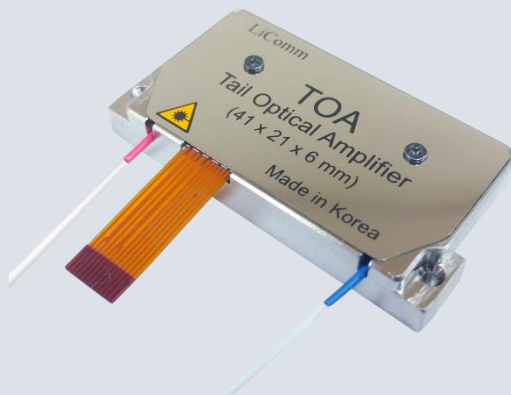


**Optical Fiber Amplifier**  
**TOA**  
**(Tail Optical Amplifier)**  
**Fits in CFP2 platform**  
**OFG-TCE Series**

LiComm's unique TOA EDFA is small enough to fit into CFP2 units. This world's smallest and unique EDFA for Analog or Digital Coherent Optics ACO/ DCO, takes up little space as it fits into a CFP2 housing efficiently. It's a fully functioning optical amplifier engine with VOA, TOF or both inside. Designed for single wavelength applications in full extended c-band colorless 100G coherent ROADM system, it has a very stable optical power over 0-70°C matched with an extremely low power consumption. This makes it highly suitable for applications of power-equalization or pre-emphasis in densely packaged Communications systems



#### Features

- Ultra compact size ( 41.5 x 21.1 x 6.15 mm ) and suitable in CFP2 Housing
- Full EDFA Gain Block include VOA, TOF or VOA + TOF
- Full C-band operating wavelength range
- Extremely low power consumption over wide operating temperature range

#### Applications

- CFP2-ACO or CFP2-DCO of Coherent Transceiver

## Optical Fiber Amplifier

# TOA (Tail Optical Amplifier)

### Optical Characteristics

Parameter	Symbol	OFG-TCE		Unit
		w/ TOF+VOA	w/o TOF+VOA	
Signal wavelength range	$\lambda$	1528.77 ~ 1568.36		nm
Operating input power	$P_{IN}$	-30 ~ 5		dBm
Saturation output power <sup>(1)</sup>	$P_{OUT}$	Max. 12	Max. 17	dBm
Small signal gain <sup>(2)</sup>	$G_{SS}$	Typ. 30		dB
In-band OSNR <sup>(3)</sup>	OSNR <sub>i</sub>	Min. 40	Min. 40	dB
Out-band OSNR <sup>(3)</sup>	OSNR <sub>o</sub>	Min. 40	Min. 35	dB
Noise figure		Typ. 7.0		dB
Filter tuning range	FTR	1528~1568	-	nm
Attenuation range	VOA	Min. 20	-	dB
Output optical isolation	O-ISO	Min. 20		dB
Return loss	RL	Min. 40		dB
Polarization mode dispersion	PMD	Max. 0.5		ps
Polarization dependent gain	PDG	Max. 0.5		dB

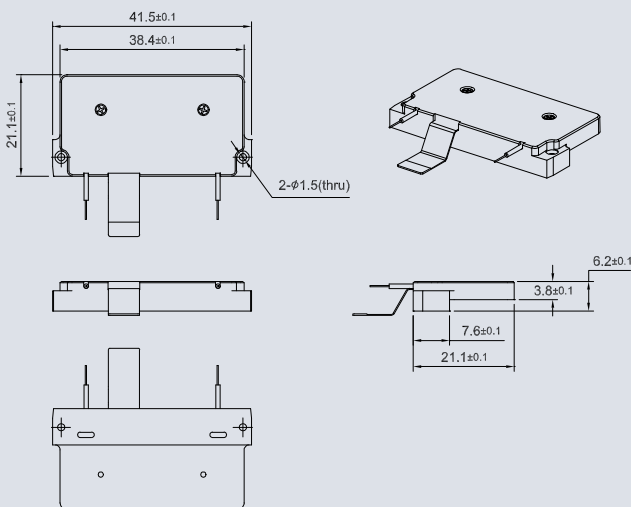
(1) Input Power = 0dBm

(2) w/ TOFA+VOA : Input Power = -30dBm, Pout≥0dBm at 1545 nm

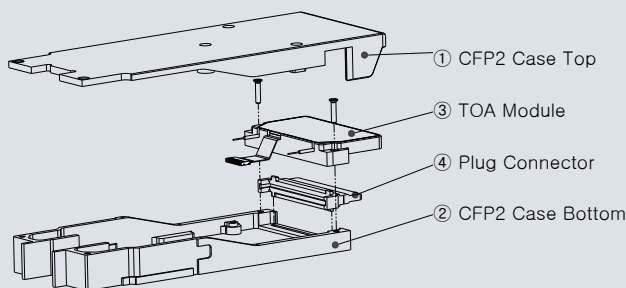
w/o TOFA+VOA : Input Power = -30dBm, Pout≥+7dBm at 1545 nm

(3) Input Power = -10dBm, Pout≥0dBm over operating wavelength range

### Mechanical Dimension (41.5 x 21.1 x 6.15 [mm])



### Assembly drawing (TOA into CFP2)



### Electric & Environmental Characteristics

Parameter	Typical Value
Operating case temperature	-5 ~ 75 °C
Storage temperature	-40 ~ 85 °C
Storage humidity	5 ~ 85 % R.H
Power consumption <sup>(1)</sup>	≤ 2.5 W

(1) at Max. output power in normal input power =0dBm and full temperature range  
 Max.  $P_{Tot}$  is less than 1.0W at Pout=+10dBm or less.

### Ordering Information

<b>OFG</b>	-	<b>TCE</b>	-	<b>X<sub>1</sub>X<sub>2</sub>AC</b>	-	<b>Y<sub>1</sub>Y<sub>2</sub>Y<sub>3</sub></b>	-	<b>Z<sub>1</sub>Z<sub>2</sub></b>
<p>X<sub>1</sub>X<sub>2</sub>: Max. Output Power (dBm)</p> <p>Y<sub>1</sub>Y<sub>2</sub>: NA(Not available), VA(VOA), TF(TOF),AF(VOA+TOF)</p> <p>Y<sub>3</sub>: I(IPM), Not available without IPM</p> <p>Z<sub>1</sub>Z<sub>2</sub>: LU(LC/UPC), LA(LC/APC)</p>								

### LiComm Co., Ltd.

#### Address

109, Baekja-ro Idong-myeon, Cheoin-gu, Yongin-Si,  
 Gyeonggi-Do, 17126, Korea

Tel: +82-31-323-1926, 1936 Fax: +82-31-323-2447

E-mail: sale@licomm.com Website : www.licomm.com