

SANLAND

Optical Receivers

SMO33A/CATV

FEATURES

- Excellent Linearity
- High Optical Input Power Range
- Excellent Flatness
- Optimal Reliability
- Low Noise
- FC/APC SC/APC
- RF-AGC



DESCRIPTION

The SMO33A has an FC/APC or SC/APC connector. The amplifier supply voltage pin is connected to 12V(DC).The modules have a mono mode optical input suitable for 1290 to 1600nm wavelengths, a terminal to monitor the photo diode current and an electrical output having a characteristic impedance of 75Ω . optical power receiving at $-8 \sim +2\text{dBm}$.

Pin Description

15	GND	GND	1
14	V _{S/O}	V _B	2
13	GND	GND	3
12	GND	RF _{out}	4
11	GND	GND	5
10	S _{OP}	NC	6
9	GND	GND	7
8	GND	GND	

PIN	NAME	DESCRIPTION	PIN	NAME	DESCRIPTION.
1	GND	Ground	8	GND	Ground
2	V _B	+12V Supply for the pin	9	GND	Ground
3	GND	Ground	10	S _{OP}	Optical Power Sense
4	RF _{out}	Output for the pin	11	GND	Ground
5	GND	Ground	12	GND	Ground
6	NC	NC	13	GND	Ground
7	GND	Ground	14	V _{S/O}	External +5V when shutdown. External 0V when open up
--	--	--	15	GND	Ground

SANLAND ELECTRONIC

- Tel: 86-0755-28968333
- Fax: 86-0755-89724455
- Rev B 01/2013

- Http: www.sanland-catv.com
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QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNITS
f	Frequency range		40	870	MHz
V _O	Output voltage	f=543.25MHz	79	-	dBμV
S ₂₂	Output return losses	f=40 to 870 MHz	12	-	dB
	Optical input return losses		45	-	dB
I _{tot}	Total current consumption(DC)	V _B =12V	130	140	mA

HANDLING

Fiberglass 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 _{in}	Optical input power	continuous	-	3	mW
T _{stg}	Storage temperature		-40	+85	°C
T _{mb}	Operating mounting base temperature		-20	+85	°C
ESD	ESD sensitivity	Human body model; R=1.5K Ω ;C=100pF	500	-	V

CHARACTERISTICS

(Bandwidth 40 to 870MHz; T_{mb}=25°C, V_B=5V, Z_S=Z_L=75 Ω)

SYMBOL	PARAMETER	UNIT	MIN.	TYP.	MAX.	CONDITIONS
S	Responsivity	V/W	850	-	-	λ =1310nm
FL	Flatness straight line	dB	-	-	±0.6	f=40 to 870 MHz
V _o	Output voltage	dBμV	-	79	-	60~85channels flat; Optical power receiving at -8~+2dBm
CTB①/②	Composite triple beat	dB	-	-	-67/-64	60 channels flat;
CSO①/②	Composite second order distortion	dB	-	-	-63/-61	measured at 543.25 MHz; Optical power receiving at -8~+2dBm
CNR	Carrier to noise ratio	dB	-	50	-	Optical power receiving at -1 dBm
S ₂₂	Output return loss	dB	12	-	-	f=40 to 870 MHZ
S _λ	Spectral sensitivity	A/W	0.85	-	-	λ =1310±20nm
		A/W	0.9	-	-	λ =1550±20nm
λ	Optical wavelength	nm	1290	-	1600	-

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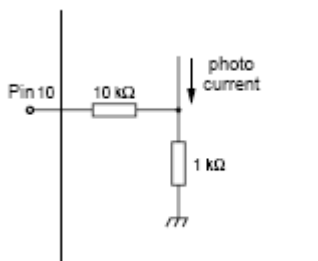
SMO33A/CATV

I_{tot}	Total Current Consumption	mA	130	-	150	$V_B=12V$
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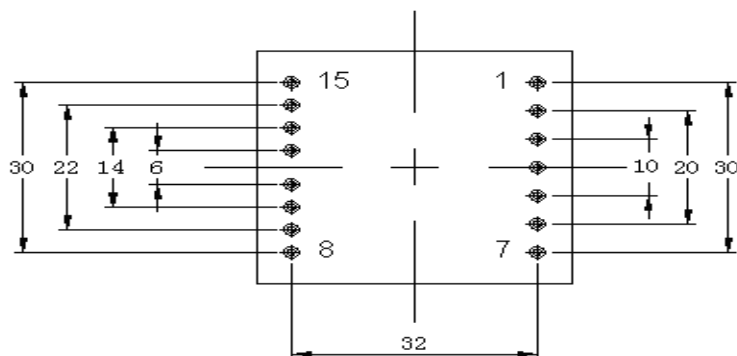
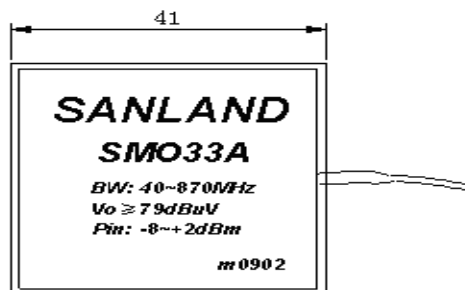
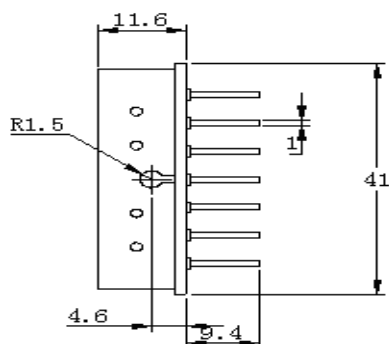
①Optical power at $-8dBm$; ②Optical power at $+2dBm$.

The module normally operates at $V_B=5V(\pm 0.1)$

PHOTODIODE CURRENT MONITOR PIN



MODULE OUTLINE



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