

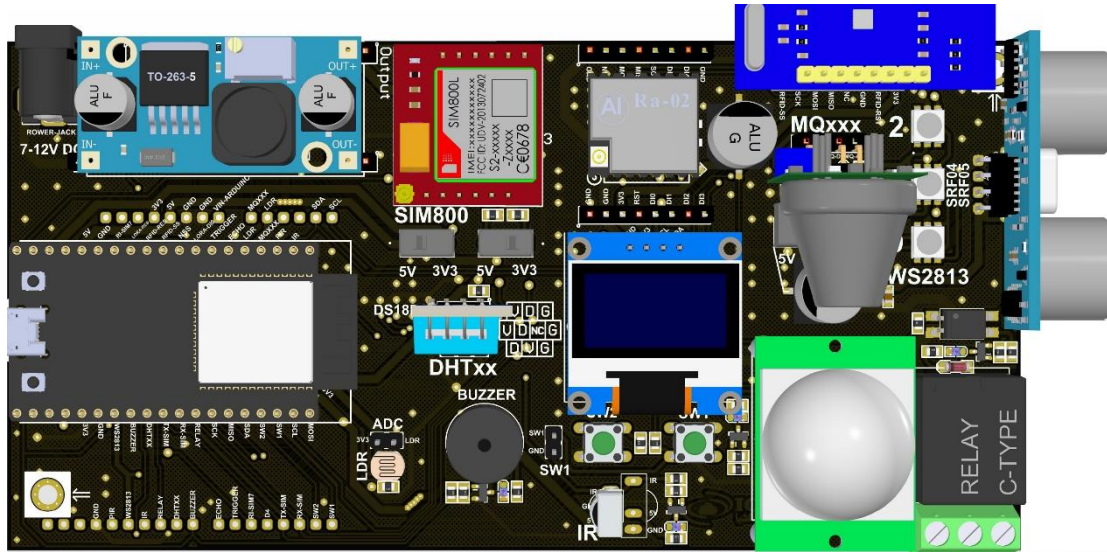
KIoT Datasheet

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IoT Training Kit



## KIoT: A Practical Tool for IoT Training and Development



**Figure 1: KIoT**

### Product Overview:

KIoT is an advanced practical kit that integrates IoT sensors, actuators, communication modules and development boards on a hardware platform and developed by IoT Research Center. KIoT offers combined end to end solution on IoT applications and is a modular and ready-to-use tool set optimized for simplicity and rapid IoT prototyping.

**Table 1: KIoT Characteristics**

Category	Item	Specifications
Physical Features	Dimension	159mm * 80mm *31mm / 6260mil * 3150mil * 1220mil
PCB	Copper Thickness	35 um
	Thickness	1.6 mm
	Board Type	FR4-TG155
	Pin Header Pitch	2.54 mm
Environmental Specification	Operating Temperature	-10°C to +70°C / 14°F to 158°F
	Operating Humidity	0 – 85 %
	Operating Voltage	7 – 12 Volt DC
Max Output Current	3.3 V	ESP32: 800 mA
		Arduino Uno: 150 mA
		STM32 Blue Pill: 300 mA
	5 V	900 mA
	7 – 12 V	2000 mA

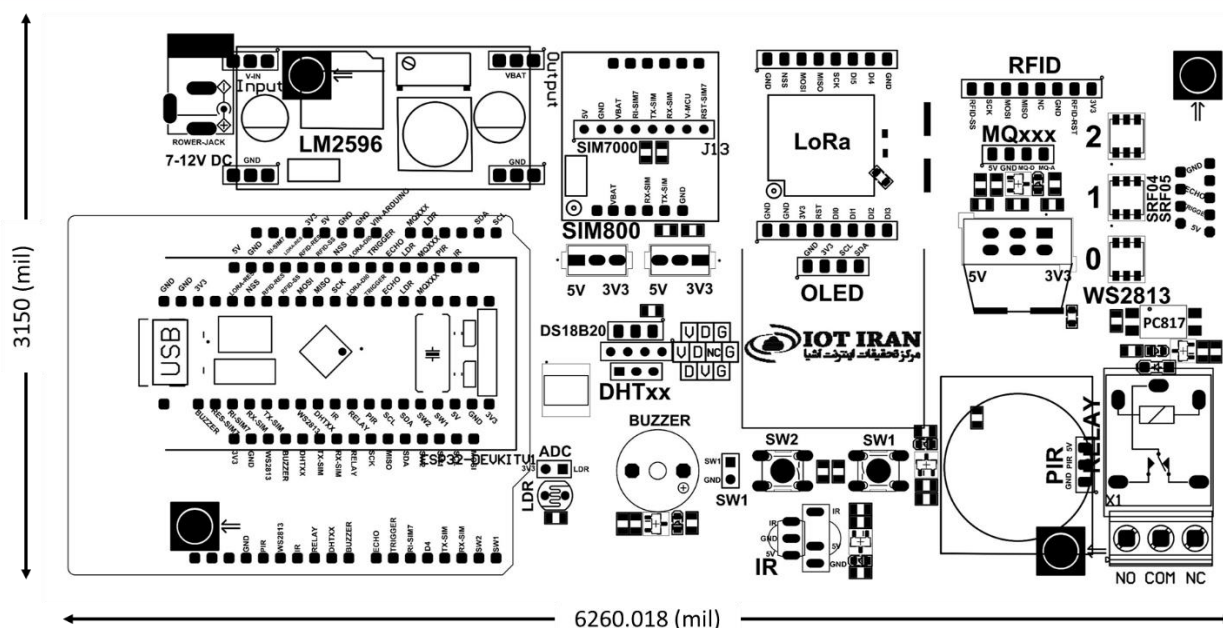


Figure 2: KIoT Schematic

Table 2: Usable Sensors, Modules and Boards in KIoT

Component Type	Name
On Board	Relay
	Buzzer
	IR Receiver
	LDR
	WS2813 LED
	Push Button
Modular	PIR Motion HC-SR501
	DHT Series (11/22)
	Ultrasonic SRF04/05
	RFID Reader RC522
	MQ Series
	OLED
	LM2596
	LoRa Ra02
	Sim800 / SIM7000G
	Arduino Uno
	ESP32
	STM32 Blue Pill

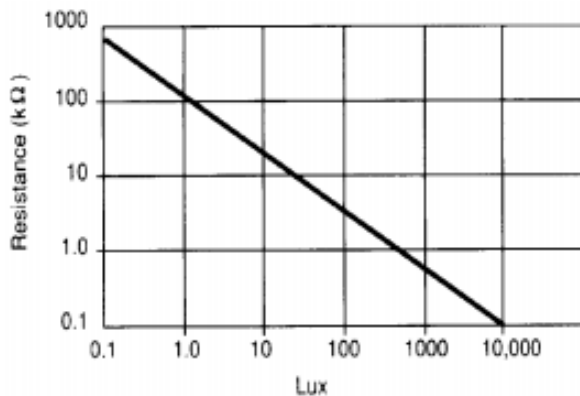
**Notice:** KIoT can connect to all devices which support **analog, digital, UART, SPI, I2C** communication protocol by jumper wires. Such as Raspberry Pi

# KIoT<sub>v1</sub> Datasheet

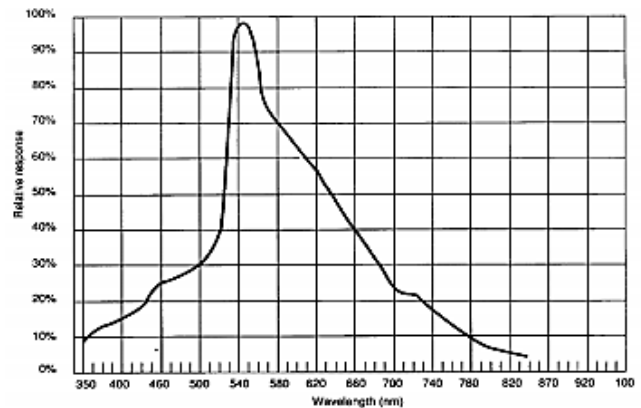
## On Board Components Characteristics:

### LDR

Resistance as Function of Illumination



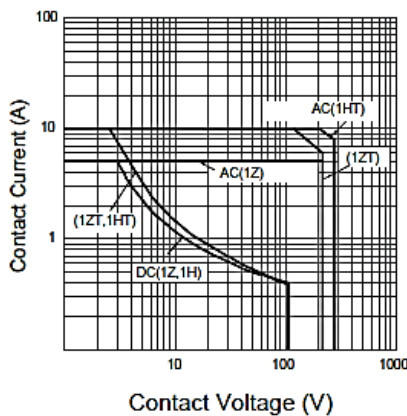
Spectral Response



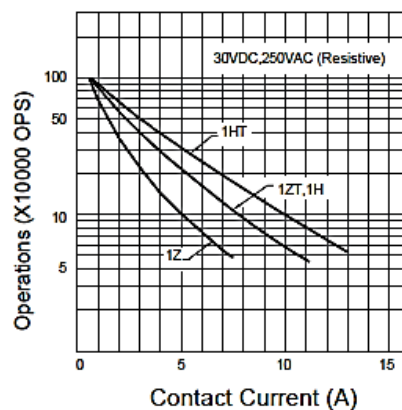
Source: Light Dependent Resistor Datasheet, Sunrom Technologies

### Relay

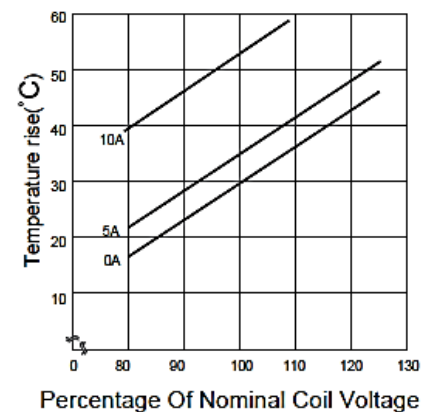
Maximum Switching Power



Life Curve



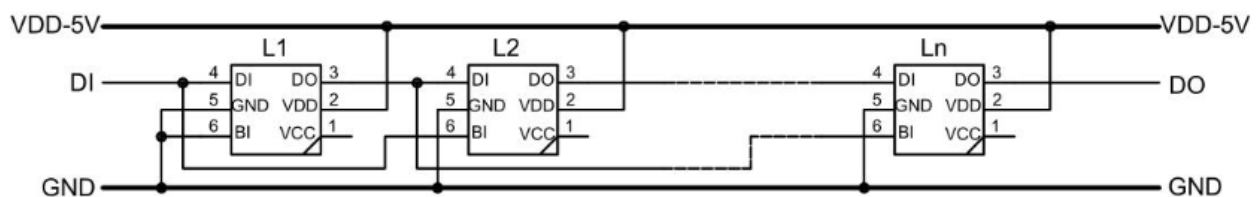
Coil Temperature Rise



Source: Power Relay Datasheet, Hongfa Relay

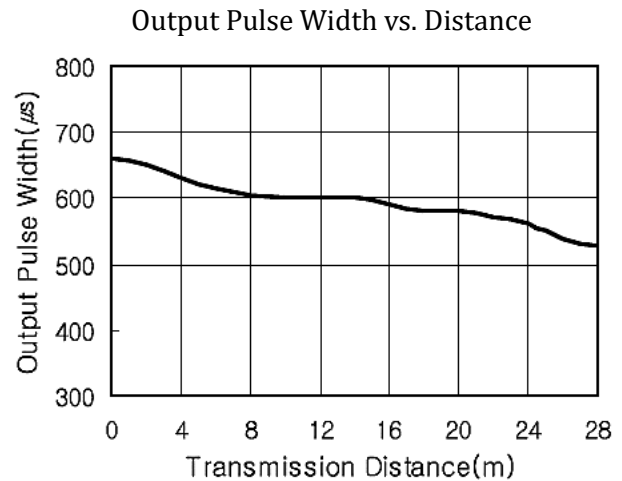
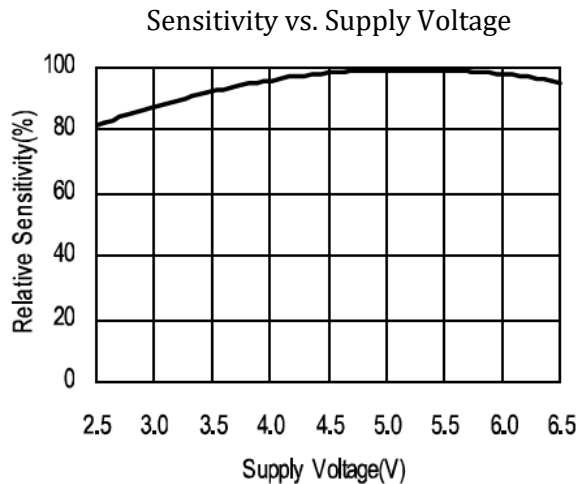
### WS2813 LED

For complicated wiring & space-saving:



Source: WS2813 Datasheet, Worldsemi

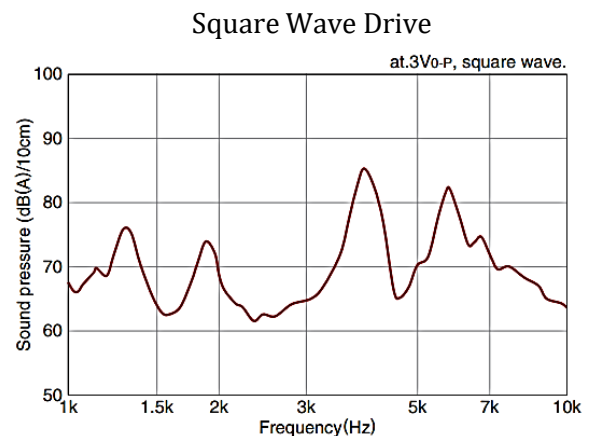
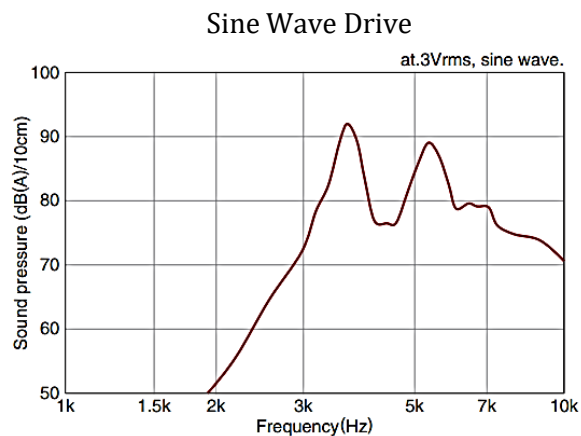
## TL1838 IR Receiver



Source: TL1838 Datasheet, EVERCOLORS

## Buzzer

Frequency Sound Pressure Characteristics:



Source: Piezoelectronic Buzzers Datasheet, TDK