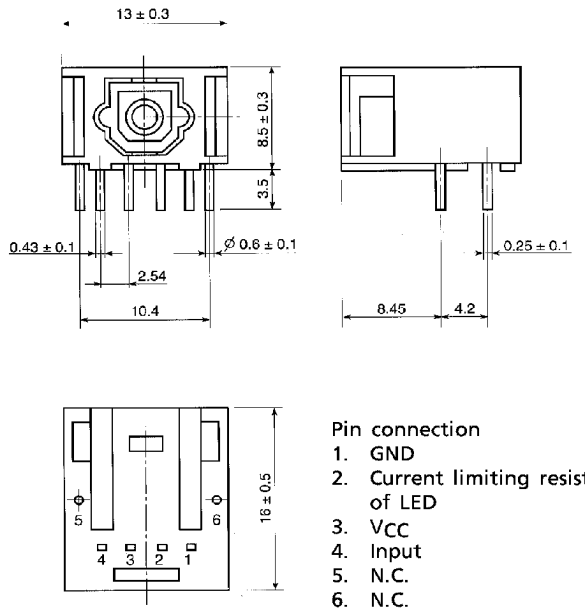
FIBER OPTIC TRANSMITTING MODULE

TOTX180A

FIBER OPTIC TRANSMITTING MODULE FOR SIMPLEX DIGITAL SIGNAL TRANSMISSION

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

Unit in mm



Pin connection
1. GND
2. Current limiting resistor of LED
3. V_{CC}
4. Input
5. N.C.
6. N.C.

1. Maximum Ratings (Ta = 25°C)

ITEM	SYMBOL	RATING	UNIT
Storage Temperature	T_{stg}	−40 to 85	°C
Operating Temperature	T_{opr}	−40 to 85	°C
Supply Voltage	V_{CC}	−0.5 to 7	V
Input Voltage	V_{IN}	−0.5 to V_{CC}+0.5	V
Soldering Temperature	T_{sol}	260 (1)	°C

Note (1) 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.

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

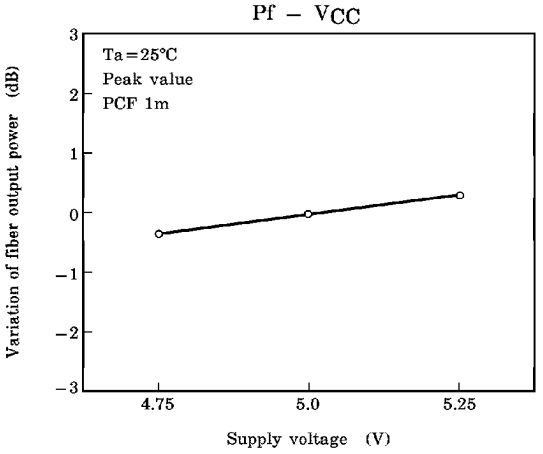
3. Electrical and Optical Characteristics (Ta = 25°C, V_{CC} = 5V)

ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Data Rate		NRZ Code (2)	DC	—	6	Mb/s
Transmission Distance		Using APF (3) and TORX180	0.2	—	40	m
Pulse Width Distortion (4)	Δtw	Using TORX180 Pulse width 165ns Pulse cycle 330ns, C_L=10pF	−55	—	55	ns
Fiber Output Power	P_f	APF 2m, R=0Ω (5)	−15	—	−9	dBm
Peak Emission Wavelength	λ_p		—	650	—	nm
Current Consumption	I_{CC}	R=0Ω	—	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	μA
Low Level Input Current	I_{IL}	V_I=0.4V	—	—	−0.4	mA

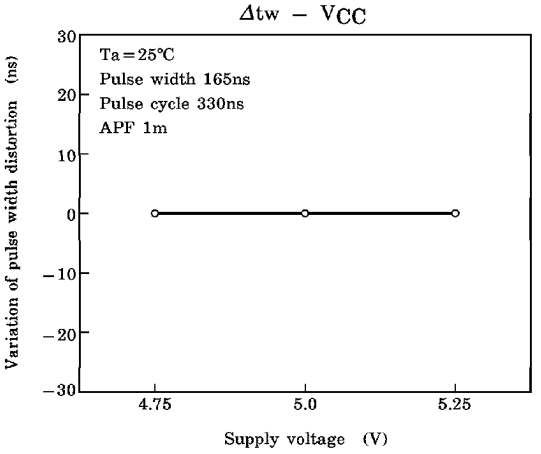
(2) LED is on when input signal is high level, it is off when low level.
For data rate>3Mb/s, the duty factor must be kept 25 to 75%.
(3) All Plastic Fiber (980/1000μm).
(4) Between input of TOTX180A and output of TORX180.
(5) Measure with a standard optical fiber with fiber optic connectors. Valued by peak.

4. Example of Typical Characteristics (7)

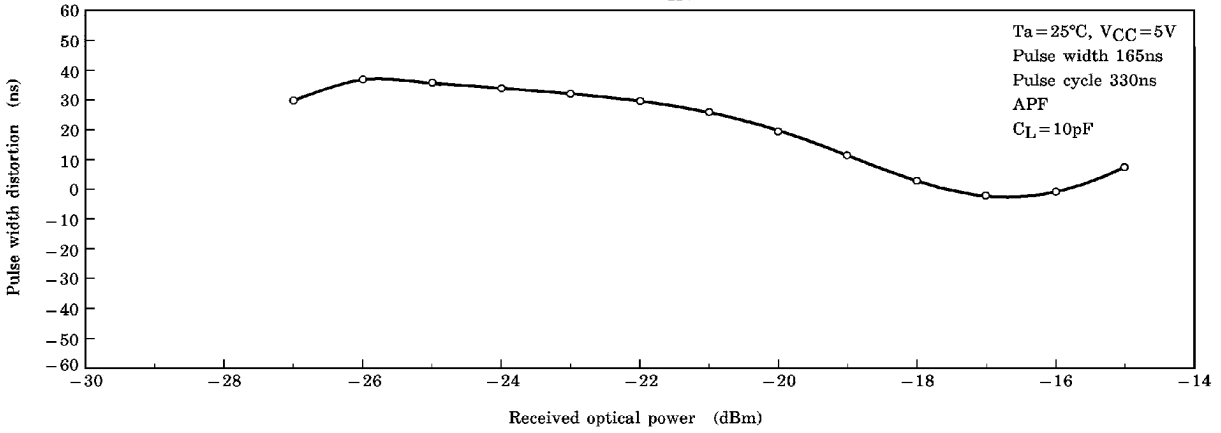
Pf – V_{CC}



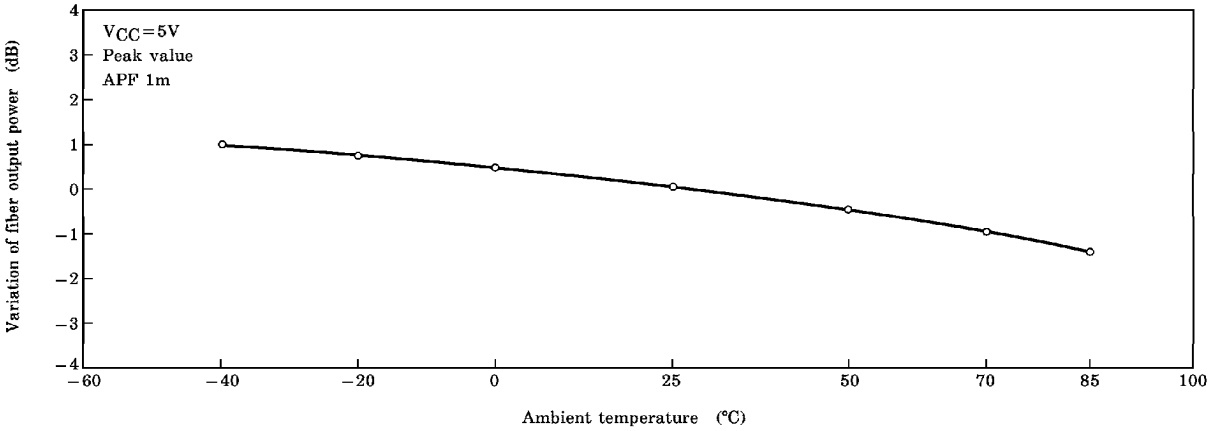
Δtw – V_{CC}



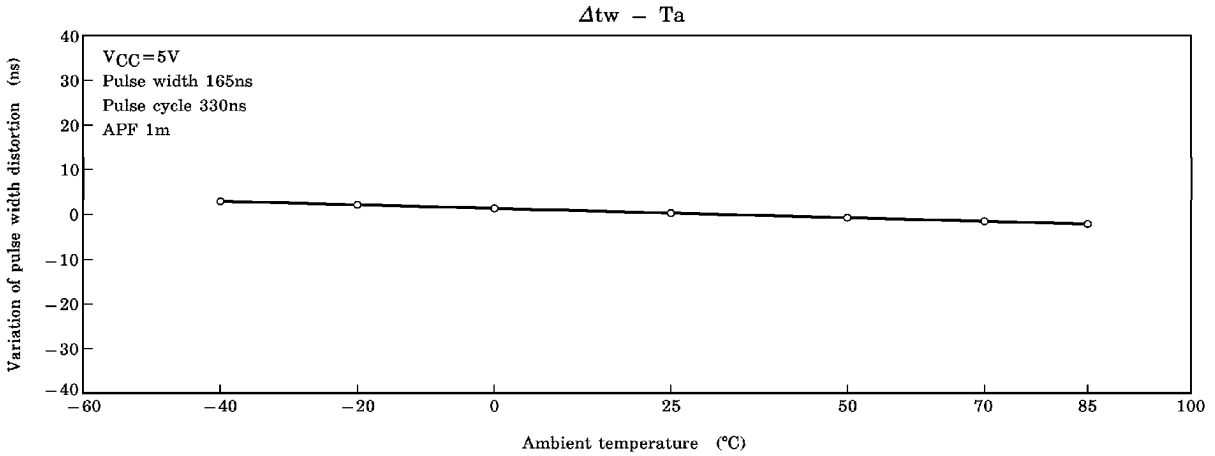
Δtw – P_{IN}



Pf – Ta

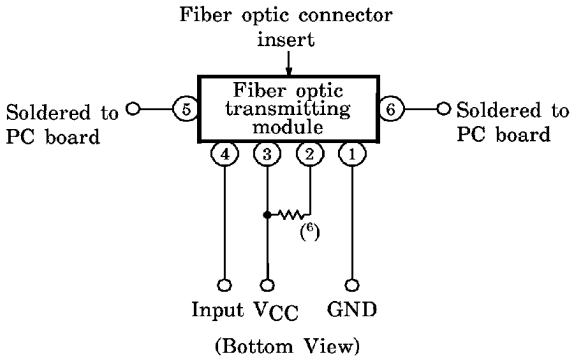


Note. (7) There give characteristic examples, and its values are not guaranteed.



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

5. Connection Method



Note (6) 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