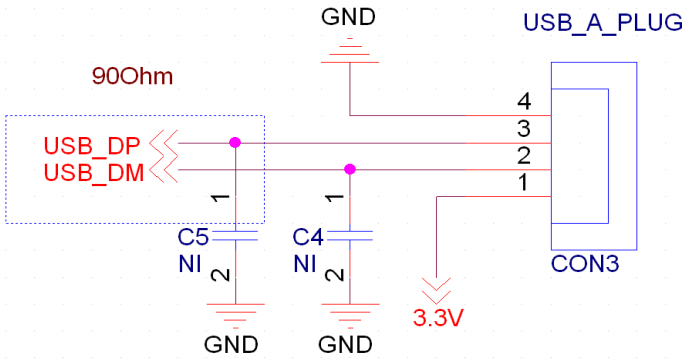


(Unit: mm)

< TOP VIEW >

5 Reference Design

USB interface electrical characteristics



Note:

1.USB data cable need to do 90Ohm impedance

2.It is recommended to keep a power switch at the input end of the power supply. Each time the card is opened or closed, it can be used for power on and power off. WIFI can be reset, so that there will be no error phenomenon of not opening WIFI.

6 The Key Material List

No.	Parts	Specification	Manufacturer	Note
1	Chipset	MT7601U	MediaTek.Inc	
2	PCB	FTY-7601MU1	Shenzhen xiangyu circuit co., LTD	
3	PCB	FTY-7601MU1	Shenzhen Kexiang Precision Circuit Technology Co., LTD	
4	Crystal oscillator	3225 40MHZ 12PF +/-10PPM -20~+85℃	hefei jing wei Electronics Co. Ltd.	
5	Crystal oscillator	3225 40MHZ 15PF ±10PPM -30~+85℃	hefei jing wei Electronics Co. Ltd.	

7 Recommended Reflow Profile

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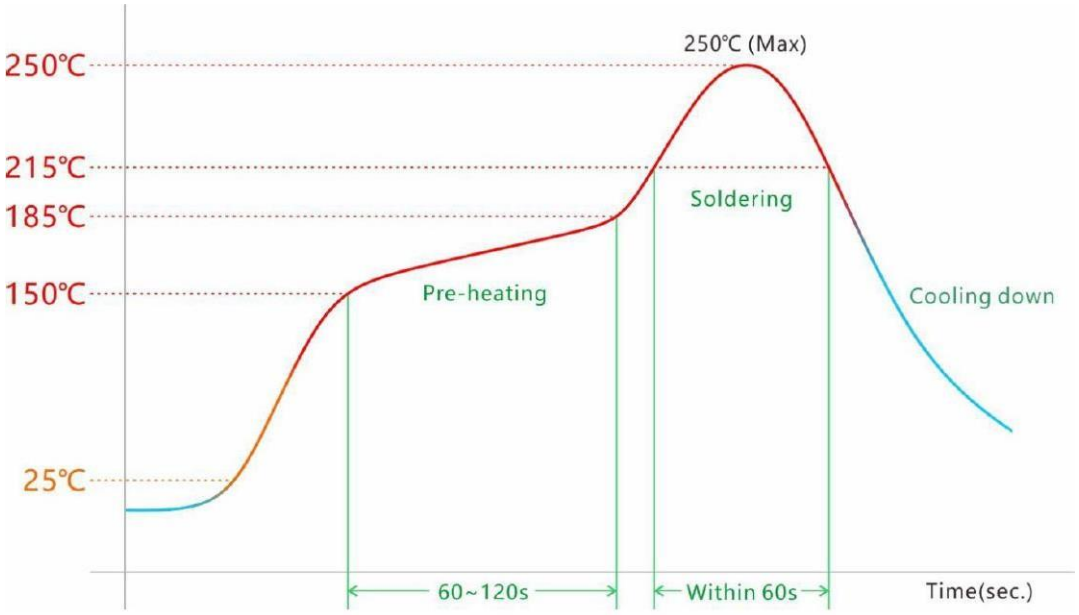
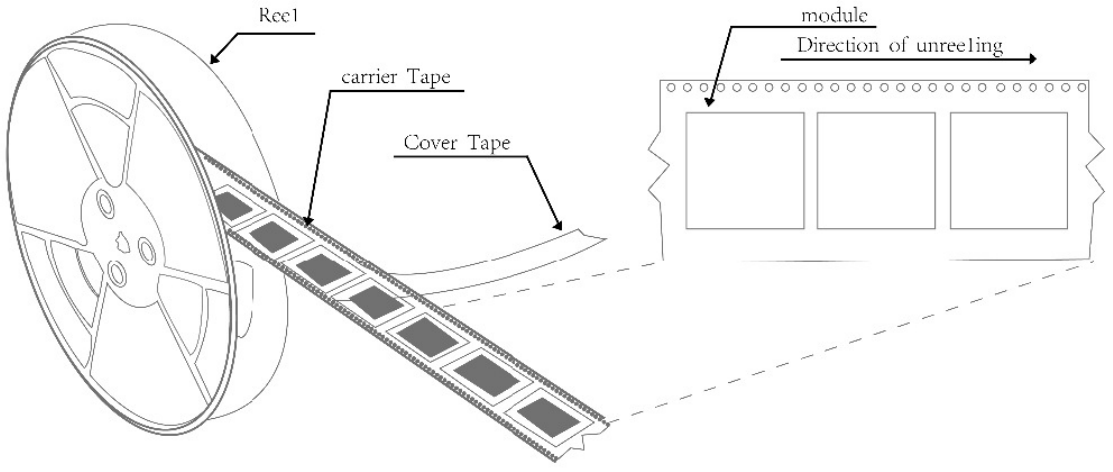
Referred to IPC/JEDEC standard.
Peak Temperature : <250° C
Number of Times : ≤2 times



8 Package Information

8.1Reel

A roll of 2000pcs



8.2 Carrier Tape Detail

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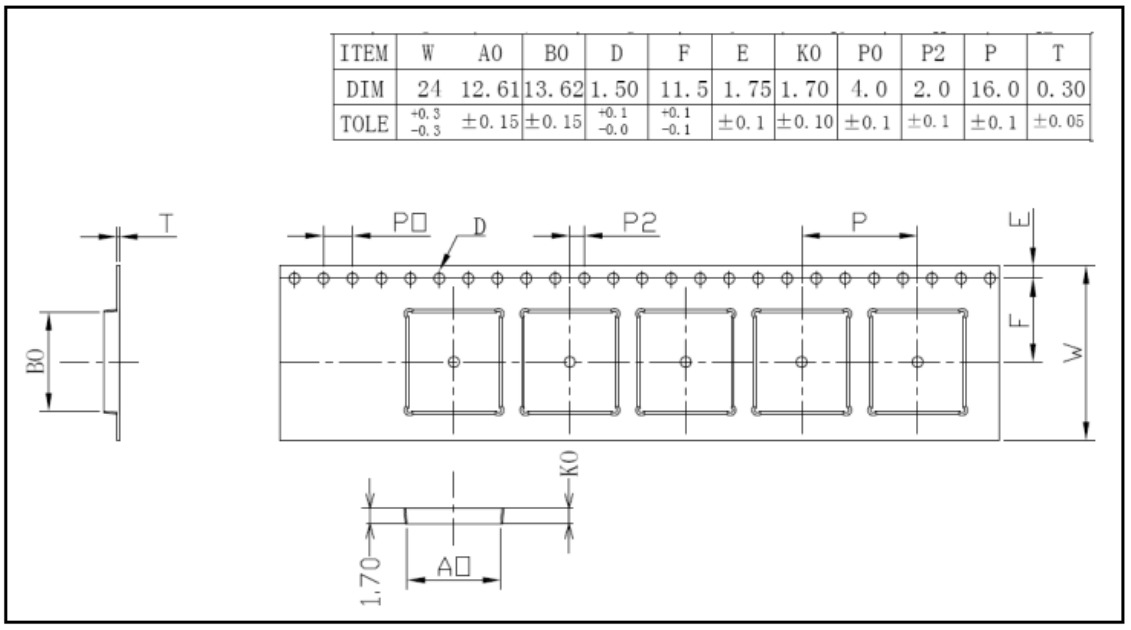
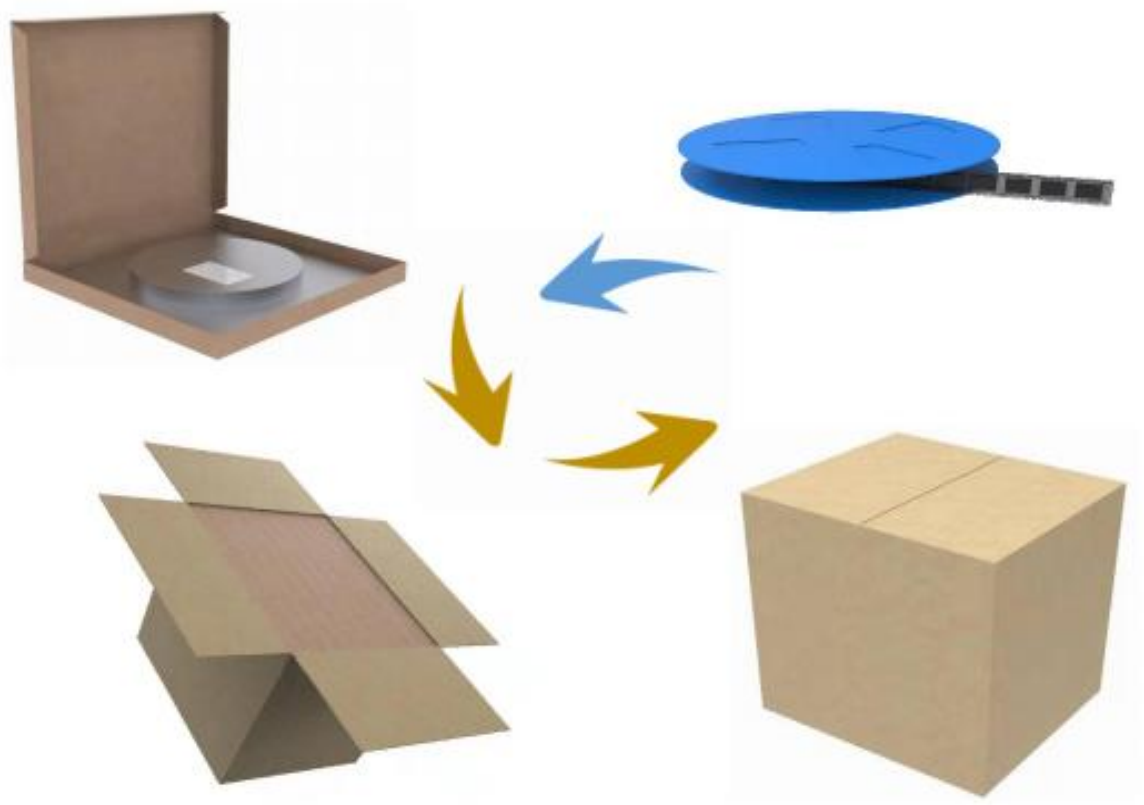


ITEM	W	A0	B0	D	F	E	K0	P0	P2	P	T
DIM	24	12.61	13.62	1.50	11.5	1.75	1.70	4.0	2.0	16.0	0.30
TOLE	+0.3 −0.3	±0.15	±0.15	+0.1 −0.0	+0.1 −0.1	±0.1	±0.10	±0.1	±0.1	±0.1	±0.05

8.3 Packaging Detail



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8.4 Moisture sensitivity

The Modules is a Moisture Sensitive Device level 3, in according with standard IPC/JEDEC J-STD-020, take care all the relatives requirements for using this kind of components.

Moreover, the customer has to take care of the following conditions:

a) Calculated shelf life in sealed bag: 12 months at <40°C and <90% relative humidity (RH).

b)Environmental condition during the production: 30°C / 60% RH according to IPC/JEDEC J-STD-033A paragraph 5.

c) The maximum time between the opening of the sealed bag and the reflow process must be 168 hours if condition

b) “IPC/JEDEC J-STD-033A paragraph 5.2” is respected

e) Baking is required if conditions b) or c) are not respected

f) Baking is required if the humidity indicator inside the bag indicates 10% RH or more