

### 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~+2dBm.

#### Pin Description

Pin	Description
15	GND
14	V <sub>S/O</sub>
13	GND
12	GND
11	GND
10	S <sub>OP</sub>
9	GND
8	GND

PIN	NAME	DESCRIPTION	PIN	NAME	DESCRIPTION.
1	GND	Ground	8	GND	Ground
2	V <sub>B</sub>	+12V Supply for the pin	9	GND	Ground
3	GND	Ground	10	S <sub>OP</sub>	Optical Power Sense
4	RFout	Output for the pin	11	GND	Ground
5	GND	Ground	12	GND	Ground
6	NC	NC	13	GND	Ground
7	GND	Ground	14	V <sub>S/O</sub>	External +5V when shutdown. External 0V when open up
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### QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNITS
f	Frequency range		40	870	MHz
V <sub>o</sub>	Output voltage	f=543.25MHz	79	-	dB $\mu$ V
S <sub>22</sub>	Output return losses	f=40 to 870 MHz	12	-	dB
	Optical input return losses		45	-	dB
I <sub>tot</sub>	Total current consumption(DC)	V <sub>B</sub> =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 <sub>in</sub>	Optical input power	continuous	-	3	mW
T <sub>stg</sub>	Storage temperature		-40	+85	°C
T <sub>mb</sub>	Operating mounting base temperature		-20	+85	°C
ESD	ESD sensitivity	Human body model; R=1.5K $\Omega$ ;C=100pF	500	-	V

### CHARACTERISTICS

(Bandwidth 40 to 870MHz; T<sub>mb</sub>=25°C, V<sub>B</sub>=5V, Z<sub>S</sub>=Z<sub>L</sub>=75  $\Omega$ )

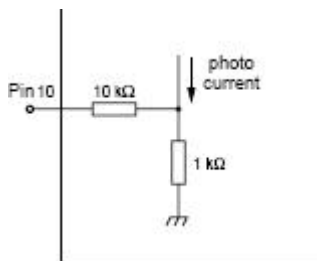
SYMBOL	PARAMETER	UNIT	MIN.	TYP.	MAX.	CONDITIONS
S	Responsivity	V/W	850	-	-	$\lambda$ =1310nm
FL	Flatness straight line	dB	-	-	$\pm$ 0.6	f=40 to 870 MHz
V <sub>o</sub>	Output voltage	dB $\mu$ V	-	79	-	60-85channels flat; Optical power receiving at -8~+2dBm
CTB①/②	Composite triple beat	dB	-	-	-67/-64	60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

$I_{tot}$	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

