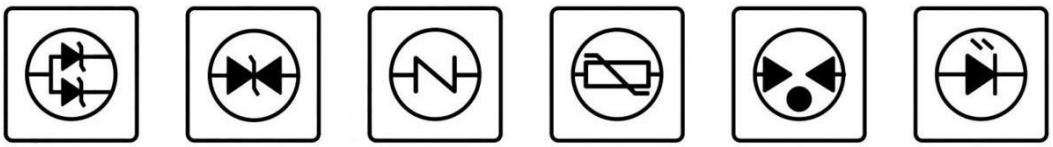
MSKSEMI 美森科
SEMICONDUCTOR



MTLP521-1XX(DIP)/MTLP521-1XX(SOP)

产品手册

描述

MTLP521-1XX(DIP)/MTLP521-1XX(SOP)是可控制的光电藕合器件，电路之间的信号传输，使之前端与负载完全隔离，目的在于增加安全性，减小电路干扰，减化电路设计。四引脚封装，两种形式（DIP-4、SMD-4P）

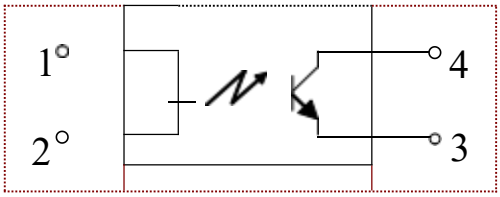
特性

电流转换比 (CTR)范围: 50~600% （I_F=5mA ,V_{CE}=5V）
输入-输出隔离电压 (Viso=5000 Vrms)
集电极-发射极击穿电压 BV_{CEO}≥80V

应用领域

- 开关电源，智能电表
- 工业控制，测量仪器
- 办公设备， 比如复印机
- 家用电器， 比如空调、风扇、热水器等

封装信息及内部引脚配置

封装		引脚配置
		
DIP-4	SMD-4P	

订单信息

型号	封装	最小包装
MTLP521-1XX(DIP)	DIP-4	5000
MTLP521-1XX(SOP)	SMD-4P	3000

极限参数 (Ta=25℃)

参数		符号	额定值	单位
输入	正向电流	I_F	50	mA
	反向电压	V_R	6	V
	功耗	P	70	mW
输出	集电极功耗	P_C	150	mW
	集电极电流	I_C	50	mA
	集电极-发射极电压	V_{CEO}	80	V
	发射极-集电极电压	V_{ECO}	7	V
总功耗		Ptot	200	mW
隔离电压		Viso	5000	Vrms
工作温度		Topr	-55~+110	℃
储存温度		Tstg	-55~+125	℃
焊接温度		Tsol	260	℃

CTR 分级表

型号		管体标记	分级标准	电流转换率(%) (I_C/I_F) IF = 5mA, VCE = 5V, Ta = 25°C	
				Min	Max
MTLP521-1A(DIP)	MTLP521-1A(SOP)	MSK TLP521A MS***	A	50	600
MTLP521-1Y(DIP)	MTLP521-1Y(SOP)	MSK TLP521Y MS***	Y	50	150
MTLP521-1GR(DIP)	MTLP521-1GR(SOP)	MSK TLP521GR MS***	GR	100	300
MTLP521-1BL(DIP)	MTLP521-1BL(SOP)	MSK TLP521BL MS***	BL	200	600
MTLP521-1GB(DIP)	MTLP521-1GB(SOP)	MSK TLP521GB MS***	GB	100	600

光电特性（Ta=25℃）

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
输入	正向电压	V_{F1}	I_F= 10mA	1.0	-	1.3	V
	正向电压	V_{F2}	I_F=20mA	1.1	-	1.4	V
	反向电流	I_R	V_R=5V	-	-	10	μA
	终端电容	C_t	V=0, f= 1kHz	-	30	250	pF
输出	集电极暗电流	I_{CEO}	V_{CE}=50V	-	-	100	nA
	集电极-发射极击穿电压	BV_{CEO}	I_C=0. 1mA, I_F=0	80	-	-	V
	发射极-集电极击穿电压	BV_{ECO}	I_E= 10μA, I_F=0	7	-	-	V
传输特性	电流转换比	CTR	I_F=5mA, V_{CE}=5V	130	-	600	%
	隔离电阻	$V_{CE(sat)}$	I_F=2mA, I_C=5mA	-	0.25	0.8	V
	集电极-发射极饱和压降	R_{ISO}	DC500V, 40~60%R.H.	$1x10^{12}$	-	-	Ω
	隔离电容	Cf	V=0, f= 1MHz	-	0.6	1.0	pF
	截止频率	Fc	V_{CE}=5V, I_C=2mA, R_L= 100Ω, -3dB	-	80	-	kHz
开关时间	上升时间	Tr	V_{CE}= 10V, I_C=2mA, R_L= 100Ω	-	2	-	μs
	下降时间	Tf		-	3	-	μs
	开启时间	Ton		-	3	-	μs
	关断时间	Toff		-	3	-	μs
	开启时间	Ton	RL = 1.9 kΩ VCC = 5 V, IF = 16 mA	-	2	-	μs
	存储时间	Ts		-	15	-	μs
	关断时间	Toff		-	25	-	μs

* CTR=IC/IF x 100%

Fig.1 测试线路图

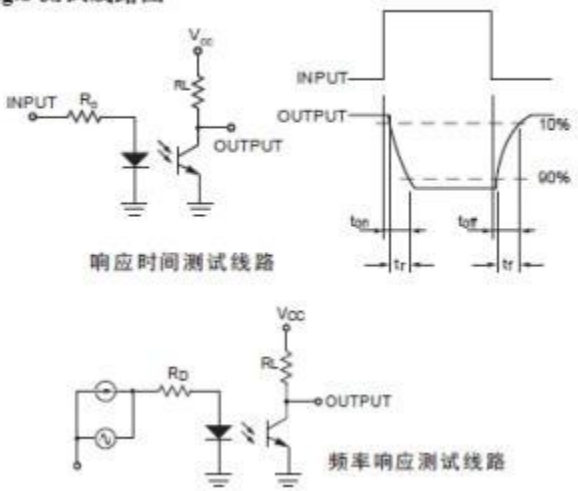


Fig.2 电流转换比 vs 正向电流曲线图

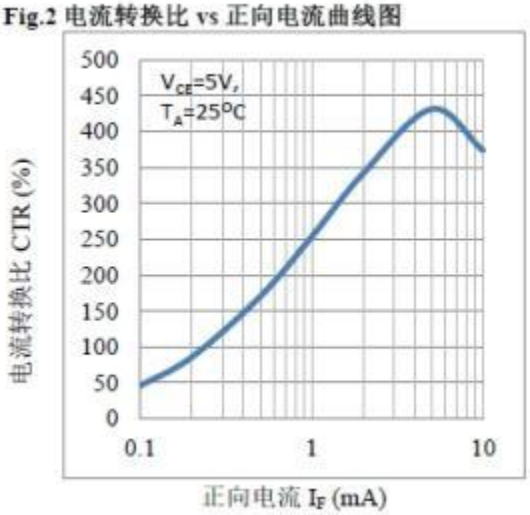


Fig.3 正向电流 vs 正向电压曲线图

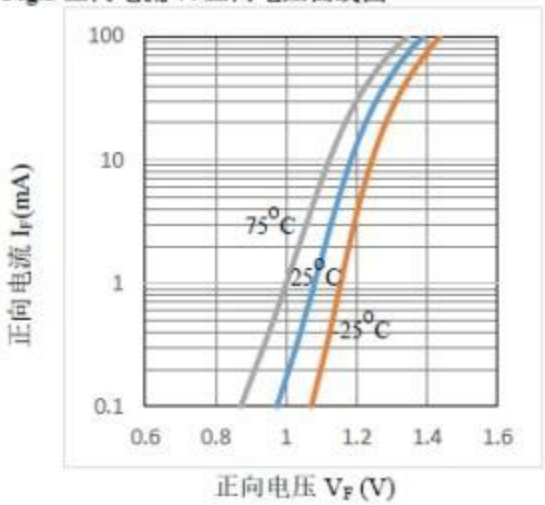


Fig.4 集电极电流 vs 集-发电压曲线图

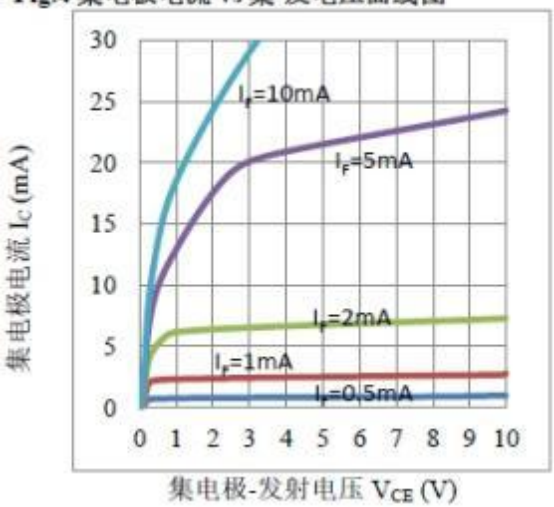


Fig.5 相对电流转换比 vs 环境温度曲线图

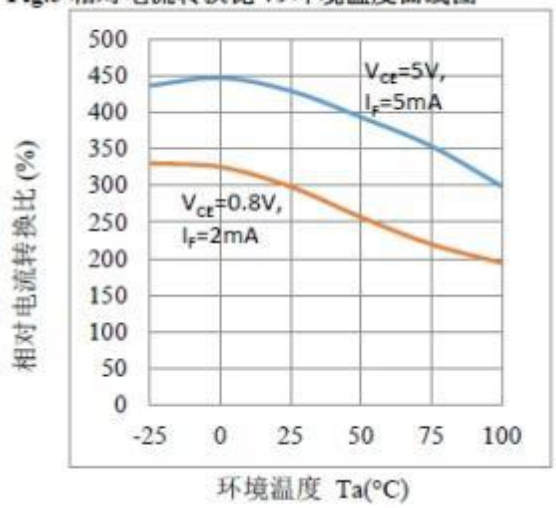


Fig.6 饱和压降 vs 环境温度曲线图

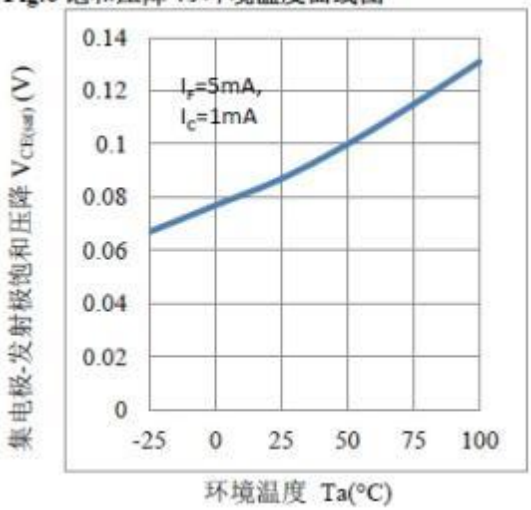


Fig.7 集电极暗电流 vs 环境温度曲线图

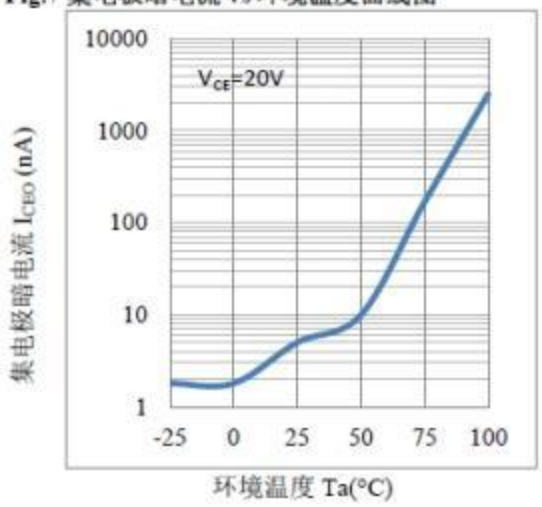


Fig.8 响应时间 vs 负载电阻曲线图

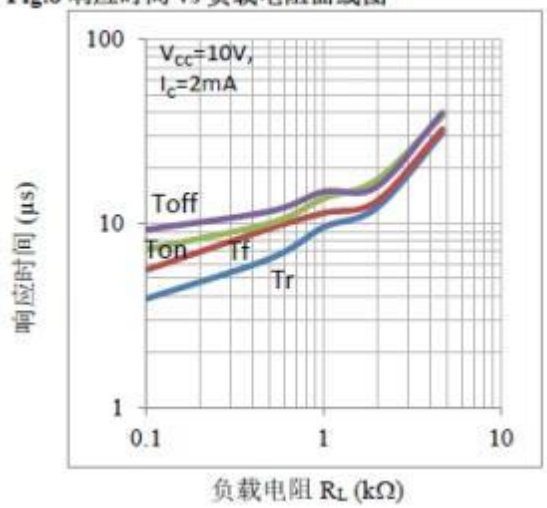


Fig.9 频率响应曲线图

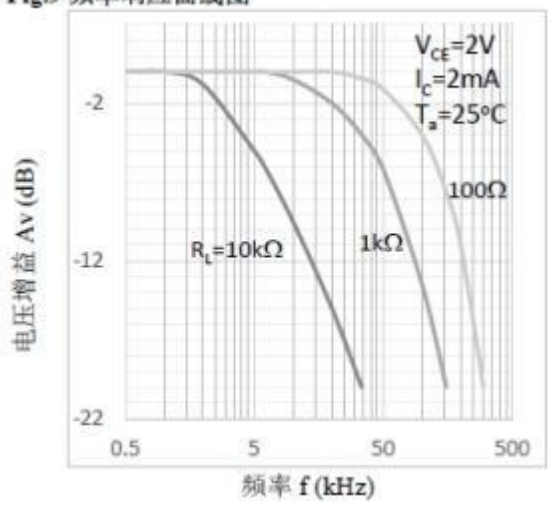
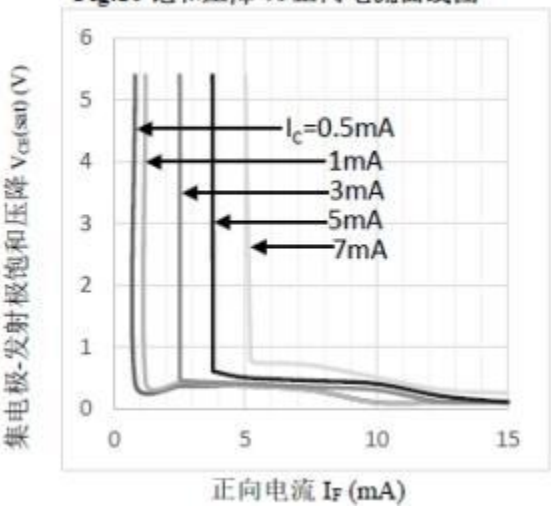
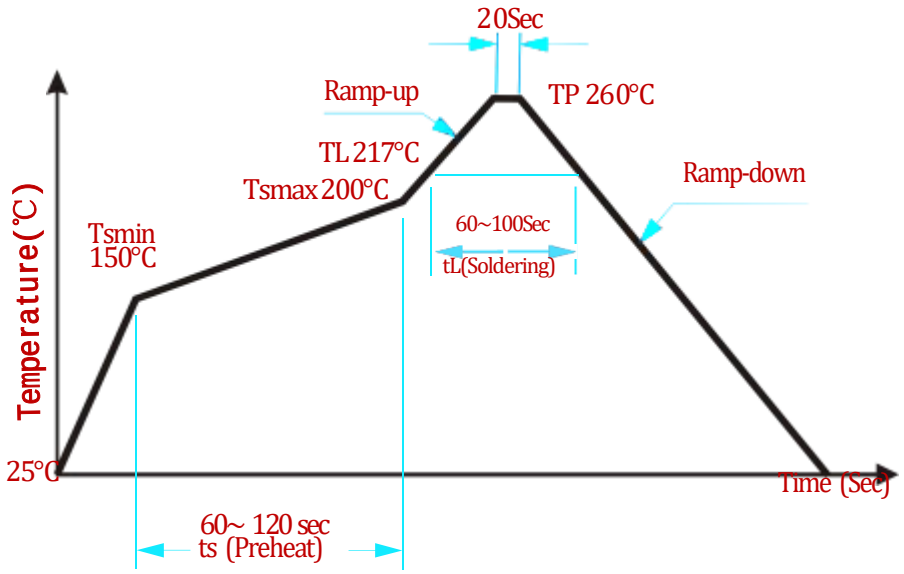


Fig.10 饱和压降 vs 正向电流曲线图

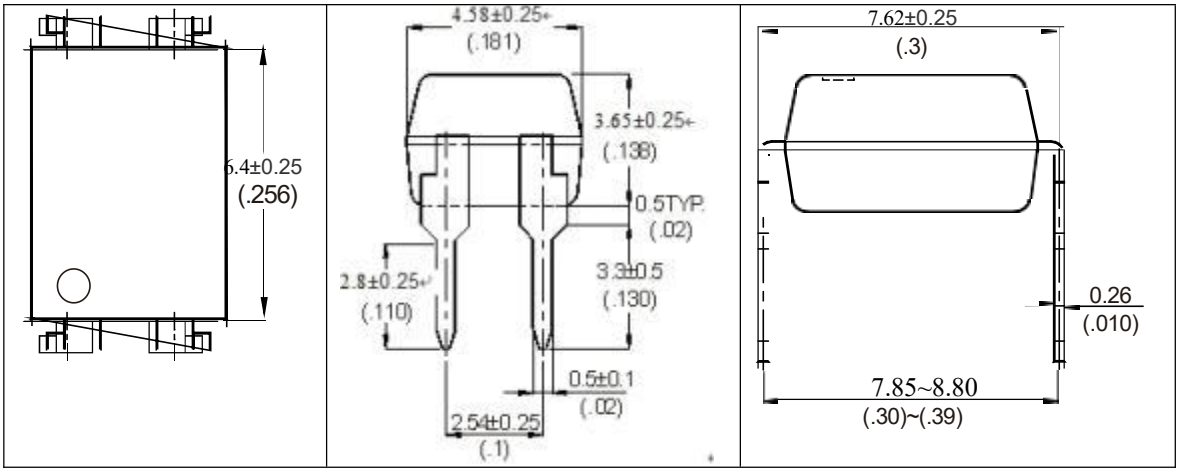


回流焊温度曲线图

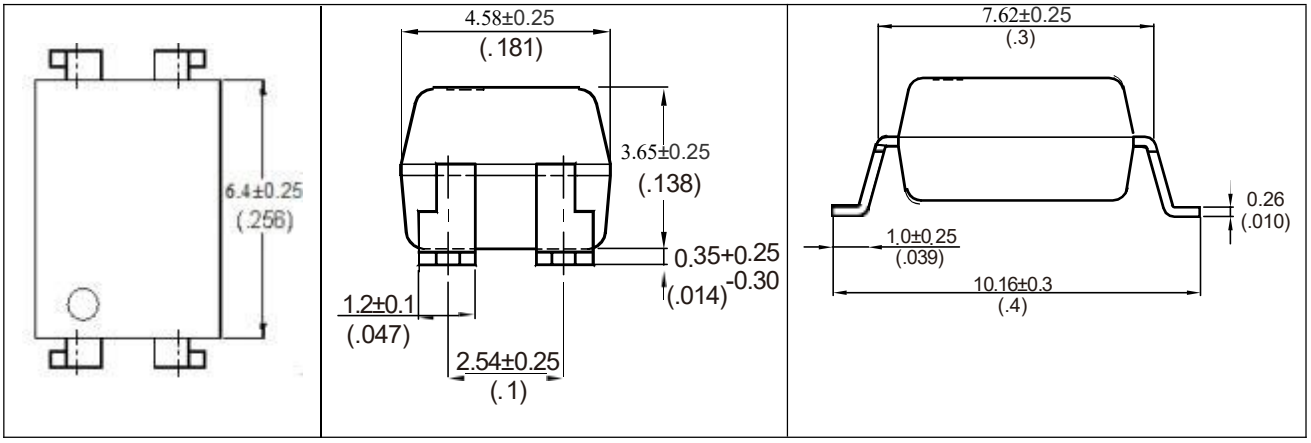


外形尺寸

Unit: mm (inch)



DIP-4



SMD-4P

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