400V MOSFET 输出光继电器

1.概述

SL214X用于代替继电器许多应用。它使用GaAlAs LED发光来驱动控制和集成单片模具开关输出。用高压制造的模具介电隔离技术由以下部分组成光电二极管阵列、开关控制电路和光MOSFE开关耦合组成。

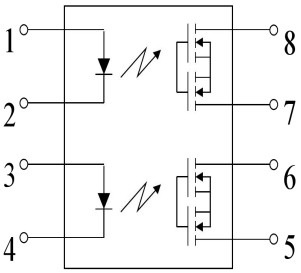
2.特性

- 常开,单刀单掷
- 控制 400V 交流或直流电压
- 开关 120mA 负载
- 控制低电平模拟信号
- 高灵敏度，低导通电阻
- 低电平断态漏电流
- 高隔离电压 5KV (DIP / SMD)
- 无铅，符合 RoHS 标准

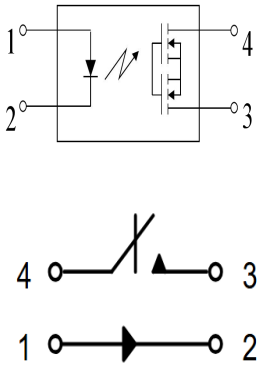
3.应用

- 通讯产品(个人电脑,笔记本电脑)
- 调制解调器/传感器
- 移动电话 /安全设备
- 测量和测试设备
- 工厂自动化设备
- 高速检验机器

4.结构原理图和封装



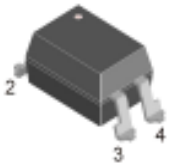
1,3.LEDAnode
2,4.LEDCathode
5,6.Drain(MOSFET)
7,8.Drain(MOSFET)



常开，单刀单掷

SL214S SMD-8

SL214P DIP-8



SL214M SMD-4

SL214D DIP-4

5.极限参数 (T_A=25°C)

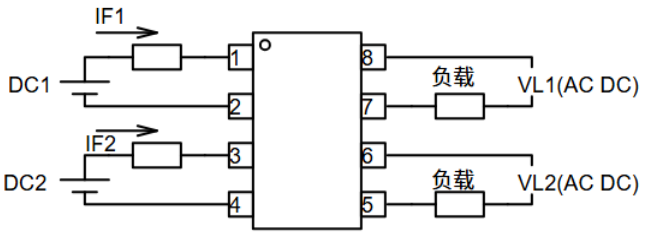
参数		符号	额定值	单位	备注
输入	LED 正向电流	I_F	50	mA	
	LED 反向电压	V_R	3	V	
	峰值正向电流	I_{FP}	1	A	f =100 Hz, 占空比= 0.1%
	输入功率	P	75	mW	
输出	负载电压(AC 峰值)	V_L	400	V	
	持续负载电流 (AC 峰值)	I_L	0.12	A	
	峰值负载电流	I_{peak}	0.3	A	100 ms (1 shot), V_L= DC
	输出功率	P_{out}	800	mW	DIP8 SMD8
			500		DIP4 SMD4
I/O 隔离电压		V_{iso}	5,000	VAC	DIP SMD
极限温度	工作温度	T_{opr}	–40°C ~ + 85°C	°C	低温时不结冰
	储存温度	T_{stg}	–40°C ~ + 100°C		

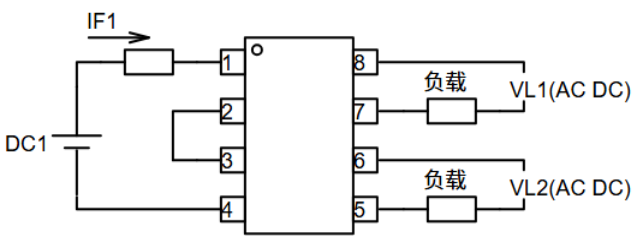
6.产品特性参数 (Ta=25°C)

参数		符号	条件	最小	典型	最大	单位
输入	LED 工作电流	I_{Fon}	I_L=0.12A	0.5	1.8	3	mA
	LED 关断电流	I_{Foff}	I_L=0.12A	0	1.7	2	mA
	LED 正向压降	V_F	I_F=5mA	1	1.3	1.4	V
输出	导通电阻	R_{on}	I_F=5mA，I_L=0.12A，通电时间＝1 秒以下	0	10	20	Ω
	关断漏电	I_{Leak}	I_F=0mA，V_L=400V	-	-	1000	nA
传输特性	开启时间★	T_{on}	I_F=5mA，I_L=0.12A	200	600	2000	us
	关断时间★	T_{off}	I_F=5mA，I_L=0.12A	10	700	1000	us
	I/O 电容	C_{iso}	f=1MHz，V_B=0		0.8	1.5	pF
	初始 I/O 隔离电阻	R_{iso}	500V DC	1,000			MΩ

注: LED 正向电流推荐值 I_F=5 到 10mA

6.原理图和接线图





8.产品特性曲线

图.1 开启时间-环境温度特性

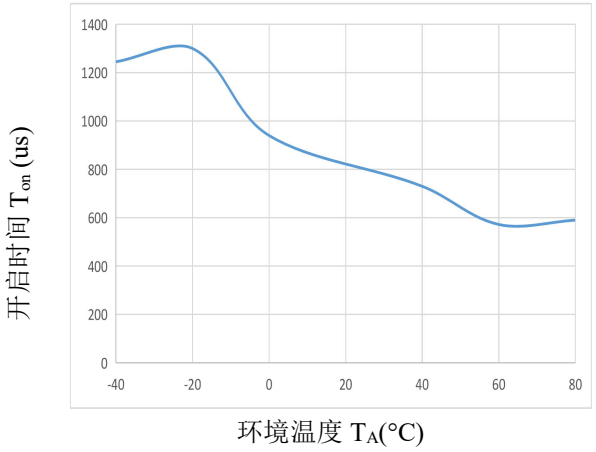


图.2 关断时间-环境温度特性

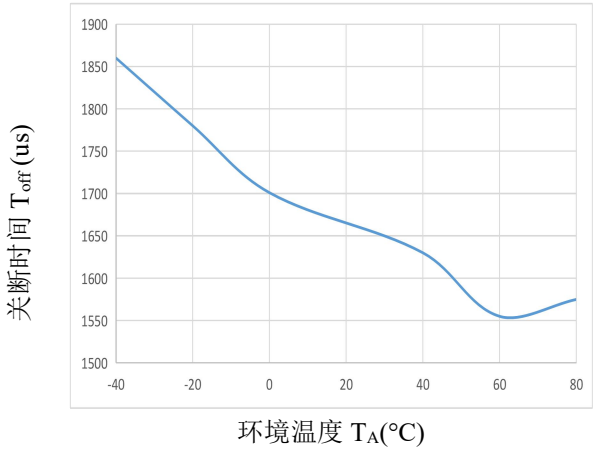


图.3 LED 工作电流-环境温度特性

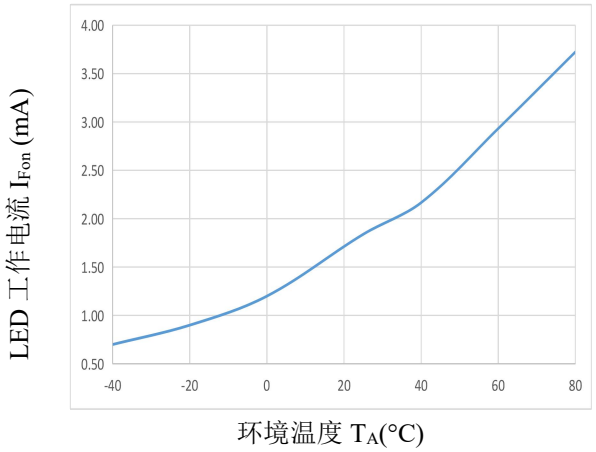


图.4 LED 正向压降-环境温度特性

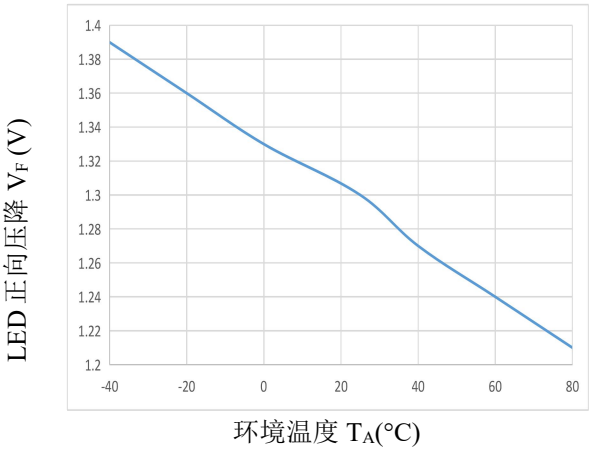


图.5 输出端电流-电压特性

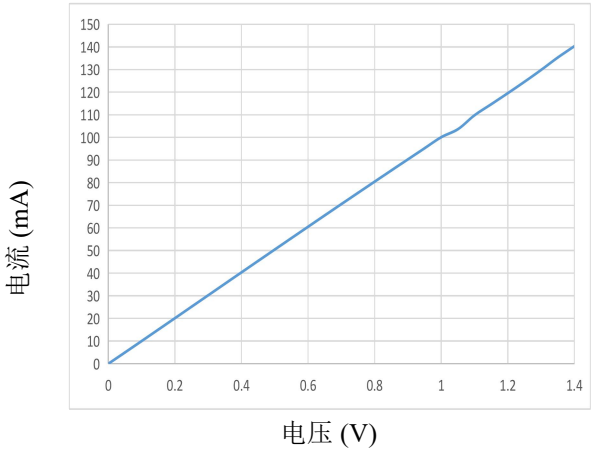


图.6 LED 关断电流-环境温度特性

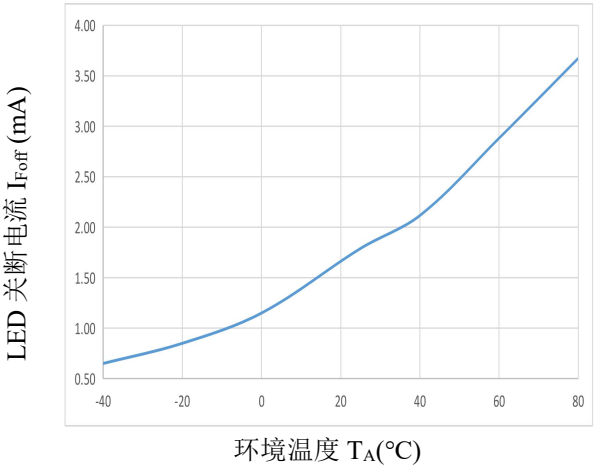


图.7 关断漏电流-负载电压特性

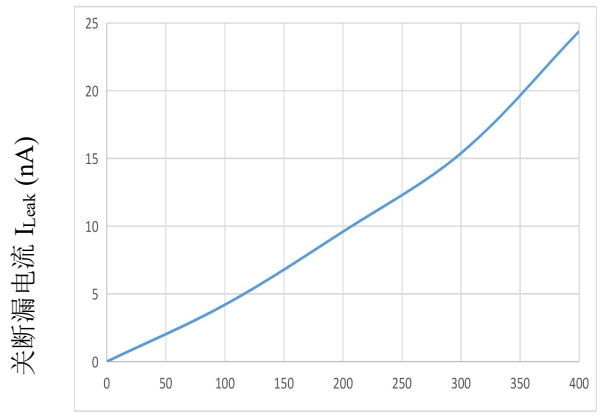


图.8 开启时间-正向电流特性

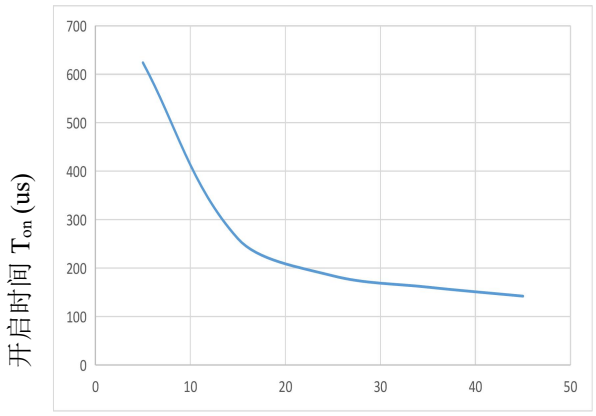


图.9 关断时间-正向电流特性

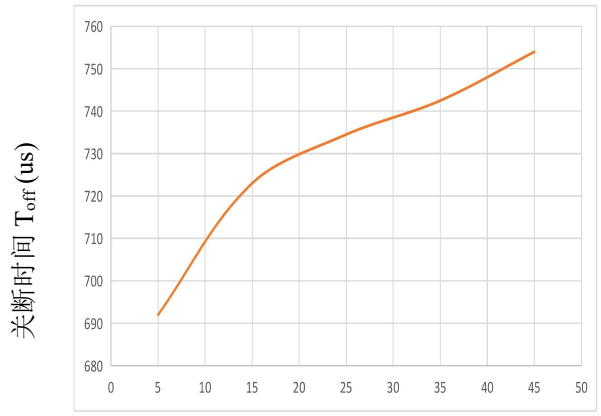


图.10 导通电阻-境温度特性

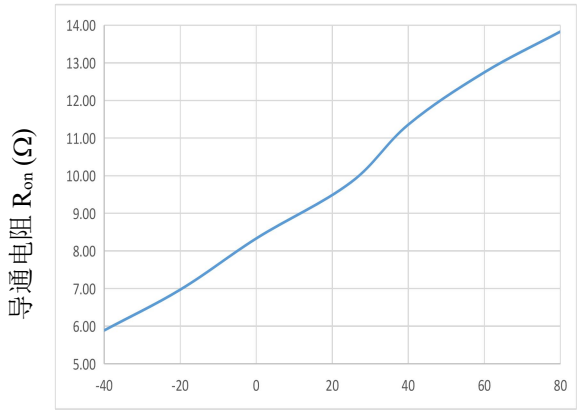
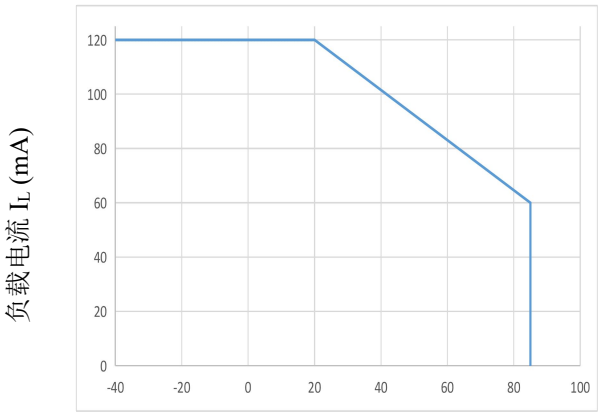
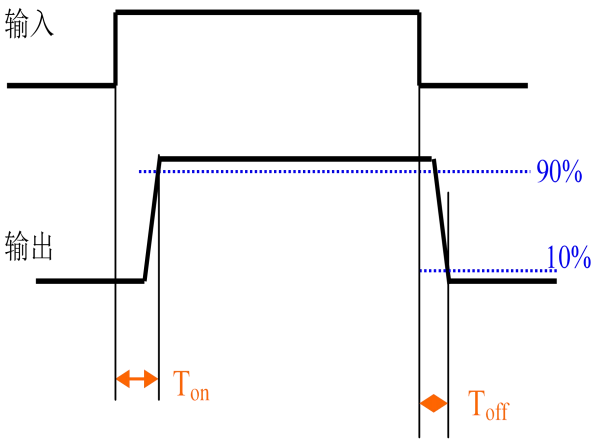


图.11 负载电流-环境温度特性



★ 开启关断时间



9.外形尺寸

单位: mm

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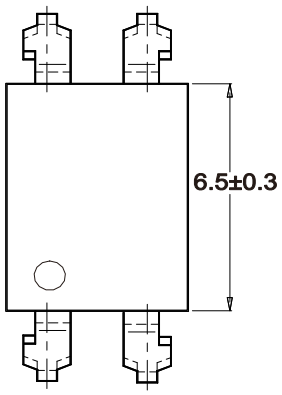

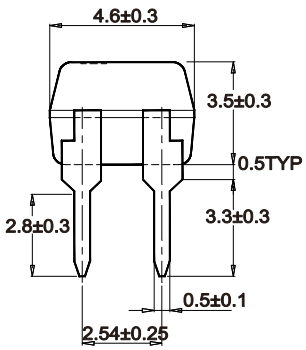

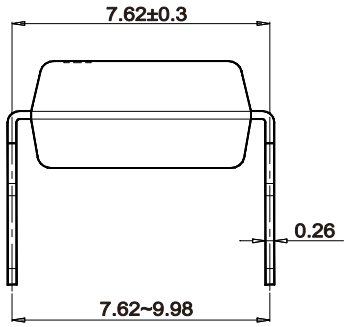

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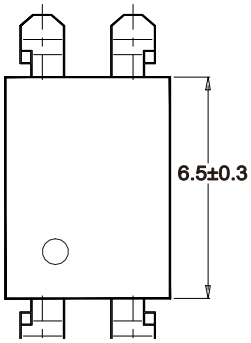

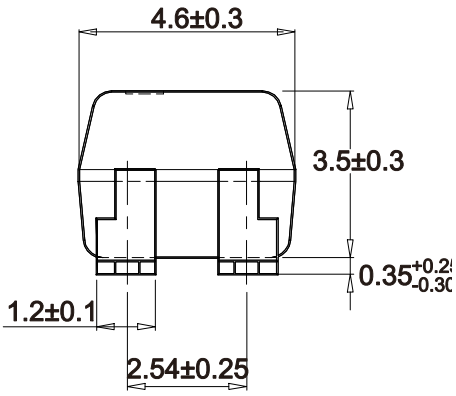

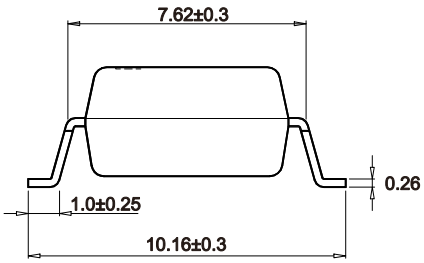

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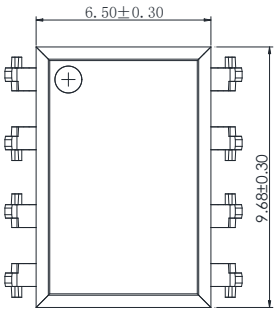

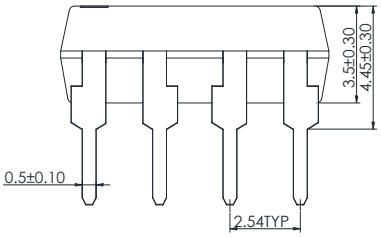

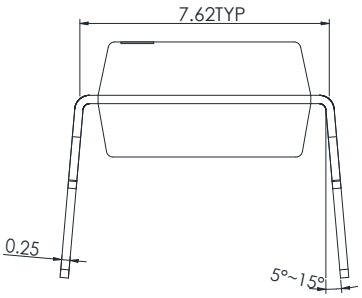
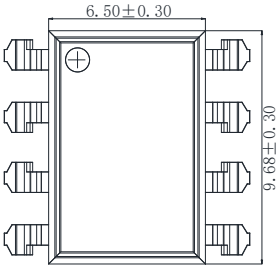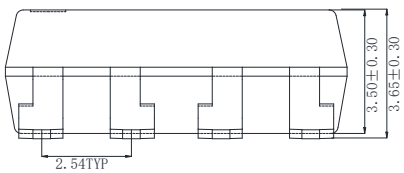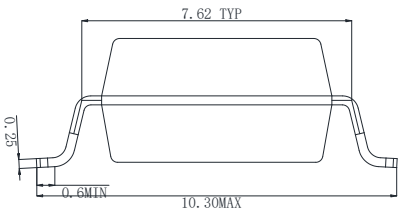
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