



Espressif's Modules

www.rajguruelectronics.com





Espressif's ESP series

www.rajguruelectronics.com

Single WiFi chip-8266 series

WiFi+BLE ESP32 series

- Chip specification: ESP32
- Audio and video market

WiFi+BLE ESP32-C3 series

- Chip specification: ESP32-C3 & ESP8685

WiFi+BLE ESP32-C2 series

- Chip specification: ESP8684
- Electrician lighting small house-hold appliances market

WiFi+BLE ESP32-C6 series

- Chip specification: ESP32-C6

WiFi+BLE ESP32-S3 series

- Chip specification: ESP32-S3
- Audio/video/AI market

WiFi6 2.4&5G+BLE+Zigbee ESP32-C6 series

- Chip specifications: ESP32-C5NF4, C5NR4

ESP-F, F1	8266	16x24/16	The F1 is an external antenna with complete certifications and the main model
ESP32-32D D0WD	ESP32	18x25.5	Compatible with official modules
ESP32-32E/UE D0WD-V3	ESP32	18x25.5	Compatible with official modules
ESP32-32S/SE D0WD-V3	ESP32	18x25.5	Compatible with 32D 32E 32U, can be used as external antenna
ESPC3-02	ESP8685	15x17.3	Gold finger , electrical applications
ESPC3-05	C3FH4	16x20	Lighting applications, built-in high-temperature flash
ESPC3-12/12E	C3	16x24	Compatible with 12F modules
ESPC3-20/20E	C3	18x20	Common mods
ESPC3-32	C3	18x25.5	Compatible module: ESP32-C3-WROOM-32
ESPC2-01	8684	14.5x24.5	Compatible modules: ESP-01, ESP-01S
ESPC2-02	8684	15x17.3	Gold finger, electrical application,
ESPC2-05	8684	15x20	Lighting applications
ESPC2-12/12E	8684	16x24	The 12E is an external antenna, the most common model, the 8266 upgrade
ESPC2-20/20E	8684	18x20	Compatible with the ESP8684-WROOM-02 in a small form factor
ESPC2-M1	8684	12.3x20	Compatible module: ESP-M2
ESPC6-32/E	C6	18x25.5	Compatible with official mods
ESPS3-32	Series S3	18x25.5	Compatible with official mods
ESPS3-32E	Series S3	18x19.20	Compatible with the official modules: S3 series
ESPC5-32	Series C5	18x25.5	Compatible with official mods
ESPC5-32E	Series C5	18x19.20	Compatible with official mods
ESPC5-12/12E	Series C5	16x24	Compatible with 12 series mods



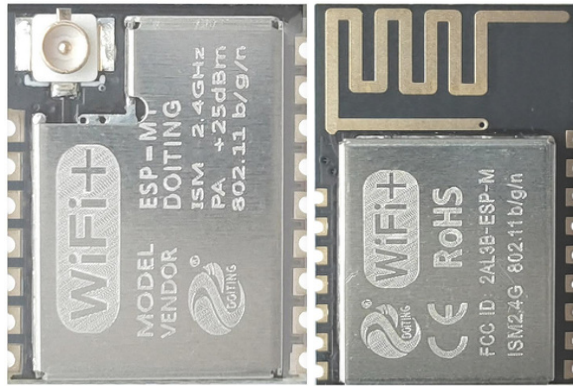
Espressif's chip family

www.rajguruelectronics.com

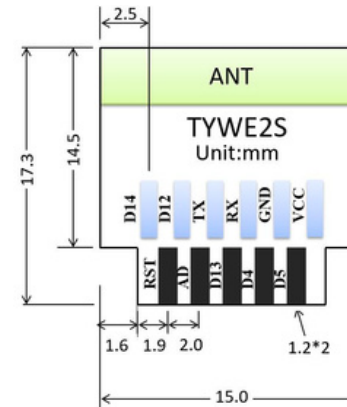
Espressif's lineage	ESP8266	ESP32	ESP32-S3	ESP32-C2	ESP32-C3	ESP32-C6	ESP32-C5	remark
rf	Wi-Fi	Wi-Fi + BLE5	Wi-Fi + BLE5	Wi-Fi + BLE5	Wi-Fi + BLE5	WiFi6+BLE+ZigBee	WiFi6 2.4&5G Zigbee3 + Thread	
GPIO	Available: 11	34	45	14	Available: 16	30	22	More focus on IO MCU replacement
CPU	Tensilica, 80~160M	Dual-core Xtensa, 240MHz	dual-core Xtensa, 240MHz	RISCV, 120M	RISCV, 160M	RISCV, 160M	RISCV, 240M	The lower it is, the more focused it is on general applications, the better the price
PWM	5	16	8	6	6	6	6	Drive lights, motors
SRAM	Available in 76K	512K	512K/2M/8M	272K	400K	528K	400K	The larger the processing power, the more processing power
RTC SRAM	not	16K	16K	not	8K	not	16K	Generally meaningless
SAR analog-to-digital converters	1 x 10Bit	2 x 12Bit	2 x 12Bit	1 x 12bit	2 x 12bit	1 x 12bit	1 x 12bit	Sensor accuracy
Bandwidth support	20MHz	20MHz / 40MHz	20MHz / 40MHz	20MHz	20MHz / 40MHz	20MHz / 40MHz	20MHz / 40MHz	Camera customers will consider
Communication rate	72.2Mbps	150Mbps	150Mbps	72.2Mbps	150Mbps	150Mbps	150Mbps	Camera customers will consider

ESP8266/ESP8285 series

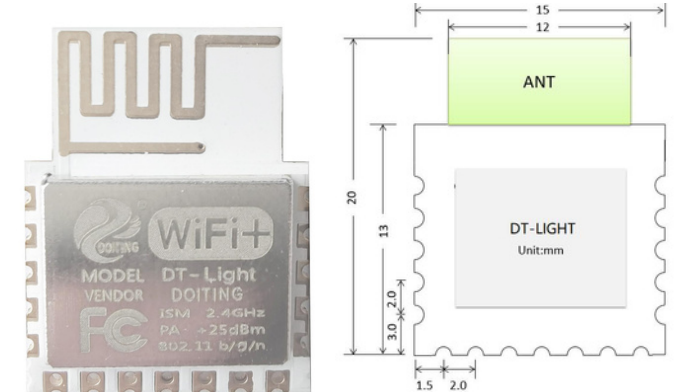
www.rajguruelectronics.com



- Model No.: ESP-M1, ESP-M2
- Chip: ESP8285H16, WIFI
- 12.3x15, 12.3x20, traditional mods
- ESPC2-M1 is recommended



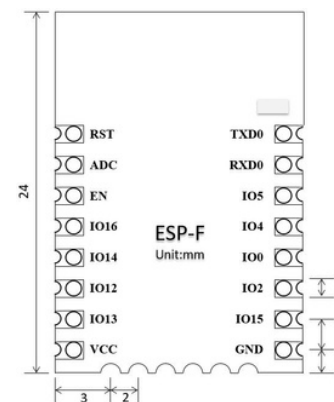
- Model: ESP-02S, TYWE2S
- Chip: ESP8285H16, WIFI
- 15x17.3, conventional module, for electricians
- ESPC2-02 is recommended



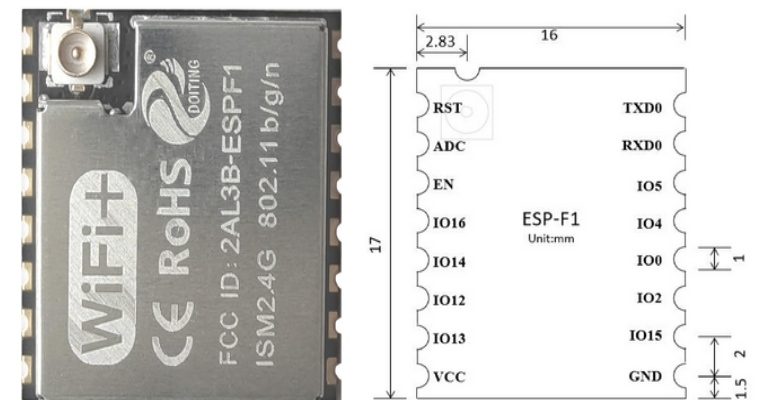
- Model Number: DT-LIGHT
- Chip: ESP8285H16, WIFI
- 15x120, traditional module for lighting
- ESPC2-05 is recommended



- Models: ESP-12E, ESP-12F
- Chip: ESP8266, WIFI
- 16x24package, universal module, cheap version



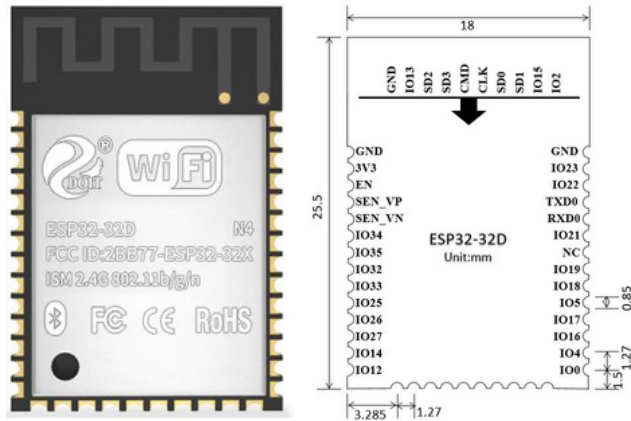
- Model: ESP-F
- Chip: ESP8266, WIFI
- 16x24, Traditional Mod, Universal Mod
- ESPC2-12 is recommended



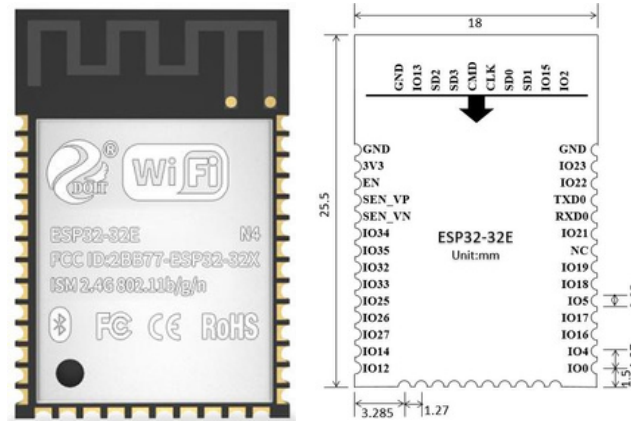
- Model: ESP-F1
- Chip: ESP8266, WIFI
- 16x17, Legacy Mod, Universal Mod
- ESPC2-12E is recommended

ESP32 series

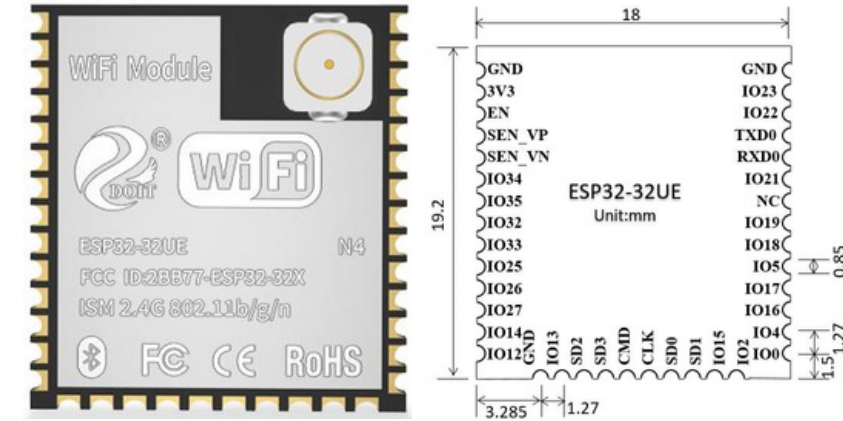
www.rajguruelectronics.com



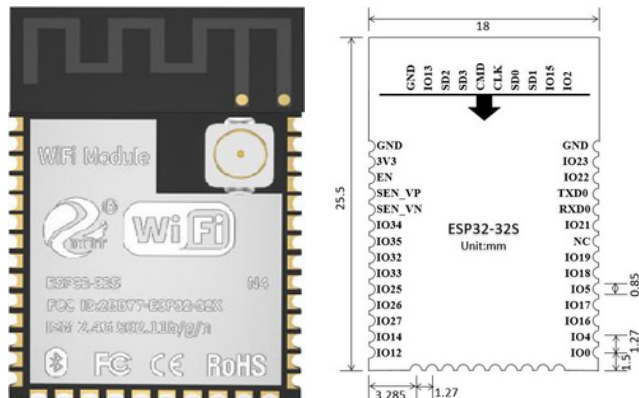
- Model: ESP32-32D
- Chip: ESP32-D0WD, N4/N8/N16 (Storage). 18*25.5, universal module
- Compatible with: ESP32-WROOM-32D



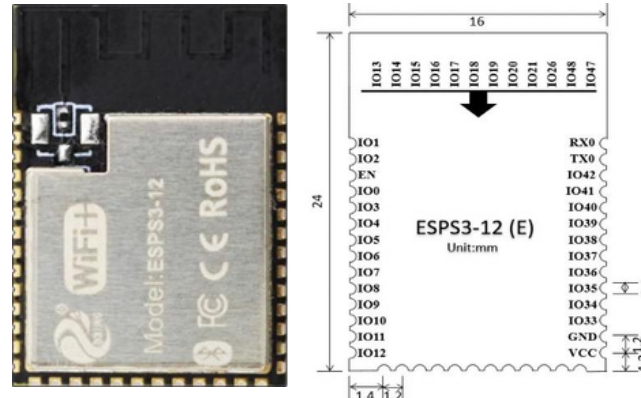
- Model: ESP32-32E
- Chip: ESP32-D0WD-V3, N4/N8/N16 (Storage).
- Size: 18*25.5, universal module
- Compatible with: ESP32-WROOM-32E



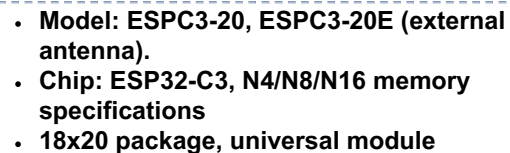
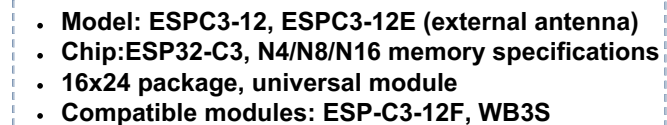
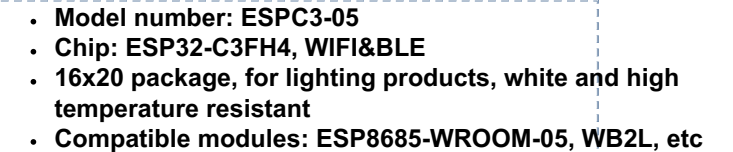
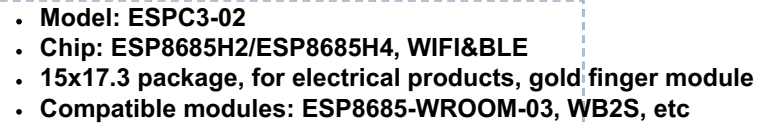
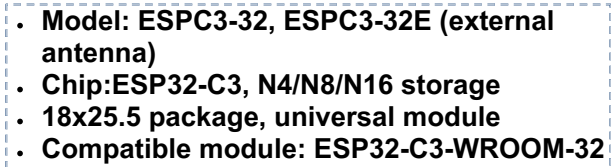
- Model: ESP32-32UE
- Chip: ESP32-D0WD-V3, N4/N8/N16 (Storage).
- Size: 18*19.2, universal module
- Compatible with: ESP32-WROOM-32UE



- Models: ESP32-32S, ESP32-32SE (U.FL).
- Chipset: ESP32-D0WD-V3, default 4MB Flash
- Size: 18*25.5, universal module
- Compatible with: ESP32-WROOM-32E/UE

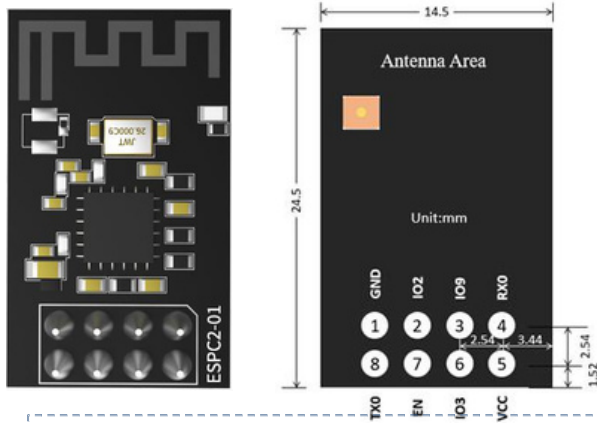


- Model: ESP32-12, ESP32-12E(U.FL).
- Chip: ESP32-S3FH4R2
- Size: 16*24, universal module

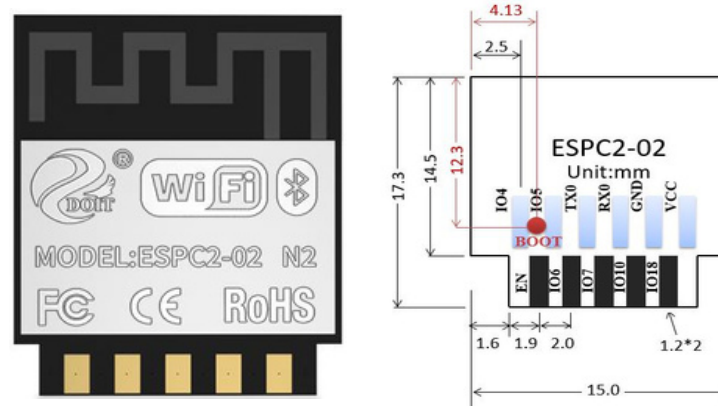


ESPC2 series modules

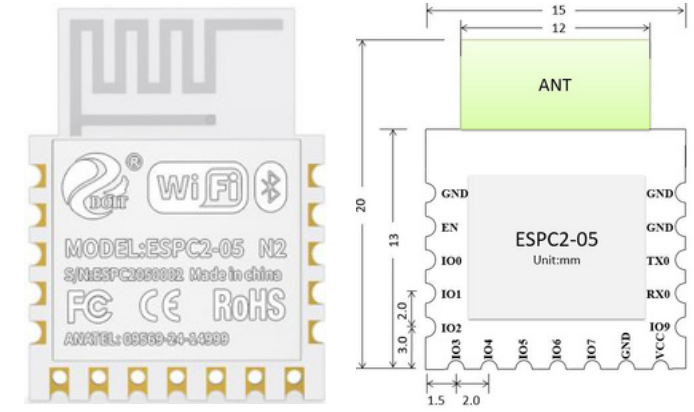
www.rajguruelectronics.com



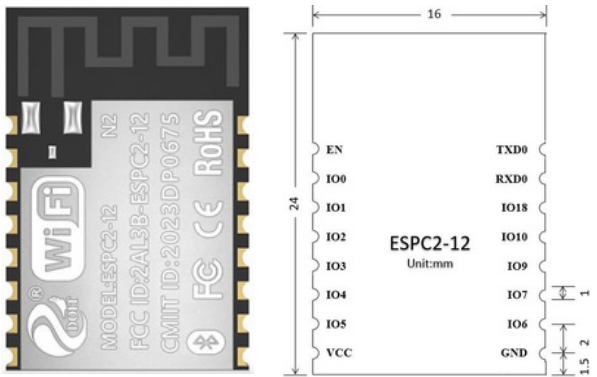
- Model: ESPC2-01, ESPC2-01E (external antenna)
- Chip: ESP8684H2/ESP8684H4, WIFI&BLE
- 2x4 pin package, conventional module
- Compatible modules: ESP-01, ESP-01S



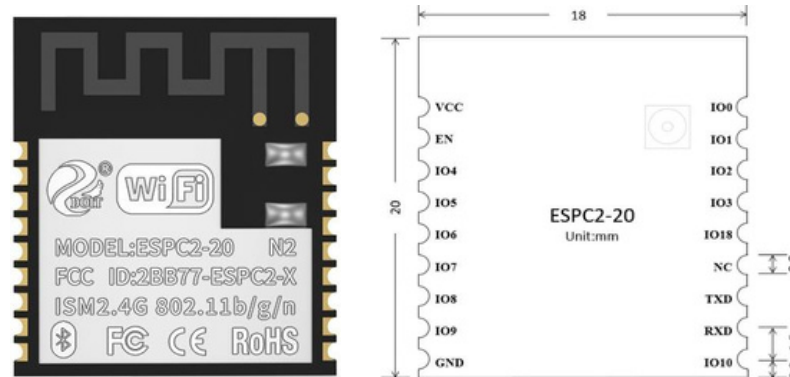
- Model: ESPC2-02
- Chip: ESP8684H2/ESP8684H4, WIFI&BLE
- 15x17.3 package, for electrical products, gold finger module
- Compatible modules: ESP8684-WROOM-03, WB2S, etc



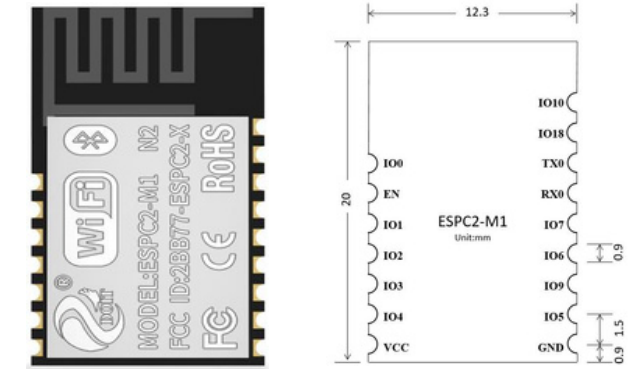
- Model: ESPC2-05
- Chip: ESP8684H2/ESP8684H4, WIFI&BLE
- 15x20 package, for lighting products with high temperature resistant
- Compatible modules: ESP8684-WROOM-05, WB2L, etc



- Model: ESPC2-12, ESPC2-12E(external antenna)
- Chip: ESP8684H2/ESP8684H4, WIFI&BLE
- 16x24 package, universal module
- Compatible modules: ESP8684-WROOM-01/04, WB3S, 12F



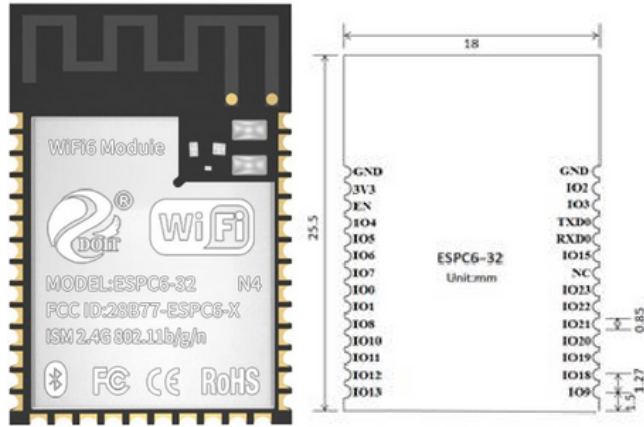
- Model: ESPC2-20, ESPC2-20E (external antenna)
- Chip: ESP8684H2/ESP8684H4, WIFI&BLE
- 18x20 package, universal module
- Compatible module: ESP8684-WROOM-02C/02UC



- Model: ESPC2-M1
- Chip: ESP8684H2/ESP8684H4, WIFI&BLE
- 12.3x20 package, universal module
- Compatible module: ESP-M2

ESPC6 series modules

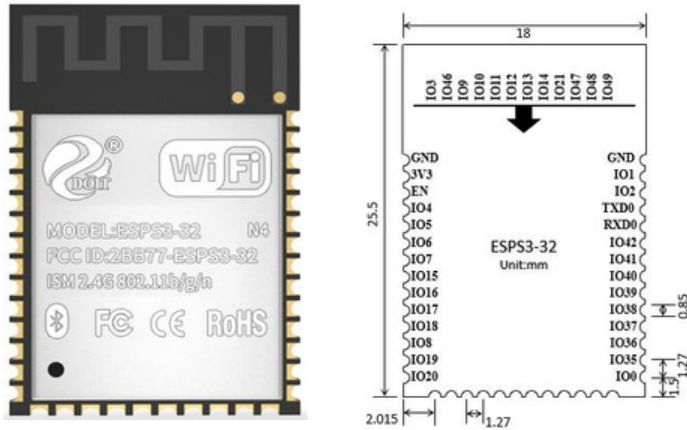
www.rajguruelectronics.com



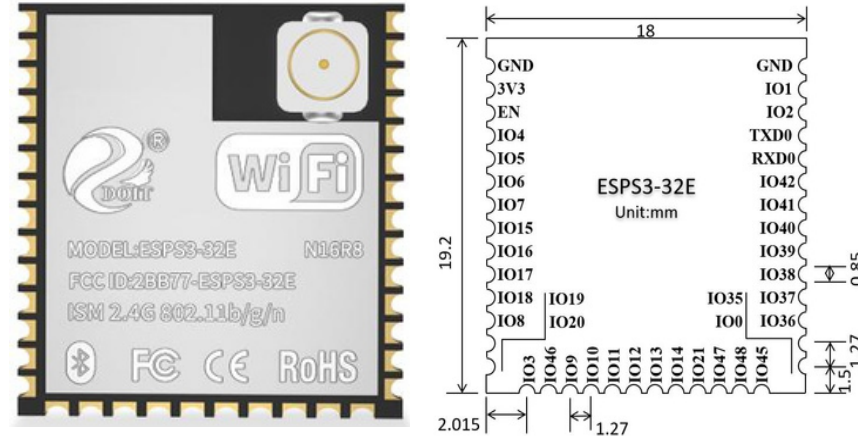
- Model: ESPC6-32, ESPC6-32E (external).
- Chip: ESP32-C6, N4/N8/N16 (Storage).
- 18*25.5, universal module
- Compatible with: ESP32-C6-WROOM-1, ESP32-C6-WROOM-1U

ESPS3 series modules

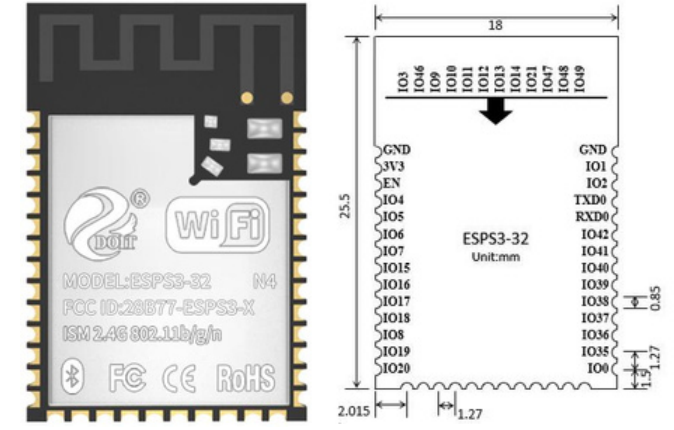
www.rajguruelectronics.com



- Model: ESPS3-32, N4, N8, N8R2, N16R2, N16R8 5 sub-models
- Chip: ESP32-S3 S3R2 S3R8
- 18*25.5, universal module
- Compatible with: ESP32-S3-WROOM-1 series module

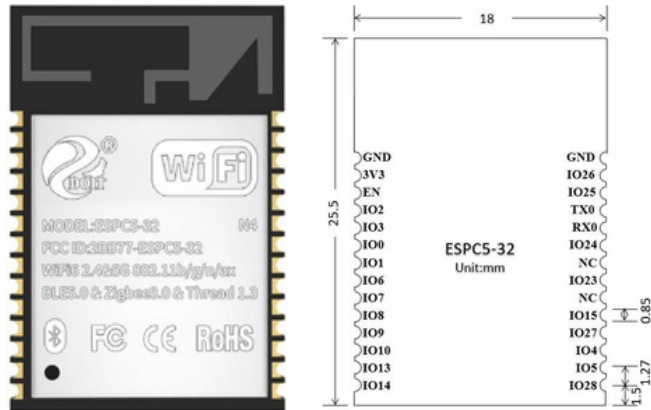


- Model: ESPS3-32E, N4, N16R2, N16R8 3 sub-models
- Chip: ESP32-S3 S3R2 S3R8
- 18*19.2, universal module
- Compatible with: ESP32-S3-WROOM-1U series module

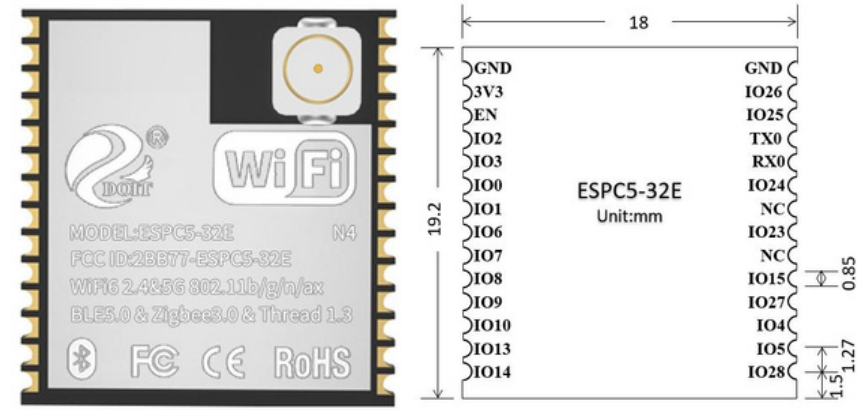


- Model: Customized model
- Chip: ESP32-S3 S3R2 S3R8
- 18*25.5, universal module

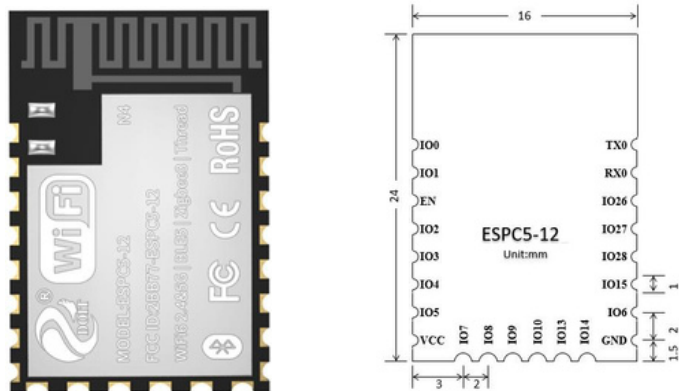
ESPC5 series modules



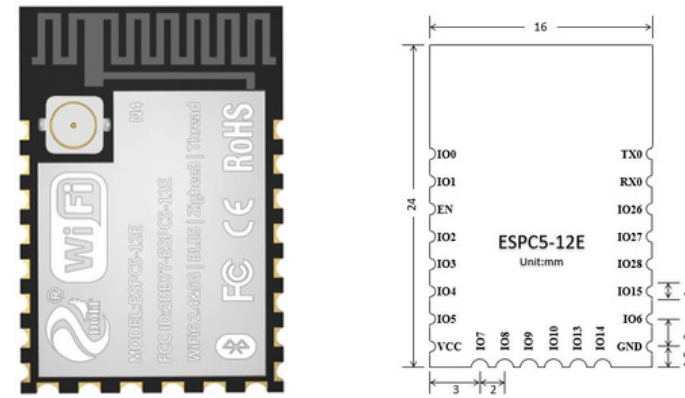
- Model: ESPC5-32-N4, N8R4, N16R4 3 sub-models
- Chip: ESP32-C5NF4, ESP32-C5NR4
- 18*19.2, universal module
- Compatible with: ESP32-C5-WROOM-1 series modules



- Model: ESPC5-32E-N4, N8R4, N16R4 3 sub-models
- Chip: ESP32-C5NF4, ESP32-C5NR4
- 18*19.2, universal module
- Compatible with: ESP32-C5-WROOM-1U series module



- Model Number: ESPC5-12-N4
- Chip: ESP32-C5NF4
- 16*24, universal mod
- Compatible: 12 series modules



- Model: ESPC5-12E-N4
- Chip: ESP32-C5NF4
- 16*24, universal mod
- Compatible: 12 series modules



THANK YOU

One stop for all starts
www.rajguruelectronics.com

