

PIC - 0103

The PIC - 0103 is a digital output detector which incorporates a photodiode with signal processing circuit (amplifier, Schmitt Trigger, voltage regulator).

FEATURES

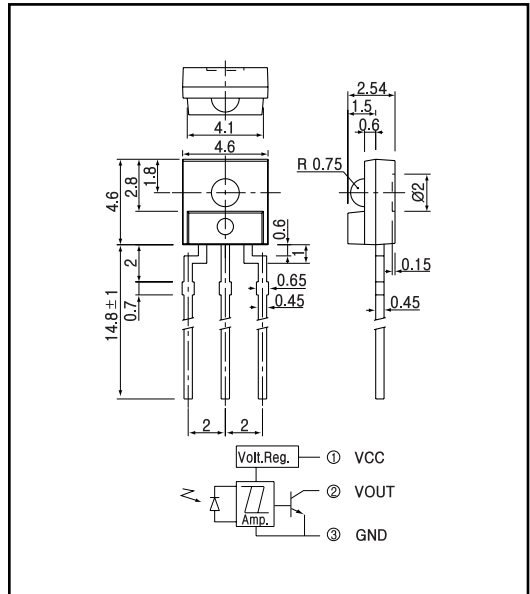
- Built - in Schmitt Trigger circuit
- Wide Vcc range
- Compatible to TTL and LSTTL

APPLICATIONS

- Floppy disc drives
- Copiers
- VCRs, Cassette decks

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25)

Item	Symbol	Rating	Unit
Supply voltage	V _{CC}	17	V
Low level output current	I _{OL}	30	mA
Output transistor power dissipation	P _o	200	mW
Operating temp.	T _{opr.}	- 25 + 85	
Storage temp.	T _{stg.}	- 40 + 100	
Soldering temp.*1	T _{sol.}	260	

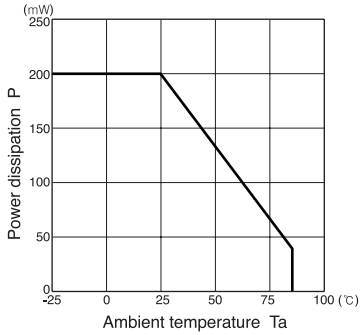
*1. For MAX. 5 seconds at the position of 2 mm from the resin edge.

ELECTRO-OPTICAL CHARACTERISTICS

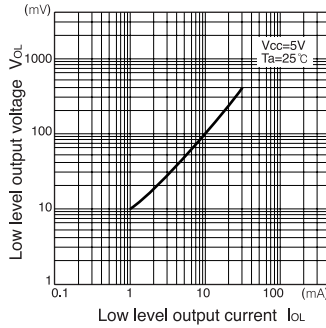
(V_c=5V, Ta=25)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.	
Supply voltage	V _{CC}		4.5		17	V	
High level supply current	I _{CCH}	E _v =100lx		3	6	mA	
Low level supply current	I _{CLL}	E _v =0lx		3	6	mA	
High level output voltage	V _{OH}	E _v =100lx, E=10K, V _{OUT} =5V	4.5			V	
Low level output voltage	V _{OL}	E _v =0lx, I _L =16mA			0.4	V	
L H Threshold illuminance	E _{VHL}			40	80	lx	
H L Threshold illuminance	E _{VHL}		15	35		lx	
Hysteresis	E _{VHL} /E _{VLH}	R _L =280	0.5	0.8	0.95		
Peak wavelength	P			900		nm	
Switching speed	L H propagation time	t _{PLH}		2	6	µsec.	
	H L propagation time	t _{PHL}		3	9	µsec.	
	Rise time	t _r	E _v =100lx, R=280		0.1	0.5	µsec.
	Fall time	t _f			0.05	0.5	µsec.

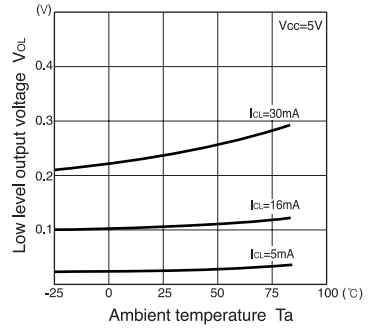
Power dissipation Vs. Ambient temperature



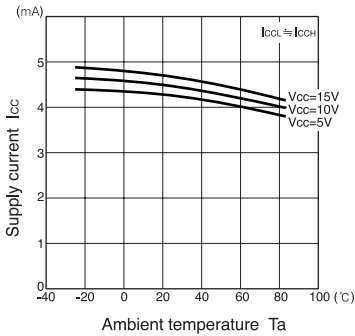
Low level output voltage Vs. Low level output current



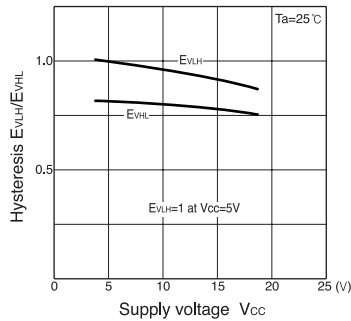
Low level output voltage Vs. Ambient temperature



Supply current Vs. Ambient temperature



Hysteresis Vs. Supply voltage



Radiant pattern

