

### FEATURES

- GaAs design
- Excellent linearity
- 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 -10 ~ +2dBm. 40 MHz – 1000 MHz bandwidth supports as many as 110 CATV analog channels or a combination of analog and digital channels including HDTV broadcast.

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.	TYP.	MAX.	UNIT
f	Frequency range		40	-	1000	MHz
S22	Output return loss	F=40 to 1000 MHz	-	-10	-	dB
Vo	Output level (one output)		-	82	-	dBuV
C/N	Noise carrier rating	Po= 0dBm; 60 channels flat measured at 543.25 MHz	-	-51	-	dB
CTB	Composite triple beat		-	-70	-	dBc
CSO	Composite second order distortion		-	-66	-	dBc
VCC	Power Supply	Pin 1	-	12	15	V
		Pin 2	-	12	-	
Itot	Total current consumption	Pin 1	-	-	5	mA
		Pin 2	75	85	95	
NF	Noise Figure	f=1000MHz	-	4.0	4.5	Pa/ √ Hz
P <sub>DISS</sub>	Dissipation	-	-	1.2	1.3	W

### LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	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	-	-	5	mW
ESD	ESD sensitivity	Human body model R=1.5K Ω ;C=100pF	1000	-	-	V

### CHARACTERISTICS

Bandwidth 40 to 1000 MHz; T<sub>mb</sub>=30 °C ; Z<sub>s</sub>=Z<sub>L</sub>=75 Ω

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
S	Responsivity	λ =1310nm	850	-	-	V/W
FL	Flatness of frequency response		-	±0.5	±0.75	dB
S22	Output return loss	F=40 to 1000 MHz	-	-10	-	dB
d2	Second order distortion	Note 1	-	-68	-	dB
d3	Third order distortion	Note 2	-	-70	-	dB
S λ	Spectral sensitivity	λ =1310 ± 20nm	0.85	-	-	A/W
		λ =1550 ± 20nm	0.95	-	-	A/W
λ	Optical wavelength		1290	-	1600	nm
VCC	Power Supply	Pin 1	-	12	15	V
		Pin 2	-	12	-	
I <sub>tot</sub>	Total current consumption	Pin 1	-	-	5	mA
		Pin 2	75	85	95	

### Notes

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

fp=135MHz; Pp=0.5mW;

fq=189.25MHz; Pq=0.5mW;

measured at fp+fq=324.25MHz.

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

fp=326.25MHz; Pp=0.33mW;

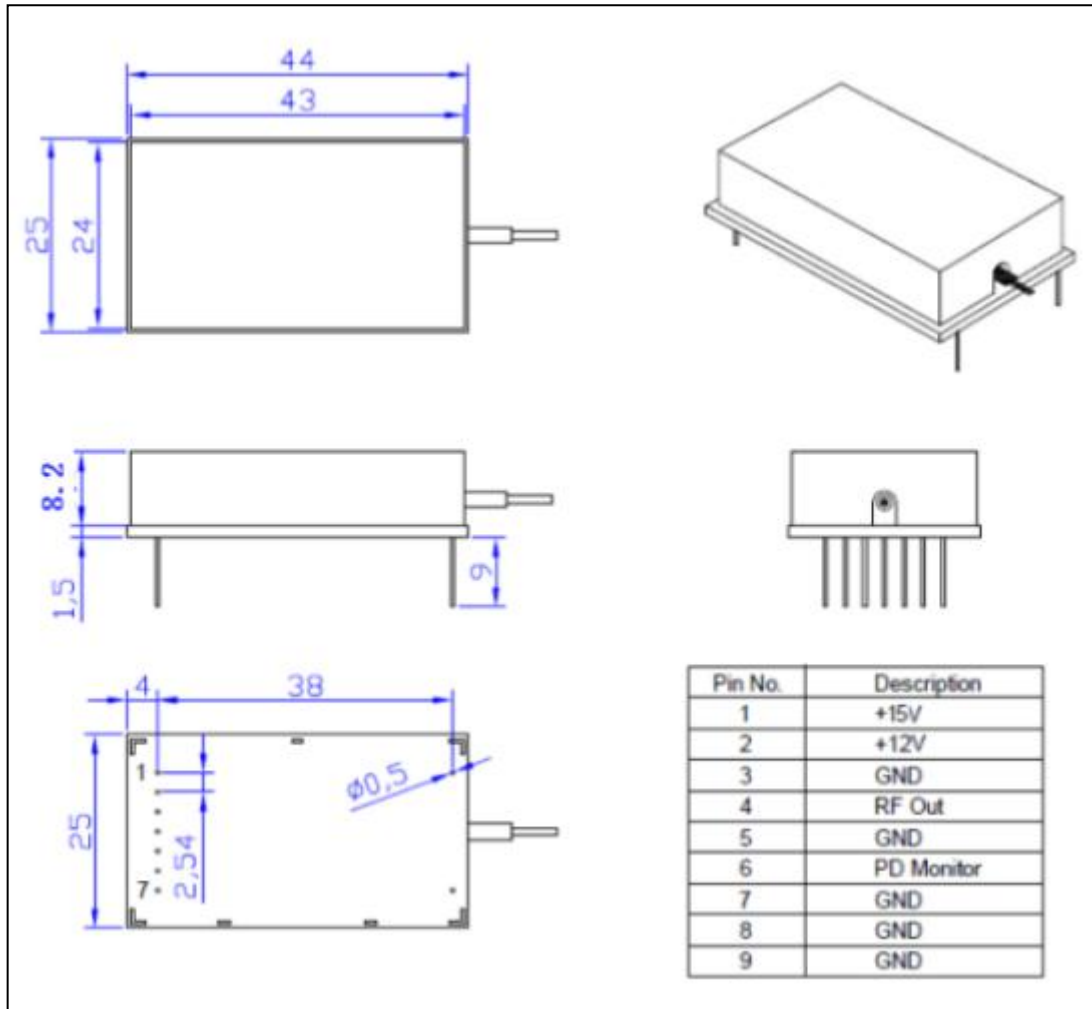
fq=333.25MHz; Pq=0.33mW;

fr=335.25MHz; Pr=0.33mW;

measured at fp+fq-fr=324.25MHz.



### PACKAGE OUTLINE



UNIT: mm

Comm Devices MFG Inc. 917 Westridge Dr. Milpitas, CA 95035

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