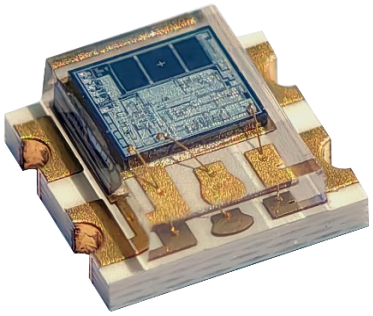
产品介绍 Product introduction:

NIC237T是一款内置光敏二极管的光频转换集成IC。
The NIC237T is a light-to-frequency converter IC built in silicon photodiode.

特点 Features:



· 工作电压2.7~3.6V
2.7 ~ 3.6 volts operating

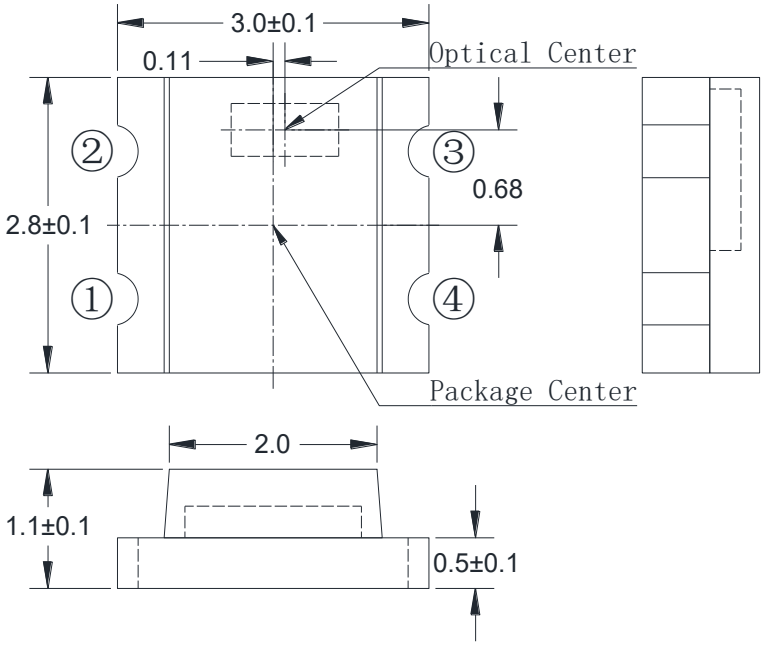
· 输出频率与光强成正比
Output frequency for proportional to light intensity

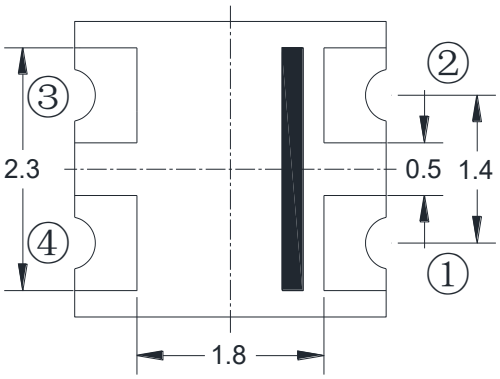
用途Application:

·照明调光器
Light dimmer

·大屏幕液晶电视亮度调节
Brightness adjustment for large-screen liquid crystal TV

尺寸图 DEVICE DIMENSIONS （mm)





①GND
②NC
③V_{DD}
④OUT

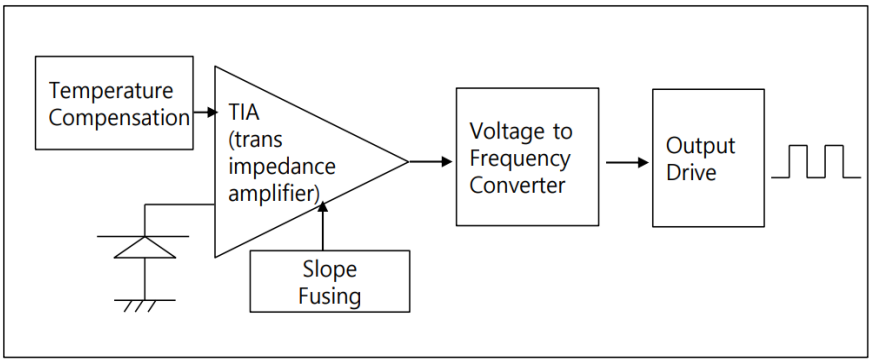
MAXIMUM RATINGS/极限值 (Ta= 25°C)

项目 Item	符号 Symbol	额定值 Rating	单位 Unit
供电电压 Supply voltage	V_{DD}	0~3.6	V
工作温度 Operating temp	Topr.	-20～80	°C
存储温度 Storage temp	Tstg.	-40～80	°C
焊接温度 Soldering temp	Tsol.	260(within 5 seconds)	°C

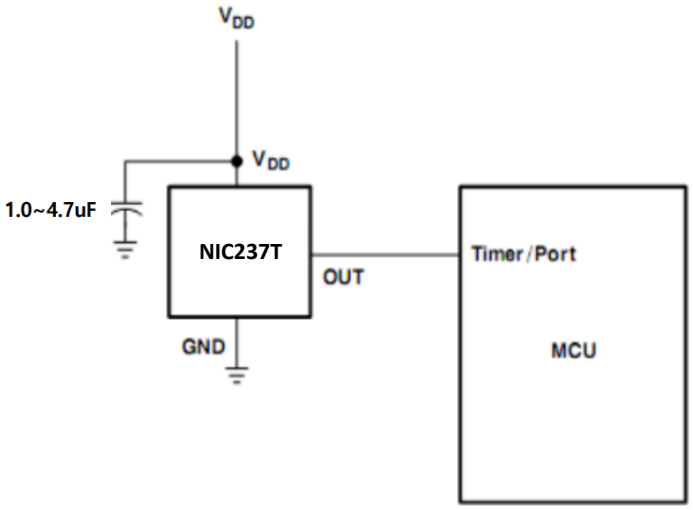
Electro-optical characteristics/光电特性 (Ta= 25°C,Vcc=3V)

项目 Items	符号 Symbol	条件 Condition	最小 Min.	典型 Typ.	最大 Max.	单位 Unit
供电电压 Supply voltage	V_{DD}	-	2.7	-	3.6	V
供电电流 Supply current	I_{DD}	V_{DD}=3V	-	-	7	mA
高电平输出电压 High level output voltage	V_{OH}	I_{OH}=-1mA	2.5	2.7	-	V
低电平输出电压 Low level output voltage	V_{OL}	I_{OL}=1mA	-	0.25	0.4	V
满量程频率 Full scale freq.	f_{FULL}	-	450	-	-	kHz
响应度温度系数 Temperature coefficient of responsibility	$T_{c,res}$	ppm/°C	-	±200	-	-
电压灵敏度 Supply voltage sensitivity	-	V_{DD}=3V±10%	-	±0.5	-	%/V
输出频率 Output frequency	E_O	E_O = 21.8uW/cm^2 (T.B.D)	40	50	60	kHz
暗频率 Dark frequency	f_{dark}	E_O = 0uW/cm^2	0	0.1	-	Hz
辐照度响应度 Irradiance responsibility	R_e	-	-	2.3	-	kHz/(uW/cm^2)
非线性 Nonlinearity	-	E_O = 0 to 10kHz	-	±1%	-	%F.S

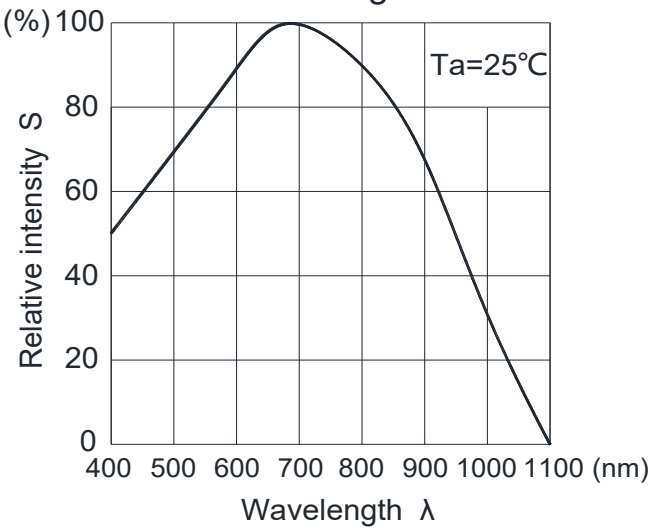
Block Diagram/功能方框图



Typical NIC237T Interface to a Microcontroller/微控制器的典型NIC237T接口



Relative sensitivity Vs. Wavelengh



Angle(deg.)

