

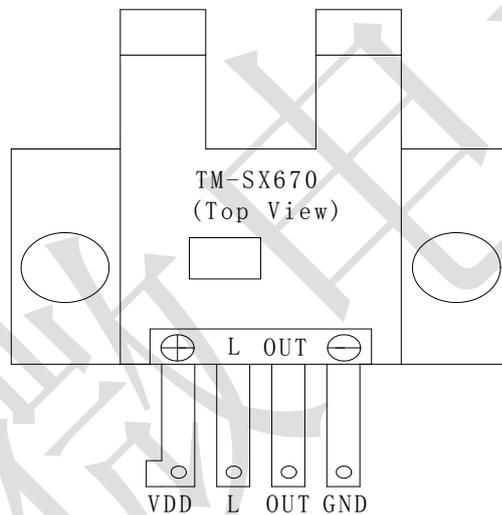
1、特性描述

TM-SX670 系列微型光电传感器具有 50~100mA 的电流驱动能力，可直接装配在机器的内部，用于机械运动检测及位置控制。该系列产品可直接替代 EE-SX670 同型号产品。本产品性能优良，质量可靠。

2、功能特点

- 驱动模式分为遮光驱动和透光驱动两种
- 应答频率为 1KHz
- 具有遮光/透光指示灯，可直接确认动作
- 电源电压范围为 DC5V~24V 宽电压范围
- 遮光与透光指示模式可选择

3、管脚排列



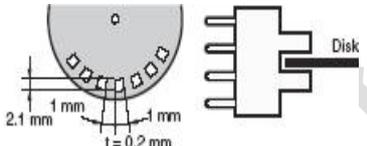
4、管脚功能

引脚名称	引脚序号	I/O	功能说明
VDD	1	--	芯片的电源端
L	2	I	L接(+)选择透光时指示灯亮；L浮空时：遮光指示灯亮。
OUT	3	0	NPN管驱动输出
GND	4	--	接地端



集成电路系静电敏感器件，在干燥季节或者干燥环境使用容易产生大量静电，静电放电可能会损坏集成电路，天微电子建议采取一切适当的集成电路预防处理措施，不正当的操作焊接，可能会造成 ESD 损坏或者性能下降，芯片无法正常工作。

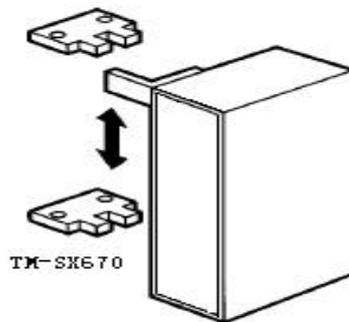
5、工作条件

在 Ta=+25℃下测试，除非另有说明			TM-SX670			单位
参数名称	参数符号	测试条件	最小值	典型值	最大值	
电源电压	V _{DD}	---	5	---	24	V
工作电流	I _{DD}	---		---	35	mA
输出驱动电流	I _{OUT}	NPN 开漏			100	mA
感应距离	L1	(槽宽)		5		mm
感应物体	V		2*0.8			mm*mm
分辨距离	L2		0.025			mm
光源		砷化镓红外 LED		940		nm
环境照度	E	外围光线直射接收表面			1000	lx
环境温度	Ta	工作温度	+25		+55	℃
		存储温度	-30		+80	℃
环境湿度	Φ	工作湿度	5%		85%	RH
		存储湿度	5%		95%	RH
焊接温度	T	焊接			350	℃
响应频率	f _{OUT}	通过图示的带孔旋转盘，来测量 	1	3		KHz

6、应用信息

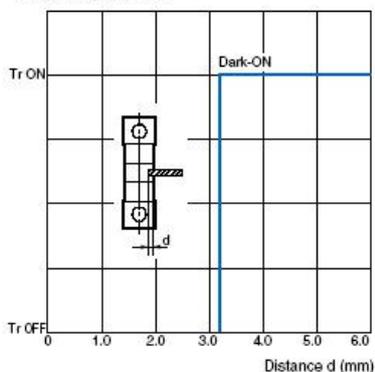
(1) 应用简图

检测运动物体的位置:

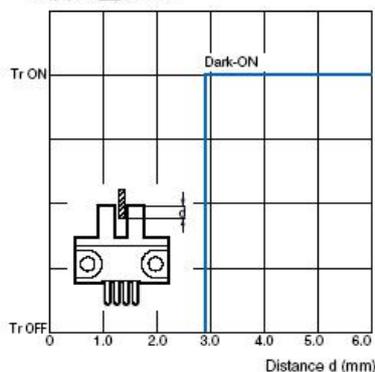


(2) 工程参数值(典型值)

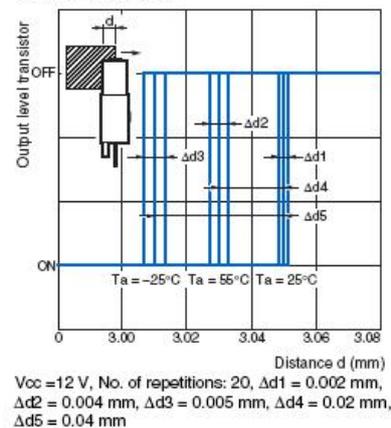
检测位置参数:



检测位置参数:



重复位置参数:



(3) I/O 电路对应图表

型号	输出配置	时序图	端口连接	输出电路
TM-SX670	Light-ON		Short-circuited between Ⓛ terminal and positive ⊕ terminal	
	Dark-ON		Open between Ⓛ terminal and positive ⊕ terminal	

(4) 注意事项

安全使用注意事项:

Refer to *Warranty and Limitations of Liability*.

⚠ WARNING

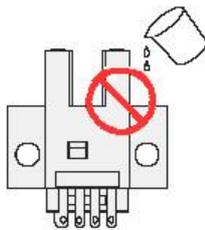
This product is not designed or rated for ensuring safety of persons either directly or indirectly. Do not use it for such purposes.



Precautions for Safe Use

● **Operating Environment**

These Photomicrosensors have an IP50 (conforms to IEC60529) enclosure and do not have a water-proof or dust-proof structure. Therefore, do not use them in applications in which the sensor will be subjected to splashes from water, oil, or any other liquid. Liquid entering the Sensor may result in malfunction.



Precautions for Correct Use

Make sure that this product is used within the rated ambient environment conditions.

● **Installation**

- When direct soldering to the terminals, use the following guidelines.

Soldering Conditions

Item	Temperature	Permissible time	Remarks
Soldering iron	350°C max.	3 s max.	The portion between the base of the terminals and the position 1.5 mm from the terminal base must not be soldered.

- The terminal base uses a polycarbonate resin, which could be deformed by excessive soldering heat, resulting in damage to the product's functionality.

7、TM-SX670 封装示意图(单位: mm)

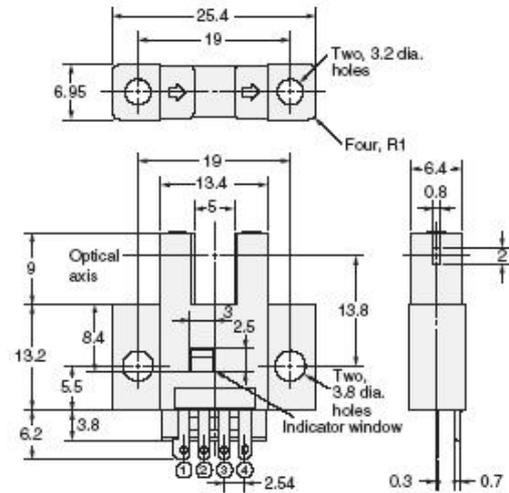
传感器外型尺寸:



TM-SX670A/670

Terminal Arrangement

(1)	⊖	Vcc
(2)	L	L
(3)	OUT	OUTPUT
(4)	⊖	GND (0 V)



All specs and applications shown above subject to change without prior notice.
 (以上电路及规格仅供参考, 如本公司进行修正, 恕不另行通知)