

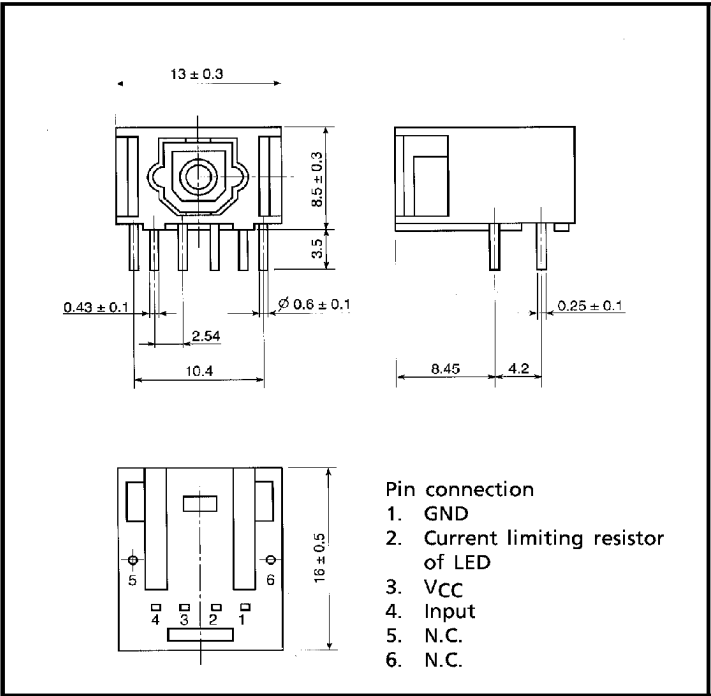
FIBER OPTIC TRANSMITTING MODULE

TOTX180A

FIBER OPTIC TRANSMITTING MODULE FOR  
SIMPLEX DIGITAL SIGNAL TRANSMISSION

Unit in mm

- Data rate : DC to 6Mb/s (NRZ code)
- Transmission distance : Up to 40m
- Ceramic Package Type
- TTL interface
- LED is driven by differential cuicuit.



1. Maximum Ratings (Ta = 25°C)

ITEM	SYMBOL	RATING	UNIT
Storage Temperature	T <sub>stg</sub>	-40 to 85	°C
Operating Temperature	T <sub>opr</sub>	-40 to 85	°C
Supply Voltage	V <sub>CC</sub>	-0.5 to 7	V
Input Voltage	V <sub>IN</sub>	-0.5 to V <sub>CC</sub> + 0.5	V
Soldering Temperature	T <sub>sol</sub>	260 <sup>(1)</sup>	°C

Note <sup>(1)</sup> Soldering time ≤ 3 seconds (More than 1mm apart from package).

Handling precaution : The LEDs used in this product contain GaAs (Gallium Arsenide). Care must be taken to protect the safety of people and the environment when scrapping or terminal processing.

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- Gallium arsenide (GaAs) is a substance used in the products described in this document. GaAs dust and fumes are toxic. Do not break, cut or pulverize the product, or use chemicals to dissolve them. When disposing of the products, follow the appropriate regulations. Do not dispose of the products with other industrial waste or with domestic garbage.
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## 2. Recommended Operating Conditions

ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT
Supply Voltage	$V_{CC}$	4.75	5.0	5.25	V
High Level Input Voltage	$V_{IH}$	2.0	—	$V_{CC}$	V
Low Level Input Voltage	$V_{IL}$	0	—	0.8	V

3. Electrical and Optical Characteristics (Ta = 25°C,  $V_{CC}$  = 5V)

ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Data Rate		NRZ Code <sup>(2)</sup>	DC	—	6	Mb / s
Transmission Distance		Using APF <sup>(3)</sup> and TORX180	0.2	—	40	m
Pulse Width Distortion <sup>(4)</sup>	$\Delta tw$	Using TORX180 Pulse width 165ns Pulse cycle 330ns, $C_L=10pF$	—55	—	55	ns
Fiber Output Power	$P_f$	APF 2m, $R=0\Omega$ <sup>(5)</sup>	—15	—	—9	dBm
Peak Emission Wavelength	$\lambda_p$		—	650	—	nm
Current Consumption	$I_{CC}$	$R=0\Omega$	—	67	85	mA
High Level Input Voltage	$V_{IH}$		2.0	—	—	V
Low Level Input Voltage	$V_{IL}$		—	—	0.8	V
High Level Input Current	$I_{IH}$	$V_I=2.7V$	—	—	20	$\mu A$
Low Level Input Current	$I_{IL}$	$V_I=0.4V$	—	—	—0.4	mA

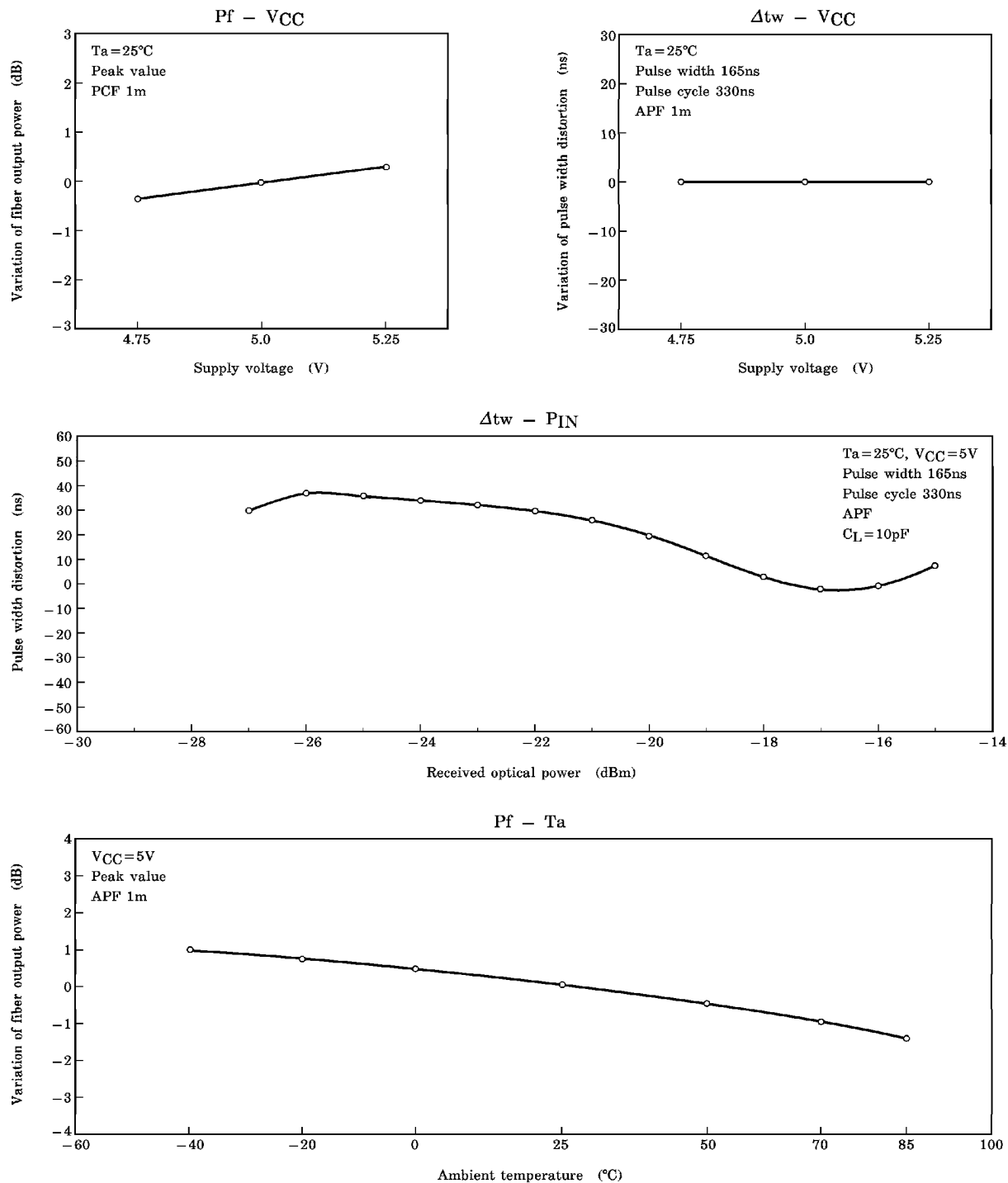
<sup>(2)</sup> LED is on when input signal is high level, it is off when low level.

For data rate > 3Mb/s, the duty factor must be kept 25 to 75%.

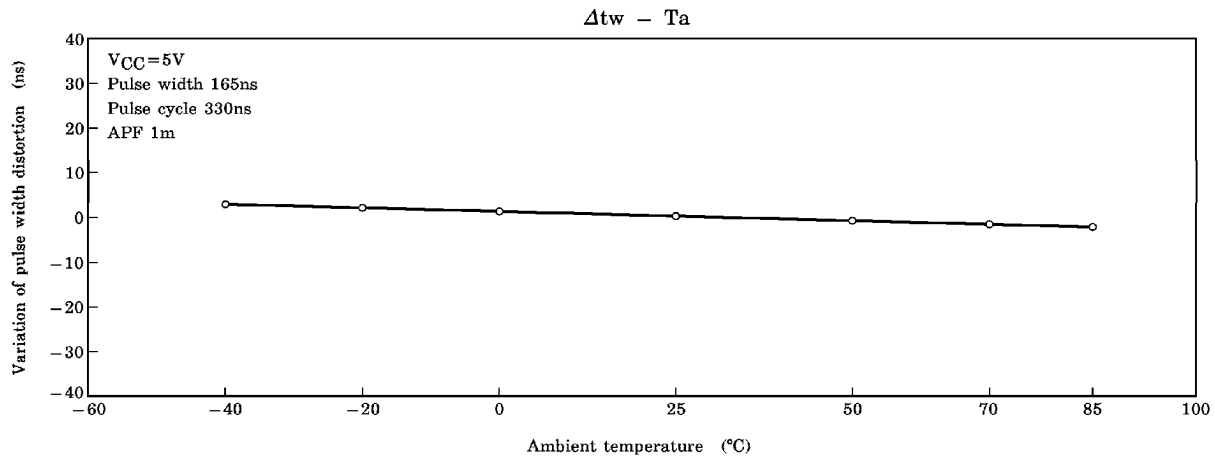
<sup>(3)</sup> All Plastic Fiber (980 / 1000 $\mu m$ ).

<sup>(4)</sup> Between input of TOTX180A and output of TORX180.

<sup>(5)</sup> Measure with a standard optical fiber with fiber optic connectors. Valued by peak.

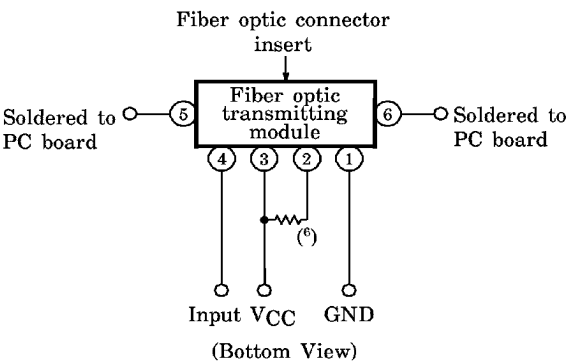
4. Example of Typical Characteristics <sup>(7)</sup>

Note. <sup>(7)</sup> There give characteristic examples, and its values are not guaranteed.



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5. Connection Method



Note <sup>(6)</sup> Select a resistor value as follows :

TRANSMISSION DISTANCE (m)	RESISTOR (Ω)
0.2 to 15	8.2k
15 to 30	2.4k
30 to 40	0

6. Applicable Optical Fiber with Fiber Optic Connectors

TOCP100-□□B, TOCP155-□□B, TOCP100P-□□B, TOCP155P-□□B