



**THE DATASHEET OF
SFSD2048N1BN1TO-E-QF-161-STD**



swissbit®

Product Fact Sheet

Industrial
MICRO SD Memory Card

S-200u Series

SPI and SD compliant



S-200U SERIES

MICRO SD Memory Card

1 Feature summary

- Highly-integrated memory controller
 - Fully compliant with SD Memory Card specification 2.0 and Micro SD Memory Card specification 2.0 addendum
 - Four integrated 4KByte Sector Buffers for fast data transfer
- Standard MICRO SD Memory Card form factor
 - 15.0mm x 11.0mm x 0.7mm
- 2.7...3.6V normal operating voltage
- 2.0...3.6V basic communication (CMD0, 15, 55 ACMD41) voltage
- Low-power CMOS technology
- Wear Leveling: equal wear leveling of static and dynamic data.
The wear leveling assures that dynamic data as well as static data is balanced evenly across the memory. With that the maximum write endurance of the device is guaranteed.
- Patented power-off reliability
 - No data loss of older sectors
 - Max. 16 sectors data loss (old data kept) if power off during writing
- High reliability
 - Best available SLC NAND Flash technology
 - Designed for embedded market
 - MTBF: > 3,000,000 hours
 - Number of insertions: >10,000
 - Extended Temperature range: -25° up to 85°C
 - Industrial Temperature range: -40° up to 85°C
- Hot swappable
- CPRM keys optional
- High performance
 - SD burst up to 25MB/s
 - SD Low speed 0...25MHz clock rate
 - SD High speed 25...50MHz clock rate
 - Up to 21/18 MB/s sustained read/write speed
 - Flash burst up to 40MB/s
 - "Default speed cards" with disabled high speed mode available
- Available densities
 - up to 2GBytes
- Controlled BOM
- Life Time Monitoring SD/SPI with standard or vendor commands



2 Order Information

2.1 Standard product list

Table 1: General Product List

Capacity	Part Number
512MB	SFSD0512NgBN1TO-t-ME-1x1-STD
1GB	SFSD1024NgBN1TO-t-DF-1x1-STD
2GB	SFSD2048NgBN1TO-t-QF-1x1-STD

g defines the product generation

t defines the temperature range (E=-25°C to +85°C, I=-40°C to +85°C)

x defines the FW

2.2 Current standard product list

Table 2: General Product List

Capacity	Part Number
Extended Temperature Range	
512MB	SFSD0512N1BN1TO-E-ME-171-STD
1GB	SFSD1024N1BN1TO-E-DF-171-STD
2GB	SFSD2048N1BN1TO-E-QF-171-STD
Industrial Temperature Range	
512MB	SFSD0512N1BN1TO-I-ME-171-STD
1GB	SFSD1024N1BN1TO-I-DF-171-STD
2GB	SFSD2048N1BN1TO-I-QF-171-STD

2.3 Offered options for customer projects

- Customer specified strings and IDs (MID, OID, PNM, PRV)
- Customer specified capacities
- Preload service
- Customized printing and lasering
- Permanent write protected (ROM) with preloaded software
- Default speed mode
- Diagnostic documentation for Card Status Register access or vendor command extension values
- ...

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