swissbit®

Product Fact Sheet

microSDHC Memory Card for Secure Boot on Raspberry Pi

PS-45u DP Series "Raspberry Edition"

8GB / 32GB
UHS-I Interface, MLC

Date: July 28, 2021
Revision: 1.02

durabit™
"the better MLC"



Made in Germany

Product Fact Sheet
PS-45u DP Series

Product Summary

- **Capacities:** 8 GBytes, 32 GBytes
- **Form Factor:** Standard microSD Memory card form factor - 15.0mm x 11.0mm x 0.7mm (1.0mm)
- **Compliance:** Fully compliant with SD Memory Card specification 2.0 and 3.0 and MICRO SD Memory Card Addendum 4.00
- **Performance:**
  - SD Default speed, SD High speed, SD UHS-I
  - Read Performance: Sequential Read up to 17 MBytes/s, Random Read IOPS up to 800
  - Write Performance: Sequential Write up to 13 MBytes/s, Random Write IOPS up to 500
- **Operating Temperature Range:**
  - Industrial: -40 °C to 85 °C
- **Operating Voltage:** 2.7...3.6V normal operating voltage (Low-power CMOS technology)
- **Data Retention:** 10 Years @ Life Begin / 1 Year @ Life End

Product Features

- **Protecting** Raspberry Pi **boot loader** (works with Raspberry Pi 2, 3B+, CM3+ and 4)
- **Authentication** is performed during the Swissbit customized **pre-boot** phase to unlock access
- **Encrypting user data and boot code** with **AES 256bit** to protect licenses, know-how and IP
- The **boot image can be set as read-only** to prevent unauthorized modification
- Restricting the access to data on the card by various configurable **security policies**
  - **PIN** – check a PIN entered via keyboard
  - **USB** – check presence of a USB authentication device (requires a Swissbit USB PU-50n „Raspberry Edition“).
    Note: USB policy is currently supported on Raspberry Pi 2, 3B+ and CM3+.
  - **NET** policy – check presence of an authentication server in the network (requires an additional RaspberryPi as a server)

Ordering Information

Product Type	Product Series	Capacity	Part Number	Usage
microSD	PS-45u DP “Raspberry Edition”	8 GBytes	SFSD8192N3PM1T0-I-GE-020-RP0	One microSD card (8GB or 32GB) is required
microSD	PS-45u DP “Raspberry Edition”	32 GBytes	SFSD032GN3PM1T0-I-HG-020-RP0	
USB nano	PU-50n DP “Raspberry Edition”	8 GBytes	SFU3008GC1PE2T0-I-GE-020-RP0	Optional – required for “USB policy”

SDK & documentation

The SDK and user documentation is available for download under www.swissbit.com/secure-boot-rpi.

Why Swissbit?

Swissbit strives to create innovative technologies for future market opportunities utilizing a highly skilled in-house research and development team. Swissbit maintains a marketing edge by continuing to manufacture world-class high quality memory and security products and providing customers with both high value and low cost of ownership achieved through efficient processes and procedures.