

1. Scope :

This specification applies to high speed silicon chips with a Photodiode plus Transistor,
Device No. OTC-211.

Note: This model is for engineering sample only. The appearance or electrical characteristics might be modified when it put into mass production.

2. Structure :

2-1. Planar type : PN Diode, NPN Transistor.

2-2. Electrodes :

Top side : Aluminum alloy .

Back side : none.

Refer to the attached drawing

3. SIZE :

3-1. Chip size : 33.9 mils $\times$ 40.9 mils (0.860 mm $\times$ 1.040 mm).

3-2. Real chip size : 32.3 mils $\times$ 39.4 mils $\pm$ 1 mils (0.820 mm $\times$ 1.0000 mm $\pm$ 0.03 mm).

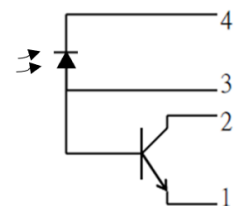
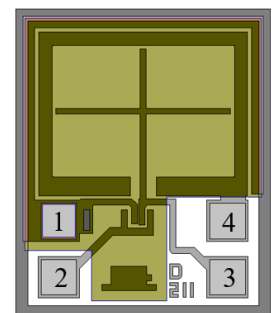
3-3. Chip thickness : 12 ± 1.5 mils (0.305 ± 0.038 mm).

3-4. Bonding pad : 4.7 mils $\times$ 4.7 mils (0.120 mm $\times$ 0.120 mm).

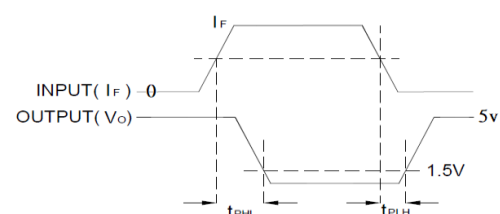
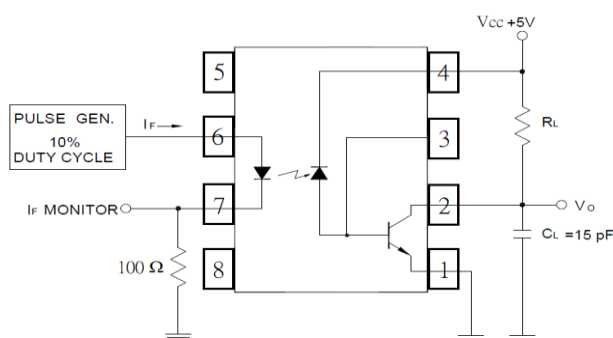
3-5. Photodiode active area 0.446 mm $\times$ 0.616 mm

4. Electro-potical characteristics (Ta = 25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Logic(1) output current	$I_{OH}(1)$	$V_{CE}=5.5V$ $V_{4E}=5.5V$			500	nA
Logic(2) output current	$I_{OH}(2)$	$V_{CE}=30V$ $V_{4E}=30V$			1	μA
Collector-emitter Saturation Voltage	$V_{CE(S)}$	$I_C=2.4mA$ $I_B=100 \mu A$			0.25	V
Current gain	h_{FE}	$V_{CE}=5V$ $I_C=3mA$	50		150	
Propagation delay Time	t_{PHL}/t_{PLH}	$V_{CC}=5V$ $R_L=1.9K\Omega$		0.3	0.8	μS



Test Circuit for Propagation Delay Time



5. Absolute maximum ratings

Parameter	Symbol	Rating	Unit
Supply voltage	V _{CC}	30	V
High level output voltage	V _O	20	V
Low level output current	I _{OL}	8	mA
High level supply current	I _{CCH}	1	μA
Operating temperature	T _{opr}	-55 to +85	°C
Storage temperature	T _{stg}	-55 to +125	°C