产品介绍 Product introduction:

NIC0103S是一款由光电二极管、放大器、施密特触发器电路和输出三极管组成的光电集成电路。

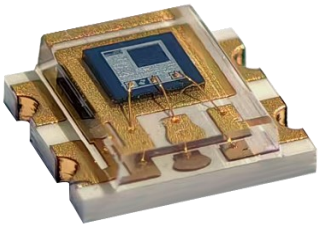
The NIC0103S is a photo IC comprised of a photodiode, amplifer, schmitt trigger circuit and output transistor.

特点 Features:

· 贴片封装
Surface mount type package

· 内置施密特触发器电路
Built-in Schumitt Trigger circuit

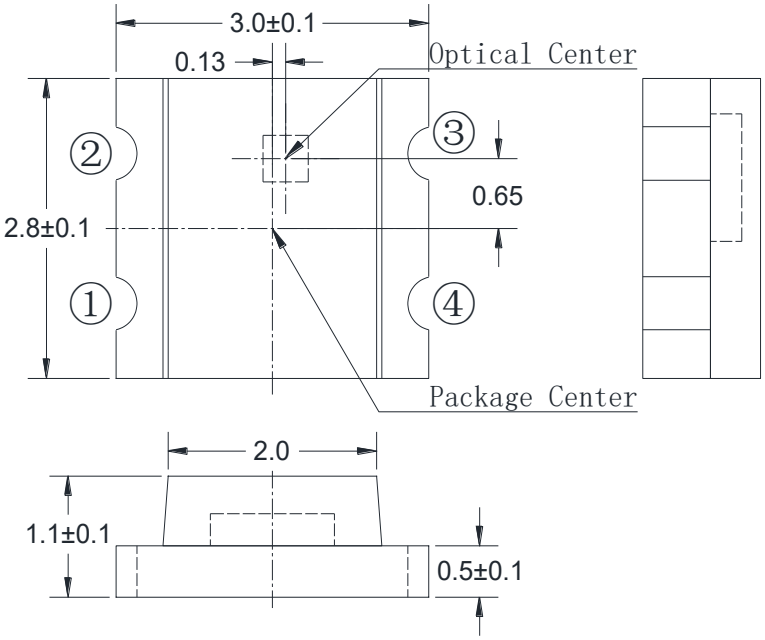
· 有光照 高电平输出
“H" level output at light input

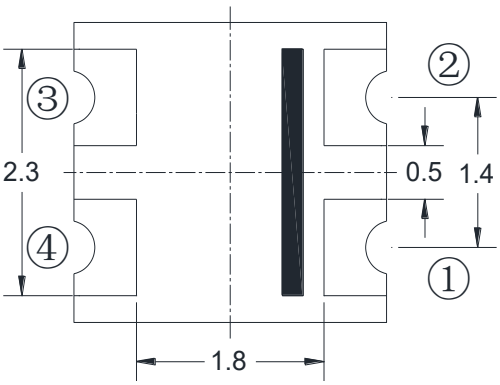


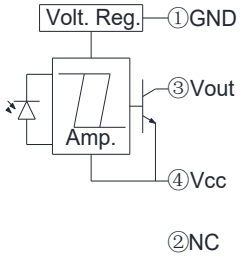
用途Application:

·光电开关
Optical switch

尺寸图 DEVICE DIMENSIONS （mm)







②NC

MAXIMUM RATINGS/极限值 (Ta= 25°C)

项目 Item	符号 Symbol	额定值 Rating	单位 Unit
电压 Supply voltage	Vcc	7	V
低电平输出电流 Low level output current	I_{OL}	20	mA
功耗 Power dissipation	P_D	100	mW
工作温度 Operating temp	Tpor.	-25～85	°C
存储温度 Storage temp	Tstg.	-40～100	°C
焊接温度 Soldering temp	Tsol.	260(within 5 seconds)	°C

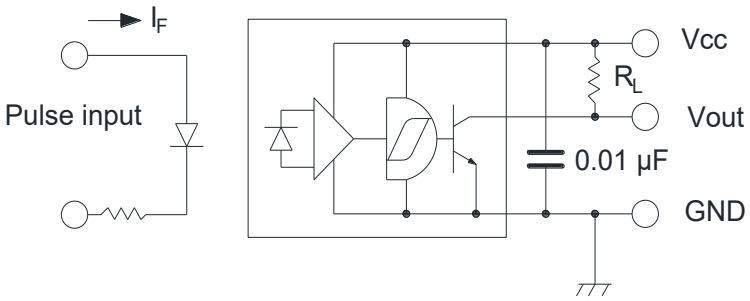
Electro-optical characteristics/光电特性 (Ta= 25°C)

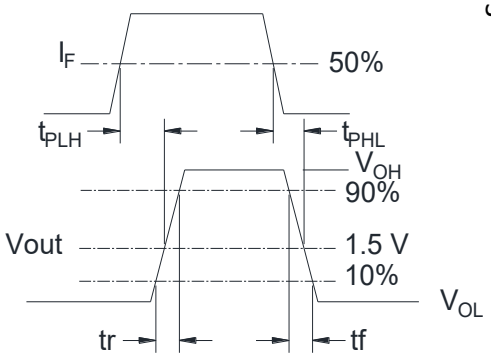
项目 Items	符号 Symbol	条件 Condition	最小 Min.	典型 Typ.	最大 Max.	单位 Unit
电压 Supply voltage	Vcc	-	4.5	5	5.5	V
高电平电源电流 High level supply current	I_{CCH}	Ev=200Lux*1	-	1.38	-	mA
低电平电源电流 Low level supply current	I_{CCL}	Ev=0Lux	-	0.6	-	mA
高电平输出电压 High level output voltage	V_{OH}	Ev=200Lux R_L=10kΩ*2	4.5	-	-	V
低电平输出电压 Low level output voltage	V_{OL}	Ev=0Lux I_{OL}=16mA	-	-	0.4	V
H→L阈值照度 H→L Threshold illuminance	E_{VHL}	-	-	17	-	Lux
L→H阈值照度 L→H Threshold illuminance	E_{VLH}	-	-	24	-	Lux
滞后 Hysteresis	Hyst	E_{VHL}/E_{VLH}	-	0.71	-	-
峰值感应波长 Wavelength of Peak Sensitivity	λ_P	-	-	850	-	nm
L→H 传播时延 L→H propagation delay time	tPLH	Ev=200Lux R_L=280Ω		40		μs
H→L 传播时延 H→L propagation delay time	tPHL			0.4		μs
上升时间 Rise time	tr			0.03		μs
下降时间 Fall time	tf			0.01		μs

Note: *1. color temp. =2856K standard Tungsten lamp.
*2. RL=Resistance between 5V/Vcc and load resistance.

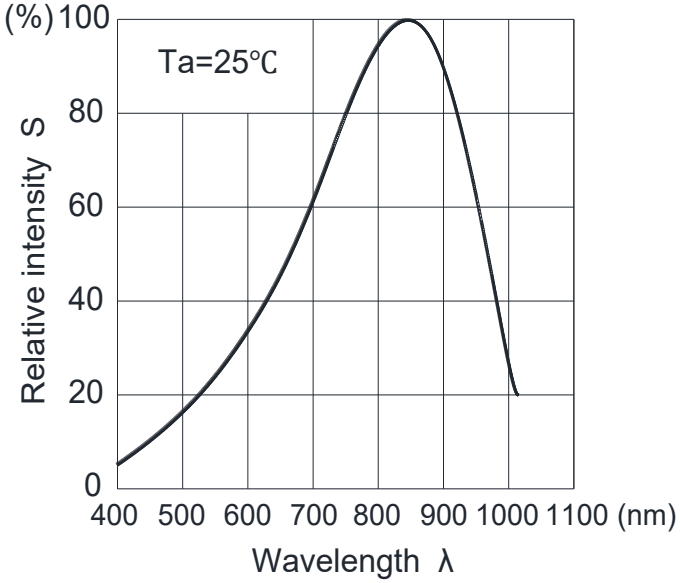
1.色温：2856K标准钨丝灯。
2.RL：5V/Vcc与负载电阻之间的电阻。

Response time measurement circuit/响应时间测试电路





Relative sensitivity Vs. Wavelengh



Angle(deg.)

