

SoC development-free solution

 ${\sf Device \ Development} > {\sf Tuya \ Development \ Boards} > {\sf Tuya \ Sandwich}$

Evaluation Kits > Development Guide

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1 Introduction

SoC development-free solution: Tuya Smart outputs dozens of development-free mature solutions for electricians and lighting products based on common functions and common equipment types of electrician lighting. You only need to click on the solution online. Information to send you the networking module. By connecting the received networking module to your product, you can realize the function parameters you configure online without any development steps.

The SoC solution is a low-cost, high-efficiency development method for you to quickly complete the intelligentization of equipment and realize the mass production of equipment.

Currently, SoC products support switches for electrical lighting, sockets, bulbs, and security sensors. If you have higher requirements for the development and configuration of the above categories of products, please choose the MCU development mode.

flow

tuya



1.1 Product Creation

1.1.1 Login to the developer platform

Please log in to the developer platform: iot.tuya.com. If not, please register first. If you have already registered, please log in directly.



1.1.2 Product Creation

Enter the developer platform and find the "create product" entry.



Please make clear your initial requirements for the product, and select your product category under the free development plan. If your product is a switch or socket, please choose an electrician; if your product is a bulb lamp, please choose lighting.



Please confirm the networking mode and basic specifications of the product, and click the corresponding picture click box to start creating your product.



1.1.3 basic product info

Please enter the product name (required) according to the prompt box, the name can be self-selected;

** Format example: XXX (brand) + XXX (product) + XXX (module model) **

Enter the product model (optional) as information to distinguish your different products, we suggest you add;

** Format example: XXX (AE1123) **

Please further confirm the communication type of your product. By default, it is the development-free solution you chose when you created the product in the previous step. This will affect the module communication method sent to you at the end. Please confirm it.





1.2 Online Product Settings

<u></u> 功能导航	② 1 功能定义 1	L. App界面	<>> 硬件调试	₩ 拓展功能	[<u>)</u> ## 批量投产
3	2 交流的问题	1,专业团队为您解答	② 专属服务团队	 人 ● ●	↓ 小► 快速响应 新消息提醒
Lois electric 类型: 插座 PID: 8alazcilrkbdkjiw	SoC免开发方案 4 ^免	了解电量约 开发方案提供该品类产品的常用功 现智能化。如以下功能无法	充计插座免开发方案 能,如果您的产品功能刚好— 满足你的需求,请试试自定义 查看功能详情 >	功能 -致,可以快速将你的产品 -(产品 <u>前往创建</u> ぴ	ж,
编辑产品信息				8 4.8 400 *** 8.6	
		开关 远程开关功能	统计	电量统计 中量统计	

1.2.1 Function definition interface

1. Product setup progress

The top tap indicates the progress of your current product setup. Please follow the steps one by one to set up the product without development plan.

2. Issue submission module

Any issues during development can be submitted through this area.

3. Product Information View

Thumbnail: Product type created for you PID: It is the unique ID of the product and is one of the most important information of the product. It covers your information about product configuration, App, module, etc. It is recommended that you save this information, which is equivalent to the product's ID card. Edit product information: You can further add product information, you can edit product name, product model, product remarks, etc. After editing, please remember to save.

4. View Product Features



Click to see the features of the product you created. At this step, Tuya Smart has defined the functional scheme for smart switches, smart sockets, and smart bulb products. You can confirm your product features. If you think that the product features do not meet your needs for the product, we recommend that you Define product creation without SoC solution.

If you can confirm that the above product information and product functions are correct, then click Next.

1.2.2 App interface

Select App interface template All smart products need an App as a control terminal to control various functions of the product. In this step, please select the App interface that controls your product and enter the next step.



Confirm the App and product compatibility Please download the "Tuya Smart" App or "Smart Life" App, use this App to scan the QR code of your product App interface,

and you can experience the real effect of the App interface of your choice. If you are not satisfied, please go back to the previous step and choose again; if you are satisfied, please choose the next step.



Scan code to download Tuya Smart App



Scan code to download Smart Life App





1.2.3 Hardware debugging

Optional Module You can view "Module Details" and "Replace Module" at this step. Select the corresponding module according to the evaluation kit in your hand.

SoC免开发方案	在线配置固件并购买 对于有硬件开发能力的厂商,可选择模块,看 件。模块下单后,我们将直接	閒试模块(适合生产厂商) ▶考电路设计,在线配置IO信息,自动生成模块固 &寄出烧入该固件的模块供测试。
选用模块: W	/R3 Wi-Fi模块 芯片: RTL8710BN 尺寸: 16*24*3.5mm 适用: 家电、电工、照明驱动 <u> 模块详情〉</u>	电路参考图



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X 选择模块 重新选择模块,当前模块的自定义固件IO配置信息将被重置。请确认后再更换! WR3 Wi-Fi模块 WR2 Wi-Fi模块 TYWE3S Wi-Fi模块 芯片: RTL8710BN 芯片: RTL8710BN 芯片: ESP8266 尺寸: 16*24*3.5mm 尺寸: 15mm (L) ×18mm (H)×3.5 尺寸: 16*24*3 5mm 适用:家电、电工、照明驱动 mm 适用:家电控制板、电工、照明 适用:家电、电工 模块详情〉 模块详情> 模块详情> 确认选择

Module firmware IO port configuration The corresponding diagram of the module's IO port will be displayed here, please refer to the IO definition of the function board and the main control board in the sandwich development kit. Please carefully check the firmware configuration information, modify and save it according to actual needs. The IO configuration information of different products is different, including power statistics version, plug-in version, panel switch version, and bulb lamp version. Please fill in the information according to different versions.



			恢复	默认配置		
通道1						
开关按键1:	GPIO19	•	低电平驱动	•		
默认通电状态1:	断电	•			1023	TXD NC
继电器1:	GPIO14	•	高电平驱动	•	I018 I012	GPIOA_22 IO22 GPIOA_12 EN
电源指示灯1:	空	•			I05	GPIOA_5 GPIOA_19 1019
配网设置					1030	LOG_RXD GPIOA_15 I015
Wi-Fi指示灯:	GPIO22	•	低电平驱动	-		ADC GPIOA_0 100 GND VCC
复位长按秒数:	3					
未联网时WiFi灯状态:	指示继电器状态	•			固件配置操作	注意事项
2.联网时WiFi灯状态:	指示继电器状态	•			IO id	须知
首次配网触发方式:	长按至网络灯闪烁	•			100	上电过程中, 需要低电平

#Need to be modified here for token binding instructions

Order modules online for product debugging. This module has recorded your specific information about product configuration above, which can be used for product commissioning after placing an order.

电流电/违切探(SEL)。	GPIO15	•	且注	•							
校准电压(V):	220										
过流保护电流值 (mA):	17000										
配网相关											
购买数量:	购买数量: 10 ¥ 19.00/片, 调试模块最多可购买100片										
	购买调试模块 ¥ 190.00										

Expanded functions After completing the basic set of product functions, you can also polish the details of the product. Here you can further manage multi-language management, firmware upgrades, distribution network information, scene linkage settings, and shortcut switch configuration.



Multilingual Management Entry to show device language changes on the App



	释: 同体中文 低语	繁体中文	(英语) (西班牙语)	(late) (Rights	日语 德语	m大利高 1	更改由种 >
产品界	APP	58 (配用引导 告留	·文案 图件》	很交震		
本尽重 者	100						
产品款	(名称)	简体中文	英国	6	繁体中文	253	17 A
XXX	*电量统计+						
1	1						
产品功能	54						
序号	动眼病	同性值	语言包Key值	院体中文	英语	繁体中文	西班牙语
		52	dp_switch_1	开关1	Switch 1		
1	开关1 switch_1	on	dp_switch_1_on	开启	ON		
		off	dp_switch_1_off	关闭	OFF		
	11 M 4 /0 / 1	10	dp_countdow	开关1册计时	Countdown 1		
	21 X HELT						
9	bi countdown	unit	dp_countdow	5	5		
9	LTXCHEST B5 countdown _1	unit -	dp_countdow	s REDFER	s Add Electricity		
9 17	时天中的中 B3 countdown _1 超加利亚星 add_ele	unit • unit	dp_countidow dp_add_ele dp_add_ele	s RECORDER W	s Add Electricity W		
9	対义thist countdown _1 電加电量 add_ele	unit - unit	dp_countdow dp_add_ele dp_add_ele dp_cur_current	s REDORLER W	s Add Electricity W Current		

- 1. Change language Select the corresponding voice type displayed on the product panel of the App. App display: language type follows system language
- 2. Change the product name App display:
- 3. Panel field language display field App display: Such as fields: switch, timing, countdown, etc. to any text !

Firmware upgrade The MCU upgrade and SoC solution for MCU docking do not need to be operated.

Distribution Network Information The current custom product distribution network manual is only applicable to OEM App products. If you choose the Tuya public version of the App or your OEM App does not set the distribution network manual, the Tuya universal manual is used by default. Be sure to synchronize your last confirmed network configuration information to your copybook to avoid users not using the product.



Scene linkage settings In the scene linkage setting, you can customize whether the function points support smart scene trigger conditions and perform tasks. Select the check box to support users to set corresponding functions in the smart scene of the App in the future.

Shortcut switch configuration In the "Quick switch configuration", check "Switch", the product will not only display the key on the App home page but also display and control in the widget.

快捷开关配置 🥝					清除选
 ● 开关1 ○ 开关2 	1				
常用功能配置 2					清除洗
					IPB MAKALE
✓ 开关1 Bool	2	し 设置图标			
□ 开关2 Bool		し 設置国标			
□ 开关1倒计时 Value		送 设置图标	请选择输入类型	•	
 开关2倒计时 Value 		设置图标	请选择输入类型	•	

App display:

້ຽບກັ



The corresponding widget shows:





1.3 Mass production

If your product has been debugged, you can click "Confirm Development Complete" on the page to enter the trial production stage.



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The firmware, dp points, panels, and modules of the trial production stage cannot be modified. If you need to modify, you can click "Return to Development Status" to modify.

Ξ 功能导航	 功能定义 	口 App界面	 		〕 批量投产 ③
	开发完成	>	试产中	0	尚未量产
皇统计插座		采购试产模块	更多 如何进行产生 	线测试	
型: 插座 D: ey6wfqegaqcygqr0 编产品信息	日時預览产品	来約试产模划	 产品整机流程 申请测试支援 	程与标准	采购量产模块产品说明书制作
	电量统计插座		涂鸦提供免费测 持,保驾产品质		• 产品详细页包装
		测试通过开	始量产		

Click "Purchase Trial Production Module" on the page, the page will jump to the purchasing center, enter your corresponding receiving information and production delivery requirements, and then click Submit Order.

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tuya.com 控制台 > 发起新来	产品实现	图 App工作台 增值服务	, 采购 数	据 运营 文档					支持
_	模块采购	激活码采购							
	产品品牌:	我的产品			•				
	固件信息	₩ ● 10 10 10 10 10 10 10 10 10 10	固件信息	41) ////	固件信息	41Þ \ /	量产中 固件 件 息	41Þ \ /	就产中
	模块名称		模块信息			单价	數量	金额	操作
		TYWE3S WI-FI模块 物料号: 2.22.03.00712	产品名称: 电 产品型号: 产品ID: ey6	B量统计插座 wfqegaqcygqr0		¥ 15.00 模块:¥ 12.00 云服务:¥ 3.00	20 + - 起订量 ≥ 20	¥ 300.00 模块:¥ 240.00 云服务:¥ 60.00	删除
			固件名称: 电 固件key: ke 固件版本: 1	3至筑计插岸免开发固件 yjcr45yfptp7h7 .1.1					
	♥ 已选	模块种类 <mark>1 已选数量总计 2(</mark>)				合计: ¥ 300	.00 z	去下单
tuya.com 控制台 > 发起編	产品实现	见 App工作台 增值服务	采购数据	吉 运营 文档					
	← 返回	采购清单							
		模块购买信息 产品品牌:		产品模块信息			生产发货要求 🕜		
		TYWE3S Wi-Fi模块		产品名称: 电量统计插座			您方采购单号	: 将印于发货单	
		111 1111111111111111111111111111111111	/12	产品型号: 产品ID: ey6wfqegaqcyg	qr0		您方批次号	: 将印于发货单	
		单价:¥15.00		固件名称: 电量统计插座	免开发固件		模块丝印model号	: 将印于模块表面	面丝印,不超过20字
		模块:¥12.0 数量:20	0+云服务:¥ 3.00	固件key: keyjcr45yfptp7	'n7		您万初料编码 您方物料型号	 村印丁及页半 将印丁发货单 	
		小计: ¥ 300.00		回1十叔(本: 1.1.1			期望交期	 付款及生产资料 	确认后10工作日内
							备注	: 对该订单的其他	也要求
		近代信白	¢C-KKK-kh-h-h-	安善信自					
			0/1744/2012/1L					模 块价	¥ 240.00
		200373 10100010200 8	R	☆☆・ ● 个満要	芝而 🔾			工服务价	¥ 60.00
		苑小区17-1-1502	A84711					米网尽价	¥300.00
		修改	-					返回修改	提父 订 单
		更多地址 🗸							•

Before mass production, please click "apply" on the page to submit the application for product testing assistance, and mail samples to Tuya according to the page address. Tuya will have a professional test team to check it for you and output a professional test report for you. After the test is passed, click "Test Pass to Start Mass Production" on the page. After the product is released, you can also click the purchase mass production module to mass-produce your product.

2 Development-free experience

As mentioned earlier, Tuya 's SoC solution is the accumulation of intelligent successful experiences of tens of thousands of customers. The development-free solution is currently only aimed at electrical lighting products. The following is a summary of the functions of the development-free solution:

电工类

名称	功能	名称	功能	名称	功能	名称	功能
	开关		每一路,开关		每一路,开 关		开
电量	定时 多路排插 每一路,定时 倒计时 多路排插 每一路,倒计 电量统计 全开	每一路, 定时	多路开关	每一路,定 时	单插	¥	
统计 插座		每一路,倒计 时		每一路,倒 计时		定时	
		全开		全开		倒计时	
	过流保护		全关		全关		

照明类

名称	功能	名称	功能	名称	功能	名称	功能	名称	功能					
单路	开关		开关		开关		开关		开关					
C球	定时	两路 CW 球泡 灯	两路 CW 球泡	两路 CW 球泡	两路 CW 球泡	两路 CW 球泡	两路 CW 球泡	定时	- 56	定时		定时		定时
泡灯	白光灯珠 亮度调节							CW 球泡	CW 球泡	CW 冷暖灯珠 球泡 亮度调节	二路 RG BP®	色盘选色 256*256*256	四路 RG	白光灯珠亮度 调节
			冷暖灯珠 冷暖调节	泡灯	RGB灯珠亮度 调节	BC 球泡	色盘选色 256*256*256	RG BC	冷暖灯珠冷暖 调节					
					RGB灯珠饱和 度调节	灯	RGB灯珠亮度 调节	W 球泡	色盘选色 256*256*256					
							RGB灯珠饱和 度调节	χJ	RGB灯珠亮度 调节					
									RGB灯珠饱和 度调节					

You can use the Tuya Smart or Smart Life App to scan the code to experience some product solution features: Please scan the code to experience the power statistics socket





Please scan the code to experience multi-channel power strip



Scan the code to experience the five-way bulb

