

Product Specification

< Product Name: 1x128 SM MEMS Switch Module >

Ver <02>

Creator	_____	Date	Apr 24, 2026
Checker	_____	Date	Apr 24, 2026
Approver	_____	Date	Apr 24, 2026

Content

1. Product Description	4
2. Optical Specification	4
3. Electronic Requirement	4
4. Mechanical Drawing	6
5. Connector and Labeling	6

1. Product Description

Part Number	Product Family	Product Description
	MEMS Switch	

2. Optical Specification

Parameters	Spec	Unit
Channels	1x128	CH
Wavelength Range	1280-1650	nm
Test Wavelength	1310/1550/1610	nm
Insertion Loss ^{1 2}	≤ 1.6	dB
Return Loss	≥ 50	dB
Crosstalk	≥ 55	
Repeatability	≤ 0.1	dB
PDL	≤ 0.3	dB
TDL	≤ 0.5	dB
Operating Temperature	-5 ~ +70	°C
Storage Temperature	-40 ~ +85	°C
Max Power Handling	≤ 27	dBm
Response Time	≤ 30	ms
Durability	≥ 1×10 ⁹	Cycle
Drive Voltage	5	V
Control Type	UART TTL	--

Notes:

- 1) The loss is based on the test results at 23°C.
- 2) Excluding connector, the insertion loss of connector is increased by 0.2dB.

3. Electronic Requirement

16Pin Definition:

Pin	Type	Description
3	VCC	DC +5V
4		
5	GND	Ground
6		
9	TXD	Data Send
10	RXD	Data Receive
Others	NC	No Connection

Initial Status:

- 1) The loss is >25db, if there is no power input for Vcc.
- 2) UART parameter: 115200,8,1, N

Command Definition:

- 1) All sending instructions start with "<", All response instructions end with ">".

Command:

Check Product Information

Command	*IDN
Parameter	None
Return data	Product Information (Max 24 type)
Sample: (S): *IDN<CR> (R): <CR><LF>JCG- MEMS-1×N-SM<CR><LF>	

Check Switch Channels

Command	*SW(n)
Parameter	None—check the existing channel; n—set the switch channel
Return data	Output channel n, return ErrCh if error
Sample: (S): *SW001<CR> (R): <CR><LF>CHAN:001<CR><LF>	

Check Part Number

Command	*PN
Parameter	None
Return data	Part Number (Max 16 type)
Sample: (S): *PN<CR> (R): <CR><LF>01.08.0001<CR><LF>	

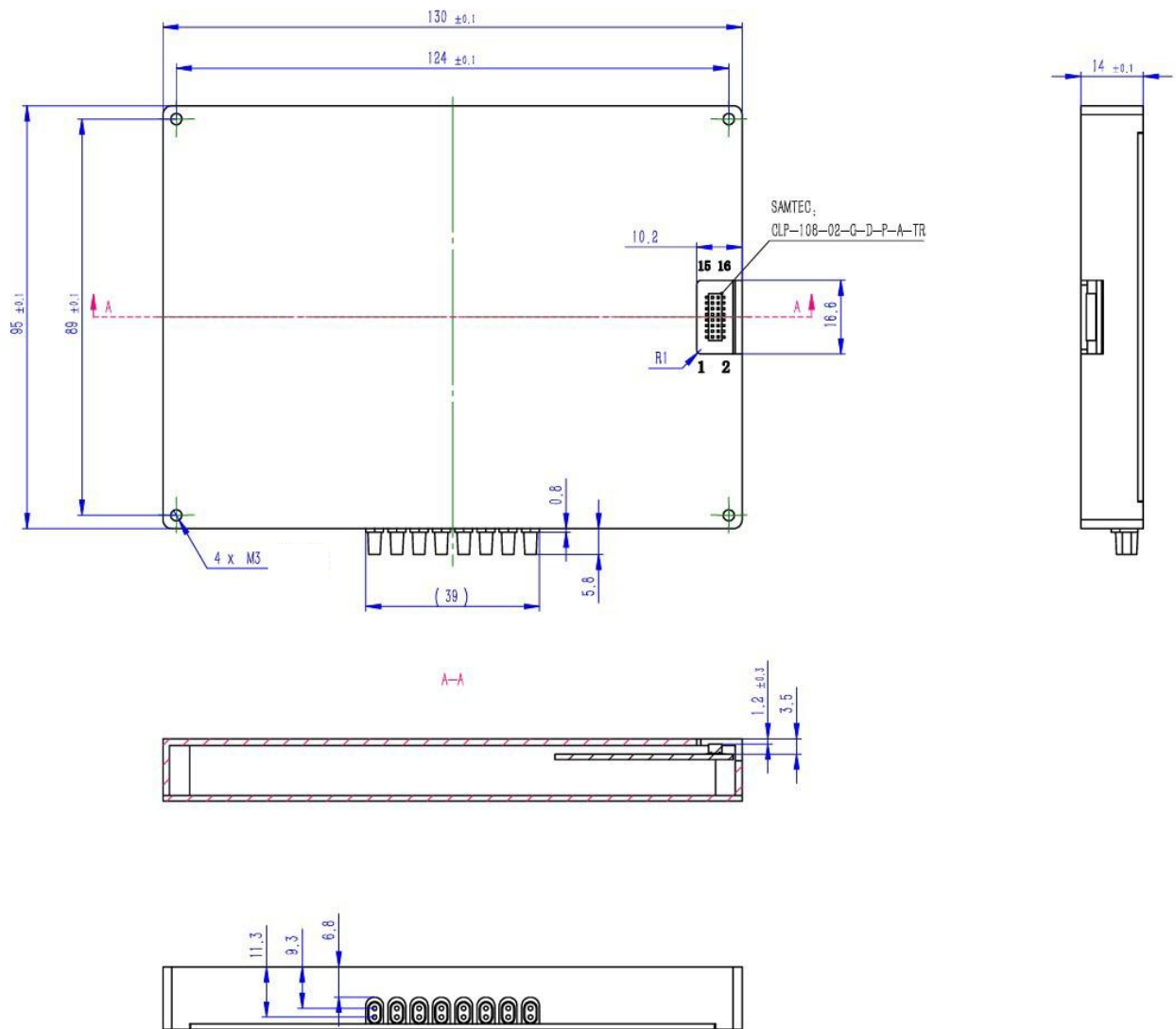
Check Serial Number

Command	*SN
Parameter	None
Return data	Serial Number (Max 16 type)
Sample: (S): *SN<CR> (R): <CR><LF>M0000010001<CR><LF>	

Check Firmware Version

Command	*VER
Parameter	None
Return data	PCB: xx, PGR: xx
Sample: (S): *VER<CR> (R) : <CR><LF>PCB:A1-1; PGR:V02<CR><LF>	

4. Mechanical Drawing



Notes:

- 1) Package size: 130x95x14mm.
- 2) The electrical connector model is [SAMTEC CLP-108-02-G-D-P-A-TR](#), suggest to use the matched connector on customer side is DW127R-22-14-23.

5. Connector and Labeling

Parameters	Specification
Fiber Type	9/125um fiber Input with 0.9mm blue loose tube, Output with 0.9mm white loose tube
Fiber Length/Tolerance	1+/-0.05m (Without connector, from case edge to connector boot)
Connector	TBD