

## Features

- Compatible dual-processor development board combining Linux application processing and real-time microcontroller control
- Quad-core Arm® Cortex®-A53 processor with embedded Linux support
- Arm® Cortex®-M33 microcontroller for deterministic I/O and control tasks
- On-board 4 GB RAM and 32 GB flash storage for application development
- Integrated Wi-Fi® and Bluetooth® connectivity
- USB-C interface supporting power input, high-speed data, and video output
- Multiple 3.3 V and 1.8 V expansion headers for sensors, peripherals, and modules
- Includes USB-C power supply, USB-C 6-in-1 hub and high-speed HDMI cable

## RS PRO Arduino UNO Q Developer Kit

RS Stock No.: 0854386



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## Product Description

The RS PRO Arduino UNO Q Kit is a complete development and prototyping kit designed for engineers, educators, and developers working on advanced embedded, edge computing, and connected system applications. The kit is built around a high-performance Arduino-compatible development board combining a Linux-based application processor with a real-time microcontroller, and is supplied with essential accessories to enable power, display output, and peripheral connectivity out of the box.

This kit is used for the development, testing, and evaluation of applications that require both high-level processing (such as data handling, vision processing, or AI workloads) and deterministic real-time control (such as motor control, sensor acquisition, and industrial I/O). By integrating computation, connectivity, and expansion in a single kit, it supports rapid proof-of-concept creation and system-level experimentation without the need for additional hardware.

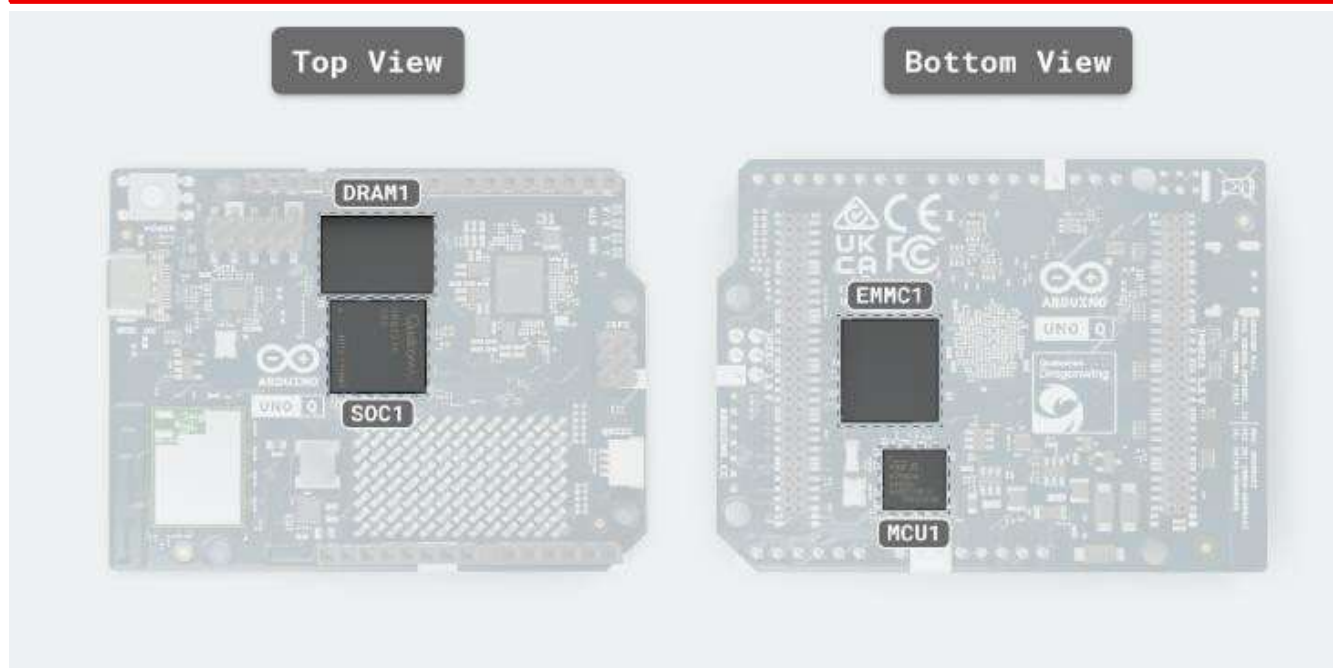
### Typical Applications:

- Embedded system development combining Linux applications with microcontroller-based real-time control
- Edge computing and AI prototyping, including vision-based and data-driven applications
- Industrial and automation projects, such as controller development, sensor interfacing, and gateway design
- Education and training, covering embedded Linux, microcontroller programming, and system integration
- Robotics and smart device prototyping, where coordinated processing and I/O control are required

### Included Accessories (Kit Contents)

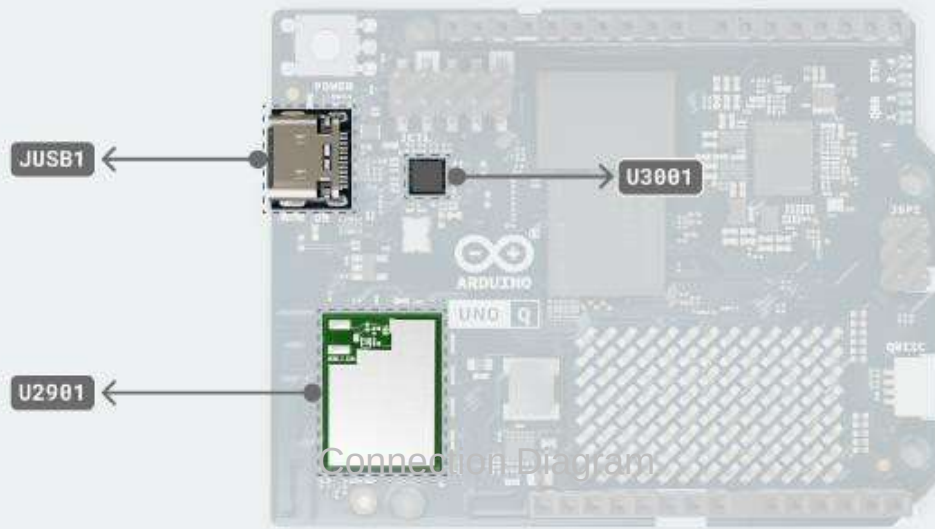
- USB-C Power Supply (27 W) with interchangeable US / EU / UK / AU plugs, providing stable power for development and testing
- USB-C 6-in-1 Hub, enabling
  1. HDMI video output up to 4K @ 60 Hz
  2. USB-A and USB-C peripheral connectivity
  3. USB-C Power Delivery pass-through
- HDMI High-Speed Cable (1 m) for connecting external displays and monitors during development

## Board Specifications



| Processing & Memory       |                                                                             |
|---------------------------|-----------------------------------------------------------------------------|
| Subsystem                 | Details                                                                     |
| Application processor     | Qualcomm® Dragonwing™ QRB2210 SoC, quad-core Arm® Cortex®-A53 up to 2.0 GHz |
| Real-time microcontroller | STMicroelectronics STM32U585, Arm® Cortex®-M33 up to 160 MHz                |
| Graphics                  | Adreno™ 702 GPU, up to 845 MHz                                              |
| Operating system support  | Embedded Linux (MPU) and Arduino Core on Zephyr OS (MCU)                    |
| System memory (RAM)       | 4 GB LPDDR4X SDRAM                                                          |
| On-board storage          | 32 GB eMMC flash memory                                                     |

## Board Specifications

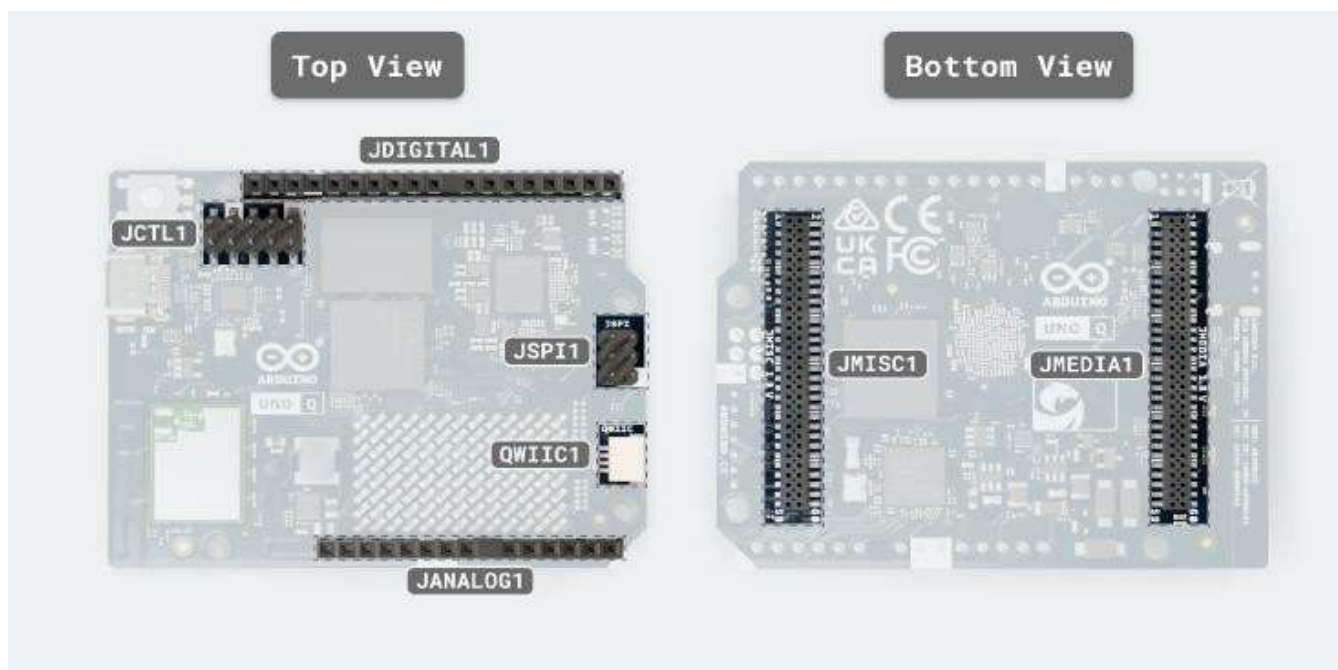


The Qualcomm Dragonwing™ QRB2210 I/O operates at 1.8 V. The MPU drives the MIPI-CSI-2 camera and MIPI-DSI display interfaces on JMEDIA, and the 1.8 V MPU (SoC) GPIO and audio endpoints exposed on JMISC. JMISC is a mixed-voltage header that also carries 3.3 V MCU signals and analog audio alongside the 1.8 V MPU lines. DisplayPort video is provided by the on-board ANX7625, which converts the MPU's MIPI-DSI to DisplayPort Alt-Mode on USB-C. The STM32U585 manages ADC, PWM, CAN, the LED matrix, and the 3.3 V headers (JDIGITAL, JANALOG, JSPI, and Qwiic).

### Connectivity & Media

| Subsystem                                                                                                   | Details                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Wireless Module                                                                                             | <ul style="list-style-type: none"> <li>WCBN3536A (Qualcomm WCN3980) (U2901)</li> <li>Wi-Fi® 5 802.11a/b/g/n/ac (dual-band) + Bluetooth® 5.1</li> </ul>                                                                                                                                                                                                                                                   |
| USB-C Port (JUSB1)                                                                                          | <ul style="list-style-type: none"> <li>B 3.1 with Role-Switching Capabilities</li> <li>DisplayPort Alt-Mode via the ANX7625 DSI-to-DP bridge (U3001) (SuperSpeed differential pairs on the Type-C are routed for DP Alt Mode)</li> <li>USB Power Delivery negotiation requests a 5 V / 3 A contract only (no higher-voltage profiles)</li> <li>VBUS load-switch/back-drive protection (Q2801)</li> </ul> |
| The wireless module uses SDIO for Wi-Fi® data and a UART for Bluetooth® control, with a shared PCB antenna. |                                                                                                                                                                                                                                                                                                                                                                                                          |

## Board Specifications



| Connectivity & Media  |                             |                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Interface (Connector) | Voltage & Pin Count         | Details                                                                                                                                                                                                                                                                                                                                                                                                                           |
| JMEDIA (JMEDIA1)      | 1.8 V signals, 60-pin       | <ul style="list-style-type: none"> <li>High-speed camera/display lanes (MIPI DSI, CSI)</li> <li>Camera control bus (CCI I<sup>2</sup>C) - dedicated, not general-purpose GPIO</li> <li>Camera clocks (SOC_CAM_MCLK0/1)</li> <li>Also carries power rails (+3V3 OUT, VIN IN) and GND</li> </ul>                                                                                                                                    |
| JMISC (JMISC1)        | Mixed 1.8 V / 3.3 V, 60-pin | <ul style="list-style-type: none"> <li>Mixed GPIO and SDIO</li> <li>MCU peripherals: SDMMC1, TRACE, PSSI (parallel camera), I<sup>2</sup>C4, MCO/CRS_SYNC, OPAMP1 pins</li> <li>Audio endpoints: Mic2 INP/INM/BIAS, Headphone L/R + REF, LineOut, P/M, Earpiece P/R, HS_DET</li> <li>MPU (SoC) GPIO banks (SE0) at 1.8 V</li> <li>Also carries power rails (+5V USB OUT, +3V3 OUT, +1V8 OUT, VBATIN, VCOIN IN) and GND</li> </ul> |
| JCTL (JCTL1)          | 1.8 V, 10-pin               | <ul style="list-style-type: none"> <li>SE4 UART console</li> <li>Forced USB boot input</li> <li>PMIC reset input</li> <li>VBUS power-switch disable</li> <li>1.8 V rail and GND</li> </ul>                                                                                                                                                                                                                                        |
| JDIGITAL (JDIGITAL1)  | 3.3 V, 18-pin               | <ul style="list-style-type: none"> <li>Digital I/O for SPI, I<sup>2</sup>C, UART, PWM, CAN</li> </ul>                                                                                                                                                                                                                                                                                                                             |

|                    |                               |                                                                                                                                                           |
|--------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| JANALOG (JANALOG1) | 3.3 V, 14-pin                 | <ul style="list-style-type: none"> <li>Analog I/O</li> <li>ADC channels and references</li> </ul>                                                         |
| JSPI (JSPI1)       | 3.3 V logic, 6-pin + 5 V VBUS | <ul style="list-style-type: none"> <li>Dedicated SPI: MOSI, MISO, SCLK</li> <li>MCU reset (NRST)</li> <li>Ground</li> <li>5 V VBUS (USB power)</li> </ul> |
| Qwiic (QWIIC1)     | 3.3 V, 4-pin                  | <ul style="list-style-type: none"> <li>I<sup>2</sup>C (Qwiic ecosystem)</li> </ul>                                                                        |

## HDMI Cable Description

The RS PRO High-Speed HDMI Cable is included to provide direct video and audio output from the RS PRO Arduino Kit development board to an external display during setup, development, and evaluation. The cable supports high-speed HDMI transmission, including 4K video resolution, enabling clear visual output from the board without requiring separate audio connections. This allows developers to connect directly to modern monitors or displays for graphical interfaces, system feedback, and debugging.

The cable features gold-flash plated connectors for improved corrosion resistance and signal reliability, along with a durable PVC jacket and integrated strain relief at both ends to support repeated connection and handling during development work.



[Click here](#) to view additional information for this HDMI cable on the RS website.

General Specifications

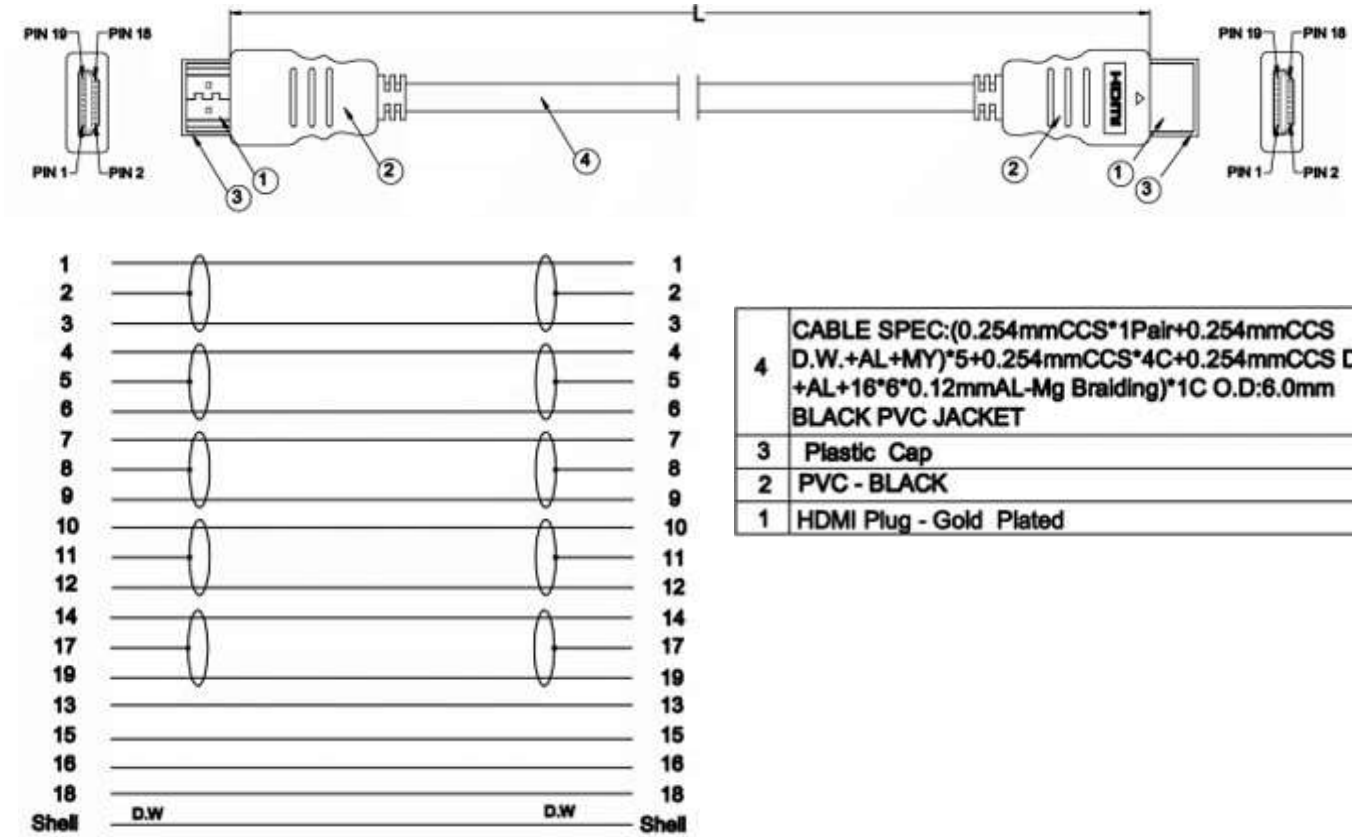
|                         |                        |
|-------------------------|------------------------|
| Brand                   | RS PRO                 |
| Product Type            | HDMI Cable             |
| Series                  | 77HD419                |
| Cable Length            | 1 m                    |
| Connector Configuration | Male HDMI to Male HDMI |
| Connector Type A        | HDMI                   |
| Connector Type B        | HDMI                   |
| Connector Gender A      | Male                   |
| Connector Gender B      | Male                   |
| Maximum Resolution      | 4K                     |

|                         |                          |
|-------------------------|--------------------------|
| Jacket Material         | Polyvinyl Chloride (PVC) |
| Jacket Colour           | Black                    |
| Outer Diameter          | 6 mm                     |
| Strand Braid Size       | 0.12 mm, 0.254 mm        |
| Hood Dimensions (W × H) | 19.44 × 11 mm            |

Approvals

|                           |           |
|---------------------------|-----------|
| Compliance/Certifications | CE, REACH |
| Standards Met             | RoHS      |





**USB-C 6-in-1 Description**

The USB-C 6-in-1 Hub is included with the RS PRO Arduino Kit to expand the connectivity of the development board through a single USB-C interface, enabling power delivery, display output, and peripheral connection during development and evaluation.

The hub provides USB Power Delivery passthrough up to 65 W, allowing the board to be powered while peripherals are connected. Integrated HDMI output supports video resolutions up to 4K at 60 Hz, enabling connection to external monitors for graphical interfaces, system output, and debugging.

Multiple USB ports are available for peripheral expansion, including USB-A 3.0 (up to 5 Gbps) for high-speed devices and additional USB ports for keyboards, mice, storage devices, and other development peripherals. Two USB-C data ports provide further connectivity without the need for additional adapters. With a compact form factor and a short-integrated cable, the USB-C hub simplifies bench-top setups and reduces cabling complexity. It supports common operating systems used in embedded development, allowing immediate integration as part of the RS PRO Arduino Kit.



Link will be added later once article goes live

**USB-C 6-in-1 General Specification**

|                             |                                                        |
|-----------------------------|--------------------------------------------------------|
| Product Type                | USB-C Hub                                              |
| Configuration               | 6-in-1                                                 |
| USB-C Power Delivery        | Up to 65 W                                             |
| HDMI Video Output           | Up to 4K × 2K @ 60 Hz                                  |
| USB Ports                   | 1 × USB-A 3.0, 1 × USB-A 2.0                           |
| USB-C Data Ports            | 2 × USB-C (Data, 480 Mbps)                             |
| Supported Operating Systems | Windows XP / 7 / 8 / 10, macOS 10.2.8 and later, Linux |
| Operating Temperature       | 0 °C to +50 °C                                         |
| Storage Temperature         | -20 °C to +60 °C                                       |

**Electrical & Interface Specification**

|                       |                        |
|-----------------------|------------------------|
| USB-A 3.0 Data Rate   | Up to 5 Gbps           |
| USB-A 2.0 Data Rate   | Up to 480 Mbps         |
| USB-C Data Rate       | Up to 480 Mbps         |
| Power Input Connector | USB-C (Power Delivery) |
| HDMI Connector        | HDMI (Video output)    |
| Chipset               | CS5366BN + CS7222      |

**Mechanical Specifications**

|                                |                 |
|--------------------------------|-----------------|
| Cable Length                   | 175 mm          |
| Overall Dimensions (L × W × H) | 123 × 30 × 8 mm |
| Weight                         | 55 g            |
| Housing / Package              | Plastic         |
| LED Indicator                  | Not included    |

**Approvals**

|                         |                     |
|-------------------------|---------------------|
| Conformity / Compliance | CE, FCC, UKCA, RoHS |
|-------------------------|---------------------|

**USB-C Power Supply Description**

The USB-C Power Supply is included with the RS PRO Arduino Board Kit to provide a reliable and stable power source for the development board and connected peripherals. It is designed to support continuous operation during development, testing, and evaluation activities. The power supply delivers up to 27 W of output power and supports multiple USB-C Power Delivery voltage profiles, including 5 V, 9 V, 12 V, and 15 V, allowing compatibility with a wide range of USB-C powered devices used alongside the development board. Integrated protection features, such as over-current and short-circuit protection, help ensure safe and dependable operation. To support global use, the power supply is supplied with interchangeable plug adapters for US, EU, UK, and AU sockets, enabling use in different regions without additional adapters. Its compact, wall-mount design allows convenient bench-top or laboratory use as part of the complete RS PRO Arduino Kit.



Link will be added later once article goes live

|                  |                                                |
|------------------|------------------------------------------------|
| Product Type     | USB-C Power Supply                             |
| Model            | P-0044-PD30W1C                                 |
| Output Power     | 27 W (continuous)                              |
| Application      | Raspberry Pi 5 / general USB-C powered devices |
| Plug Type        | Interchangeable (US, EU, UK, AU)               |
| Included Content | 1 × USB-C Power Supply + removable plugs       |
| Compliance       | RoHS compliant                                 |

## Electrical & Interface Specification

|                          |                                                 |
|--------------------------|-------------------------------------------------|
| Input Type               | AC (wall adapter)                               |
| Output Interface         | USB Type-C                                      |
| Output Voltage / Current | 5V / 5A<br>9V / 3A<br>12V / 2.25A<br>15V / 1.8A |
| Total Output Power       | 27W                                             |
| Over Current Protection  | 110%-300%, auto-restart (hiccup mode)           |
| Short Circuit Protection | Continuous protection with self-recovery        |
| Safety Behaviour         | No damage under fault conditions                |

## Environmental Specification

|                       |                |
|-----------------------|----------------|
| Operating Temperature | 0°C to +40°C   |
| Storage Temperature   | -30°C to +70°C |
| Operating Humidity    | 20% to 80% RH  |

## Approvals & Standards

|                          |                                                               |
|--------------------------|---------------------------------------------------------------|
| RoHS Compliance          | Yes                                                           |
| Safety Protections       | OCP (Over Current Protection), SCP (Short Circuit Protection) |
| Environmental Compliance | Meets specified operating/storage conditions                  |