

PIC - 1503

The PIC - 1503 is a digital output detector which incorporates a photodiode with signal processing circuit (amplifier, Schmitt Trigger, voltage regulator).

FEATURES

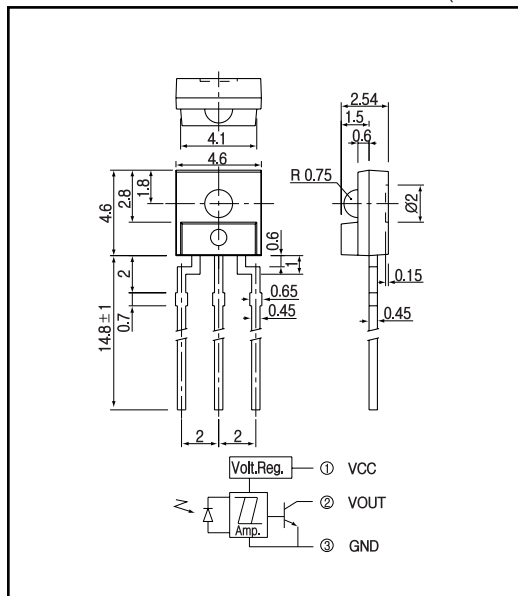
- Built - in Schmitt Trigger circuit
- Compatible to TTL and LSTTL
- Low cost

APPLICATIONS

- Floppy disc drives
- Copiers
- VCRs, Cassette decks

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta = 25 °C)

Item	Symbol	Rating	Unit
Supply voltage	V _{CC}	10	V
Low level output current	I _{OL}	20	mA
Output transistor power dissipation	P _o	100	mW
Operating temp.	T _{opr.}	- 25 +85	
Storage temp.	T _{stg.}	- 40 +100	
Soldering temp.*1	T _{sol.}	260	

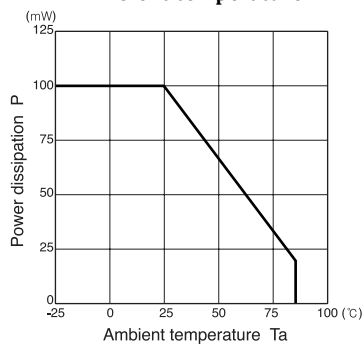
*1. For MAX. 5 seconds at the position of 2 mm from the resin edge.

ELECTRO-OPTICAL CHARACTERISTICS

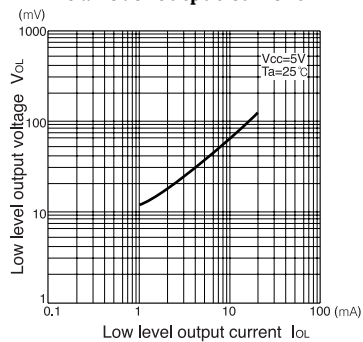
(V_c = 5V, Ta = 25 °C)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Supply voltage	V _{CC}		4.5		5.5	V
High level supply current	I _{CCH}	Ee = 0mW/cm ²		0.9	2	mA
Low level supply current	I _{CCL}	Ee = 0.5mW/cm ²		1.7	3.0	mA
High level output voltage	V _{OH}	Ee = 0mW/cm ² E _L = 10kΩ	4.5			V
Low level output voltage	V _{OL}	I _{OL} = 16mA			0.4	V
Threshold illuminance	E _{thL}	λ = 940nm		0.03	0.2	mW/cm ²
Hysteresis	E _{VHL} /E _{VLH}	R _L = 1kΩ	0.5	0.7	0.9	—
Peak wavelength	λ _P			900		nm
Switching speed	L → H propagation time	Ee = 0.5mW/cm ² / 0mW/cm ² λ = 940nm R _L = 1kΩ		12	30	μsec.
	H → L propagation time			2	6	μsec.
	Rise time			0.1	0.5	μsec.
	Fall time			0.1	0.5	μsec.

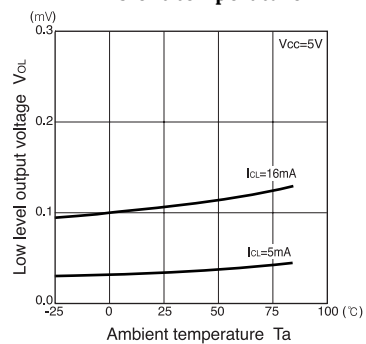
**Power dissipation Vs.
Ambient temperature**



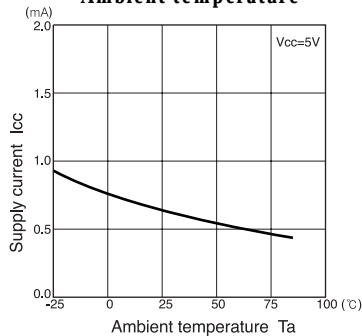
**Low level output voltage Vs.
Low level output current**



**Low level output voltage Vs.
Ambient temperature**



**Supply current Vs.
Ambient temperature**



Radiant pattern

