

Radio modules deRFarm7

25A02|25C02

Datasheet

- The pluggable radio module deRFarm7-25A02 features an AT91SAM7X512 microcontroller and a 2.4 GHz transceiver AT86RF231. The module complies with IEEE 802.15.4 and can be used for ZigBee / 6LoWPAN / RF4CE or proprietary applications.
- The 25A02 module has two 23 pin male connectors (1.27 mm pitch) which give access to most functions of the AT91SAM7X512. The 25C02 is a solderable variant.
- The onboard coaxial jack (U.FL) allows the connection of different antennas using standard pigtailed. The transceiver generates up to +2.5 dBm transmit power and has a receiver sensitivity of -101 dBm giving a link budget of up to 103 dB. A hardware 128-Bit AES encryption engine is part of the transceiver.
- The power supply range is from 3.0 VDC to 3.6 VDC with transmit and receive currents of approx. 45 mA @ 12MHz CPU clock. A current consumption of less than 250 µA can be achieved in sleep mode.
- Special features of the deRFarm7 module family are the integrated Ethernet MAC (EMAC) and the integrated USB device port (UDP).



Technical Data

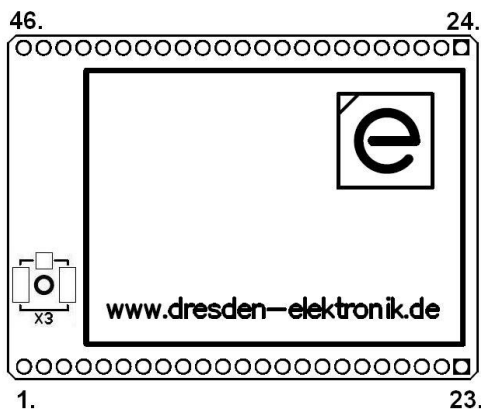
Dimensions	30 x 22.7 x 8.2 mm (25A02) 30 x 20.4 x 4.1 mm (25C02)
Operating temperature	-40 to +85°C
Control and display elements	no
Power supply	3.0 to 3.6 VDC
Power consumption	Active: 45 mA @ 12MHz Sleep: < 250 µA
Connections	2 x 23 Pin I/O Connector U.FL coaxial jack
Antenna	no
Antenna gain	no
Antenna diversity	no
Range	Depending upon the antenna used > 200 m (line of sight) with a 0dB antenna
Frequency range	2.4 GHz
Transmitting power	+2.1 dBm
Receiver sensitivity	-101 dBm
IEEE Standard	802.15.4
Data rate (brutto)	250 kbit/s, 500 kbit/s, 1 Mbit/s, 2 Mbit/s
Microcontroller	AT91SAM7X512
Transceiver	AT86RF231
Interfaces	JTAG, DBGU, I2C, SPI, UART, USB, RMII, GPIO, ADC
Certification	CE, ETSI, FCC

Technical Data

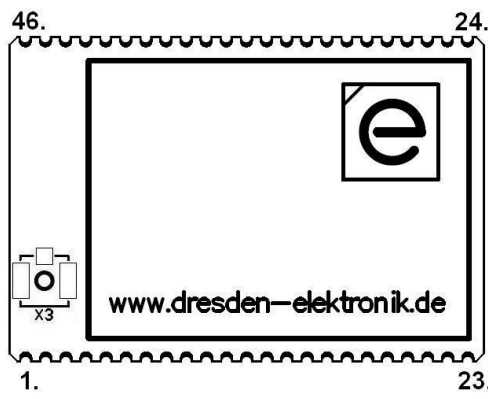
Pin configuration

1:	VCC	13:	PA18	24:	VCC	36:	PB28
2:	DGND	14:	PA3	25:	DGND	37:	PB5
3:	ADVREF	15:	PA17	26:	PA27	38:	TCK
4:	USBDM	16:	PB0	27:	PA0	39:	PB7
5:	RSTN	17:	PA16	28:	PA28	40:	TMS
6:	PB3	18:	PB8	29:	PA4	41:	PB1
7:	PA11	19:	PB6	30:	PB9	42:	TDO
8:	PB26	20:	PB18	31:	PB21	43:	JTAGSEL
9:	PA10	21:	PB15	32:	USBDP	44:	TDI
10:	PA1	22:	DGND	33:	PB19	45:	DGND
11:	PB25	23:	DGND	34:	PB27	46:	DGND
12:	PB2			35:	PA14		

Connections



Top View deRFarm7-25A02



Top View deRFarm7-25C02

Scope of delivery

Radio Module deRFarm7-25A02
Radio Module deRFarm7-25C02

Order No.

BN-027265
coming soon

Order Information

Board variants

Radio Module deRFarm7-15A00
Radio Module deRFarm7-15C00
Radio Module deRFarm7-25A00
Radio Module deRFarm7-25C00
Radio Module deRFarm7-15A02
Radio Module deRFarm7-15C02

coming soon
coming soon
BN-027264
coming soon
BN-030974
coming soon

Variants

More information about the variants are described in detail in the user manual.

Order online: <http://www.dresden-elektronik.de/shop/cat4.html>