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TX3005-A06

6Mbps POF Transmitter Optical Unit

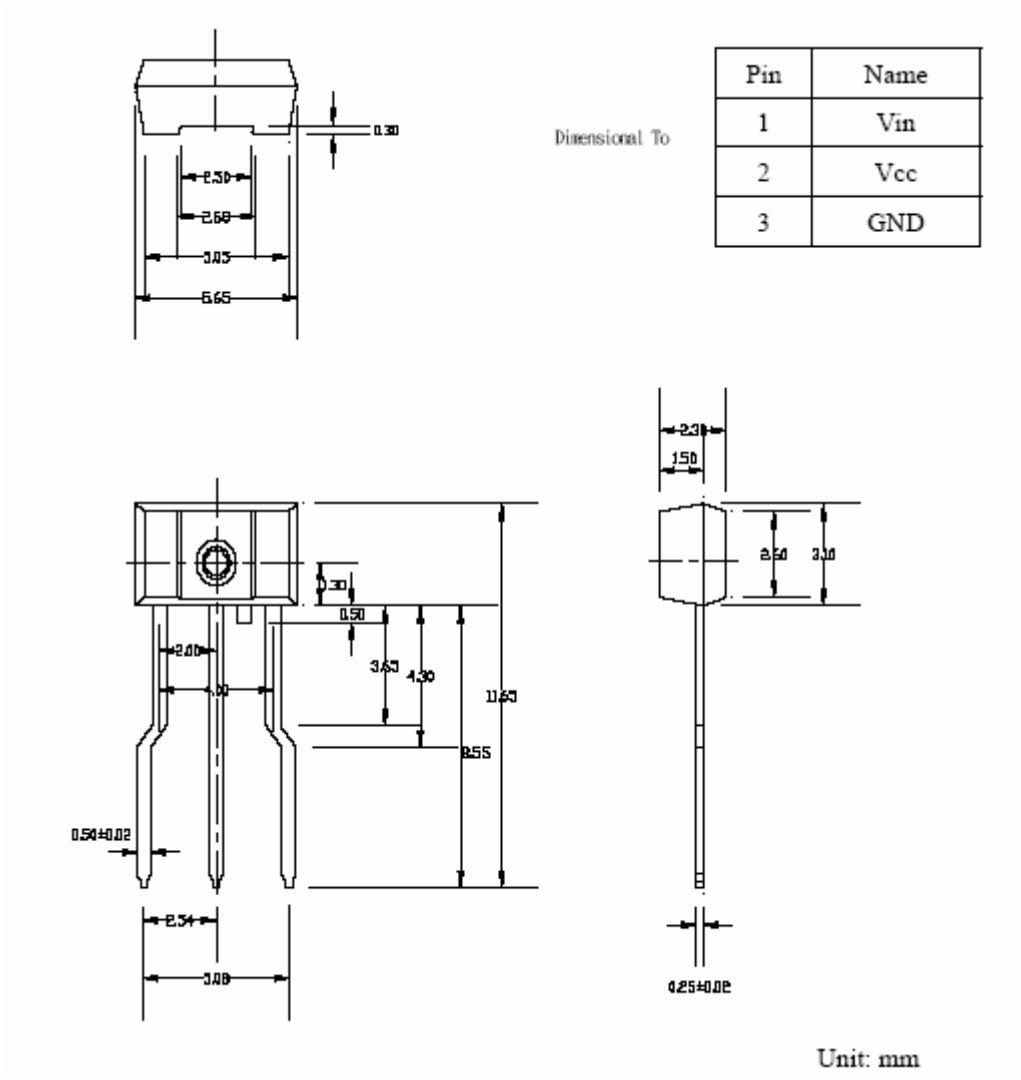
■ Feature

* TTL interface compatible
* High transfer rate:6Mbps (NRZ Signal)
* Build-in constant current LED driver
* Built-in pull-down resistor
* Low power consumption

■ Applications

* DVD, CD, MD player
* Sound card
* Audio Equipment
* PC, notebook

■ Package Dimension



■ Pin Assign

Pin	Name
1	Vin
2	Vcc
3	GND

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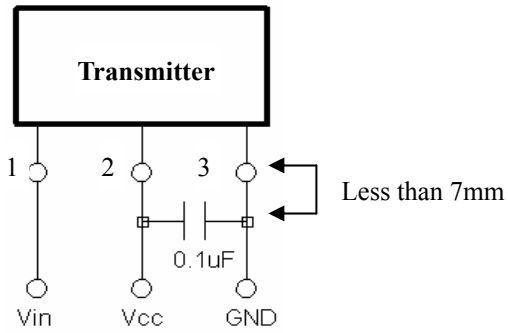
■ Application Circuit



Note: High-frequency ceramic capacitor is recommended in application circuit

■ Absolute Maximum Ratings (Ta=25°C, Vcc=5V)

Characteristics	Symbol	Rating	Unit
Storage Temperature	Tstg	-40 to 70	°C
Operating Temperature	Topr	-20 to 70	°C
Supply Voltage	Vcc	-0.5 to 7	V
Input Voltage	Vin	-0.5 to Vcc+0.5	V
Soldering Temperature	Tsol	260 (Note 1)	°C

Note 1: Soldering time ≦ 10 seconds (At distance of 1 mm from the package)

■ Recommended Operating Conditions (Ta=25°C, Vcc=5V)

Characteristics	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	Vcc	2.7	5	5.5	V
High-Level input Voltage	V_{IH}	2.0	—	Vcc	V
Low-Level input Voltage	V_{IL}	0	—	0.8	V

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■ Electro-optical Characteristics: Transmitter (Ta=25°C, Vcc=5V)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Operating voltage	Vcc	-	2.7	5	5.5	V
Peak emission wavelength	λ_P	-	630	660	690	nm
Optical power output coupling with fiber	Pc	Refer to Fig.1	-21		-15	dBm
Dissipation current	Icc	Refer to Fig.2		5	10	mA
High level input voltage	V_{IH}	Refer to Fig.2	2.0			V
Low level input voltage	V_{IL}	Refer to Fig.2			0.8	V
Low . High propagation delay time	t_{PLH}	Refer to Fig.3			100	ns
High . Low propagation delay time	t_{PHL}	Refer to Fig.3			100	ns
Pulse width distortion	Δtw	Refer to Fig.3	-25		+25	ns
Jitter	Δtj	Refer to Fig.4			25	ns
Operating transfer rate	T	NRZ Signal	DC		6	Mbps

Fig.1 Measuring Method of Optical Output Coupling With Fiber

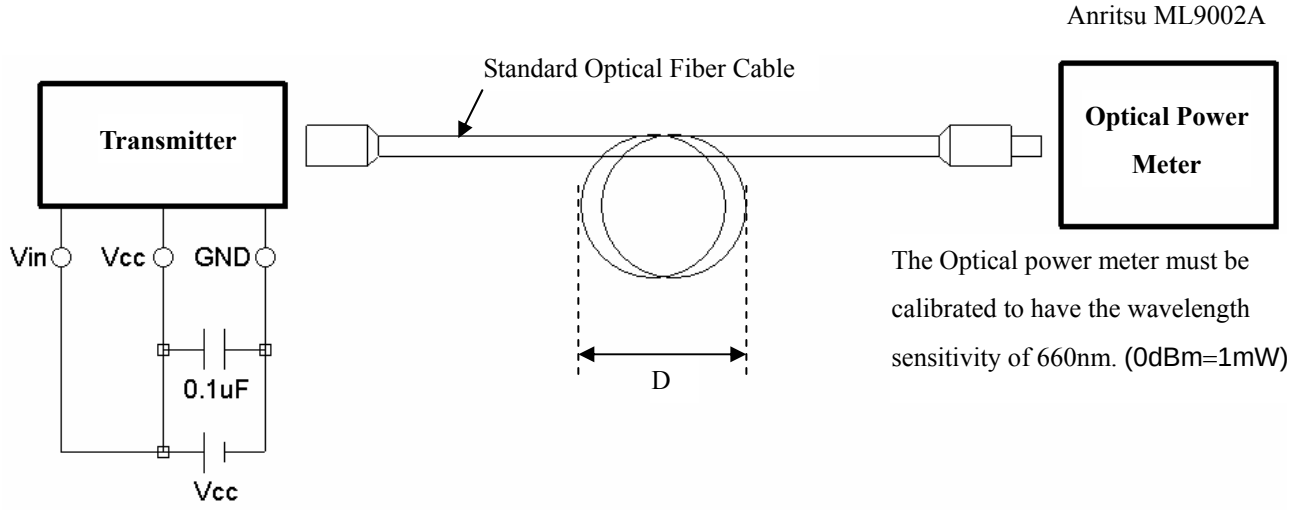

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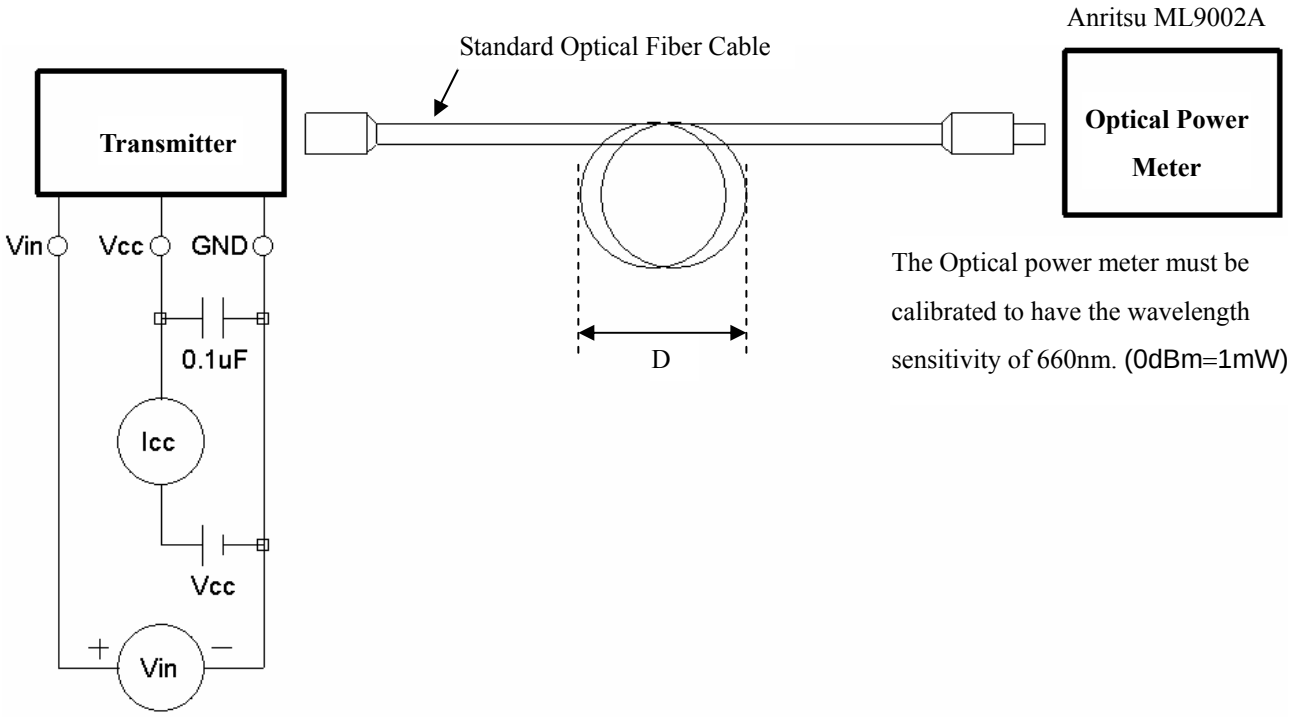
Fig.2 Input Voltage/Power Dissipation Measuring method



Input condition and measuring method

Input condition	Measuring method
V_{in} = 2.0V or more	**-21≤ Pc ≤-15dBm (or 8uw ≤ Pc ≤ 31.6uw)**
V_{in} = 0.8V or less	**Pc ≤-36dBm (or Pc ≤ 2.5uw)**

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Fig.3 Pulse Response Measuring Method

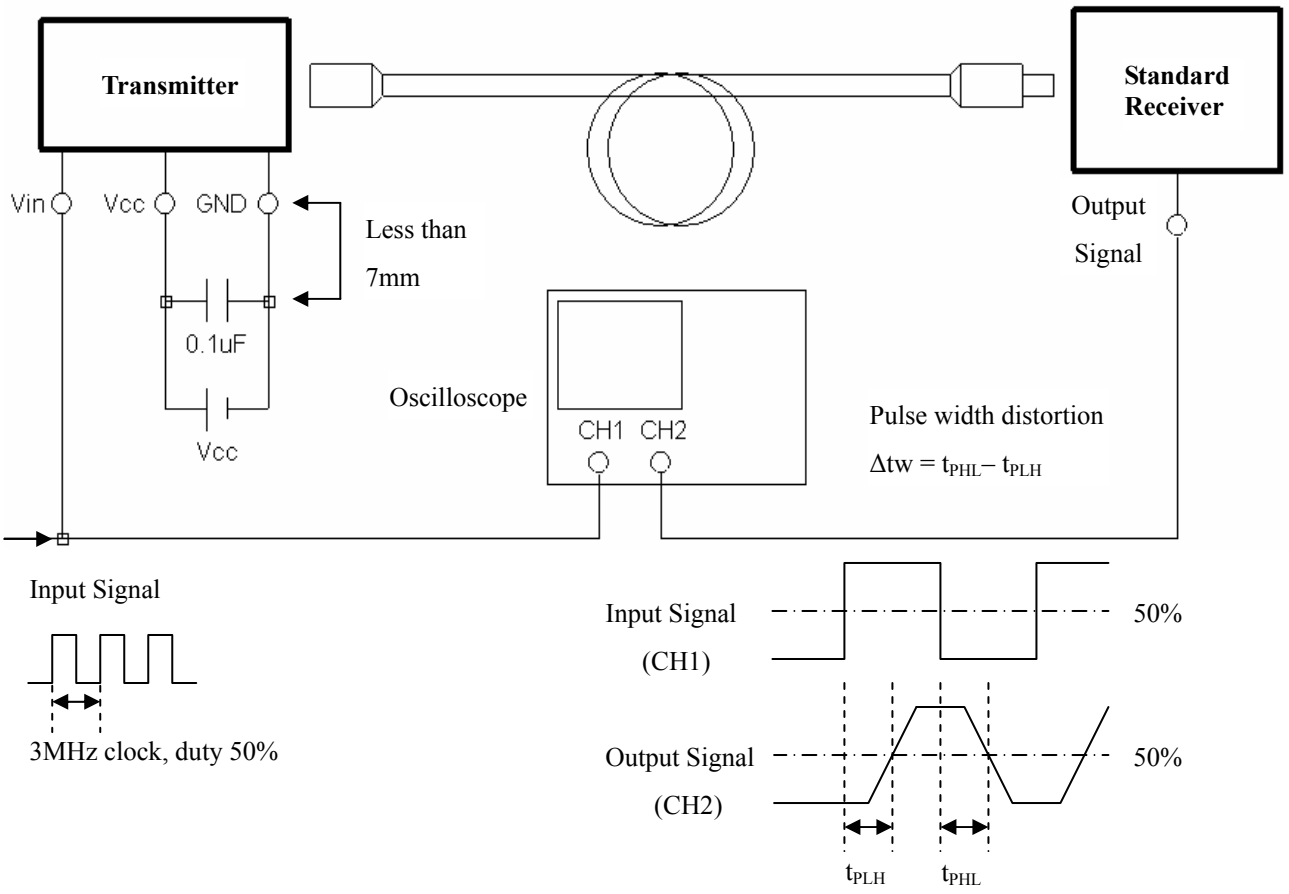

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Fig.4 Measuring Method of Jitter