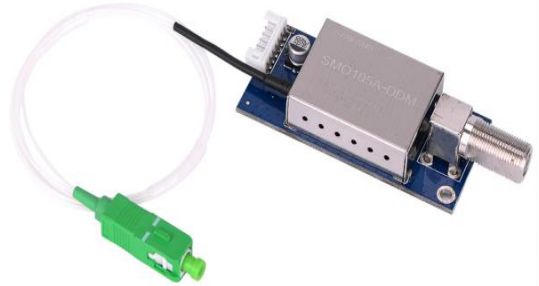


### FEATURES

- The Optical Input controlled in the range of -8dBm to +2dBm
- Single +5V Supply
- Extremely low noise
- Bandwidth 1000MHz
- Monitor the temperature of high precision
- Can control the RF signal closing and opening
- FC/APC SC/APC



### DESCRIPTION

The SMO105A-DDM has an FC/APC or SC/APC Connector. The amplifier supply voltage pin Connect to 5V(DC) .The modules have a monomode optical input Suitable for 1300 to 1600nm wavelengths a terminal to monitor the photo diode current and an electrical Output having a characteristic impedance of 75Ω.

### QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNITS
f	Frequency range		40	1000	MHz
S <sub>22</sub>	Output return losses	f=40 to 1000 MHz	-	-12	dB
	Optical input return losses		45	-	dB
I <sub>tot</sub>	Total current consumption(DC)	V <sub>B</sub> =5V	230	280	mA

### HANDLING

Fibreglass optical coupling: maximum tensile strength=5N;minimum bending radius=35mm

### LIMITING VALUES

In accordance with the Absolute Maximum Rating System

SYMBOL	PARAMETER	CONDITION	MIN.	MAX.	UNITS
P <sub>in</sub>	optical input power		-	3	mW
T <sub>stg</sub>	Storage temperature		-40	+85	°C
T <sub>mb</sub>	Operating mounting base temperature	continuous	-20	+85	°C
ESD	ESD sensitivity	Human body model; R=1.5KΩ;C=100pF	500	-	V

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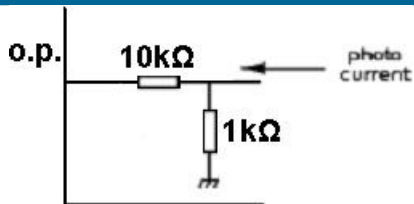
**CHARACTERISTICS**

(Bandwidth 40 to 1000MHz;  $T_{mb}=25^{\circ}C$ ,  $V_B=5V$ ,  $Z_S=Z_L=75\Omega$ )

SYMBOL	PARAMETER	UNIT	MIN.	TYP.	MAX.	CONDITIONS
s	responsively	V/W	850	-	-	$\lambda=1300nm-1600nm$
FL	Flatness of frequency response	dB	-	$\pm 0.75$	-	$f=40$ to 1000 MHz
$V_o$	Output Voltage	dBuV	79	80	81	$P_{opt}= -8 - +2dBm, f=550MHz,$
CTB	Composite Triple Beat	dB	-	-	-62	Test at Optical input Power -1dBm.84 PAL-D channels
CSO	Composite Second Order distortion	dB	-	-	-61	
CNR	Noise carrier rating	dB	-	50	-	DS22, OMI=3.5%per channel
$S_{22}$	Output Return Loss	dB	-12	-	-	$f=40$ to 1000 MHz
$I_{tot}$	Total Current Consumption	mA	230	250	280	$V_B=5V$

The module normally operates at  $V_B=5V$

**PHOTODIODE CURRENT MONITOR PIN(Voltage Unit:V)**

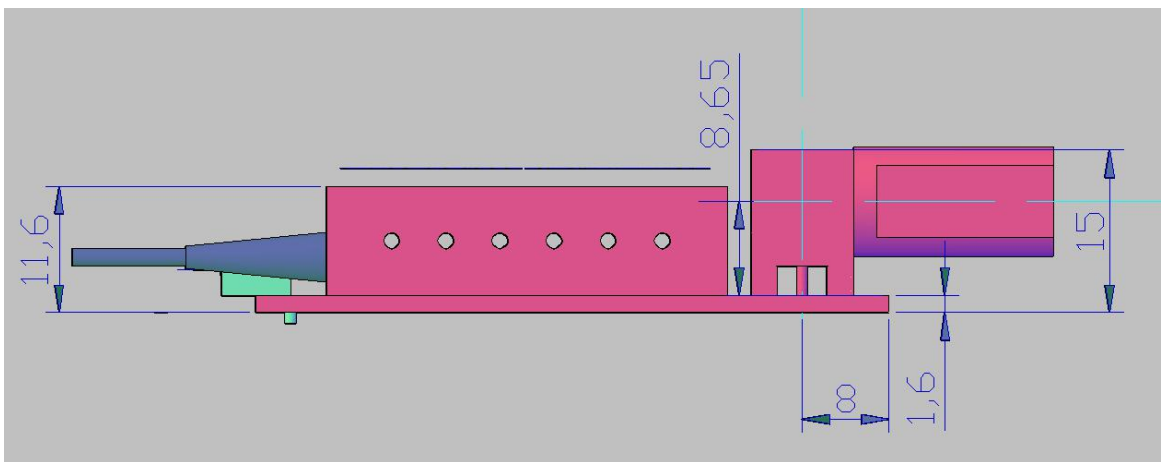
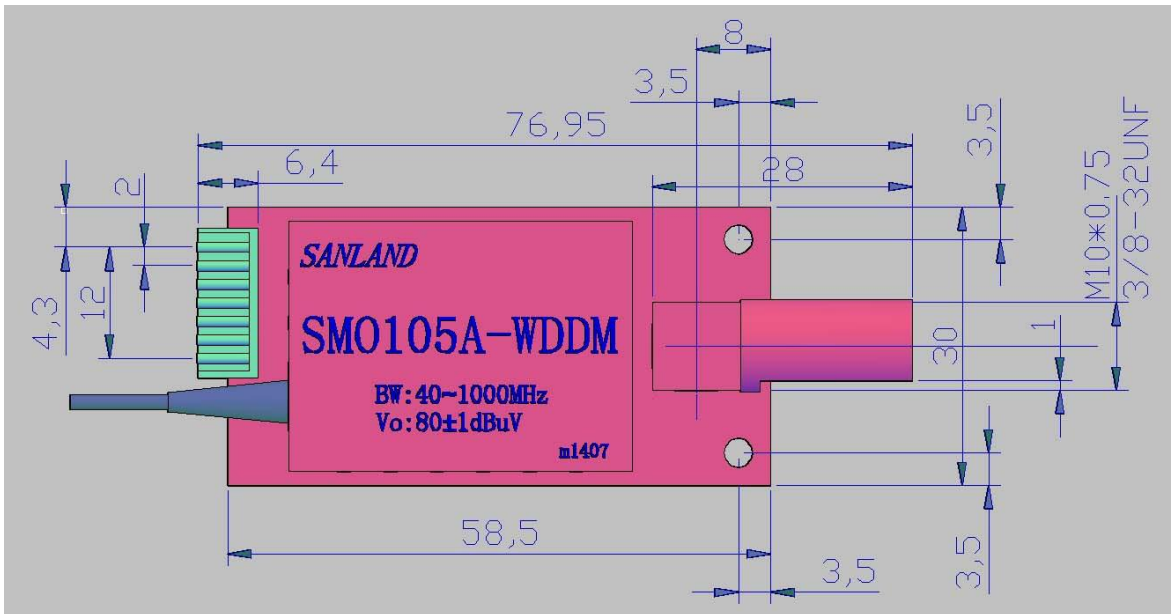


Optical power	Voltage	Optical power	Voltage
2.50	1.778	-4.00	0.398
2.00	1.585	-4.50	0.355
1.50	1.413	-5.00	0.316
1.00	1.259	-5.50	0.282
0.50	1.122	-6.00	0.251
0.00	1.000	-6.50	0.224
-0.50	0.891	-7.00	0.200
-1.00	0.794	-7.50	0.178
-1.50	0.708	-8.00	0.158
-2.00	0.631	-8.50	0.141
-2.50	0.562	-9.00	0.126
-3.00	0.501	-9.50	0.112
-3.50	0.447	-10.00	0.100

**PIN DESCRIPTION**

PIN	Description	
1	O.P	Optical power
2	+5V	Single +5V supply
3	GND	Ground
4	DQ	DQ is a digital signal input / output (Please refer to the DS18B20 datasheet)
5	VDD	VDD is connected with the power supply input end. (Please refer to the DS18B20 datasheet)
6	RF-OUTPUT POWER	From the internal level is converted to a voltage, Pin is the output voltage.
7	RF OFF/NO	RF signal on and off (Start voltage: 3V ~ 5V, close voltage: 0V ~ 1V)

### MODULE DIMENSIONS(Unit:mm)



#### Note:

RF connector graduated in both inches and centimetres. Metric size is M10\*0.75. Inch size is M10\*0.75.