

**FEATURES**

- | GaAs design
- | Excellent linearity
- | Excellent MER and BER
- | Extremely low noise
- | Excellent return loss properties
- | FC/APC SC/APC

**DESCRIPTION**

The FA7810BO-12 has a FC/APC or SC/APC Connector. Optical power receiver range -15 ~ +2dBm.

The optical receiver module in a KA-B package operating at one voltage supply of DC12V.

The module contains a monomode optical input suitable for wavelengths from 1290 to 1600nm.

Intenal proprietary impedance match cirucitry (75Ω).

**QUICK REFERENCE DATA**

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
f	Frequency range		40	1000	MHz
S22	Output return loss	F=40 to 1000 MHz	-16	-12	dB
Vo	Output level (one output)	OP <sub>in</sub> = 0dBm	81	83	dBuV
C/N	Noise carrier rating	Po= 0dBm; 60 channels flat	-51		dB
CTB	Composite triple beat	Po= 0dBm; 60 channels flat measured at 543.25 MHz	>-70	-	dBc
CSO	Composite second order distortion	Po= 0dBm; 60 channels flat measured at 545.25 MHz	>-70	-	dBc
VCC	Power Supply	Bias、 Pin 2	11.5	12.5	V
Itot	Total current consumption	VB = +12V	100	125	mA
NF	Noise Figure	f=1000MHz	3.5	4.5	Pa/√Hz
PDISS	Dissipation	-	1.2	1.3	W



## Optical receiver module

FA7810BO-12

### LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
F	Frequency range		40	1000	MHz
Tstg	Storage temperature		-40	+85	°C
Tmb	Operating mounting base temperature		-20	+85	°C
Pin	Optical input power	Continuous	—	3	mW
ESD	ESD sensitivity	Human body model R=1.5K $\Omega$ ;C=100pF	1000	—	V

### CHARACTERISTICS

Bandwidth 40 to 1000 MHz;  $V_B=+12V$ ;  $T_{mb}=30^\circ C$  ;  $Z_s=Z_L=75 \Omega$

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
S	Responsivity	$\lambda =1310nm$	850	—	V/W
Vpin 1	Pin 1 monitor voltage	$\lambda =1310nm$	0.85	1	V/mW
FL	Flatness of frequency response		—	$\pm 0.35$	dB
S22	Output return loss	F=40 to 1000 MHz	-16	-12	dB
S11	Optical input return loss		-50	—	dB
d2	Second order distortion	Note 1	-68	—	dB
d3	Third order distortion	Note 2	-70	—	dB
NF	Equivalent noise input	F=40 MHz	—	4.5	Pa/ $\sqrt{Hz}$
S $\lambda$	Spectral sensitivity	$\lambda =1310 \pm 20nm$	0.85	—	A/W
		$\lambda =1550 \pm 20nm$	0.95	—	A/W
$\lambda$	Optical wavelength		1290	1600	nm
VCC	Power Supply	Bias、 Pin 2	11.5	12.5	V
Itot	Total current consumption	$V_B = +12V$	100	125	mA

#### Notes

1. Two laser test; each laser with 40% modulation index;

$f_p=135MHz$ ;  $P_p=0.5mW$ ;

$f_q=189.25MHz$ ;  $P_q=0.5mW$ ;

measured at  $f_p+f_q=324.25MHz$ .

2. Three laser test; each laser with 40% modulation index;

$f_p=326.25MHz$ ;  $P_p=0.33mW$ ;

$f_q=333.25MHz$ ;  $P_q=0.33mW$ ;

$f_r=335.25MHz$ ;  $P_r=0.33mW$ ;

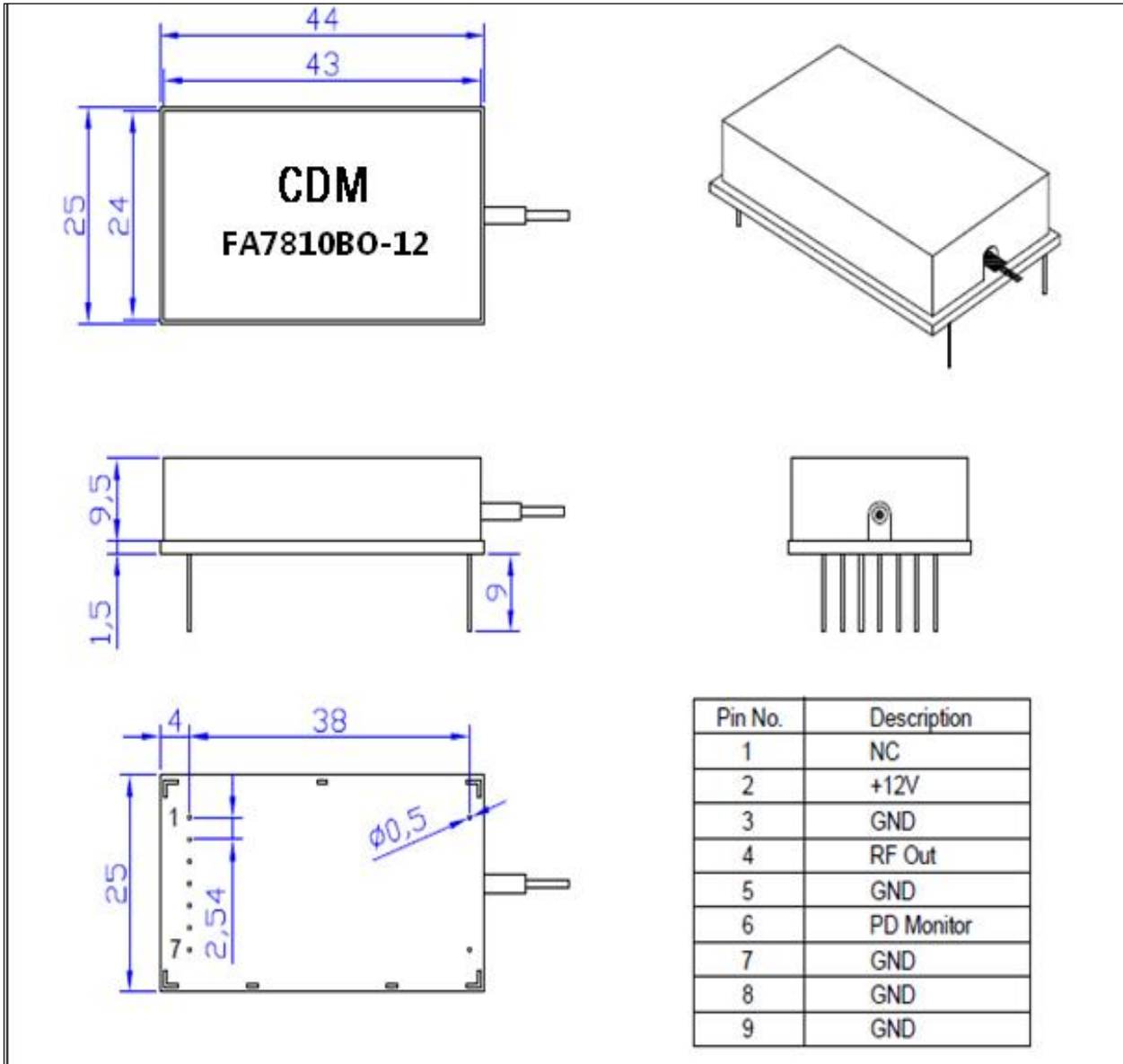
measured at  $f_p+f_q-f_r=324.25MHz$ .



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FA7810BO-12

### PACKAGE OUTLINE



**UNIT: mm**

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