

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

MTLP181

产品手册

描述

MTLP181 是一块小外形的贴片光电耦合器件，适合表面贴装生产。MTLP181 是由一个砷化镓发光二极管和一个光电晶体管组成的光电耦合器，它的体积比 DIP 小，适用于高密度表面贴装应用，如可编程控制器等。

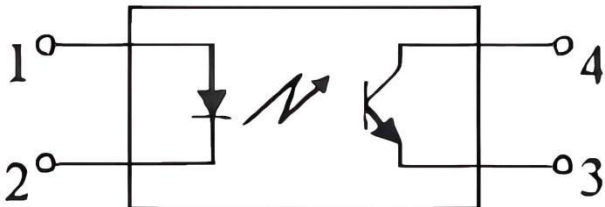
特性

- 电流转换比 (CTR)范围: 50~600% ($I_F=5mA, V_{CE}=5V$)
- 输入-输出隔离电压 ($V_{iso}=3750\text{ Vrms}$)
- 集电极-发射极击穿电压 $BV_{CEO}\geq 80V$
- 工作温度: $-55\sim 110^{\circ}C$

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
 SOP-4	

订单信息

型号	封装	最小包装
MTLP181**	SOP-4	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
	正向脉冲电流	I_{FP}	1	A
	反向电压	V_R	5	V
	功耗	P	70	mW
	结温	T_j	125	°C
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
	结温	T_j	125	°C
总功耗		P_{tot}	200	mW
隔离电压		V_{iso}	3750	V_{rms}
工作温度		T_{opr}	-55~+110	°C
储存温度		T_{stg}	-55~+125	°C
焊接温度		T_{sol}	240 (10s)	°C

CTR分级表

型号	管体标记	分级标准	电流转换率(%)(I_C/I_F)		
			$I_F = 5mA, V_{CE} = 5V, T_a = 25^{\circ}C$		
			Min	Type	Max
MTLP181		Blank	50	-	600
MTLP181Y		Y	50	-	150
MTLP181GR		GR	100	-	300
MTLP181GB		GB	100	-	600
MTLP181GL		BL	200	-	600

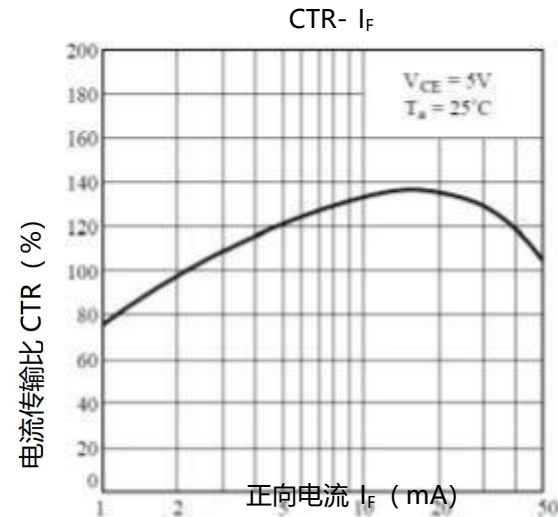
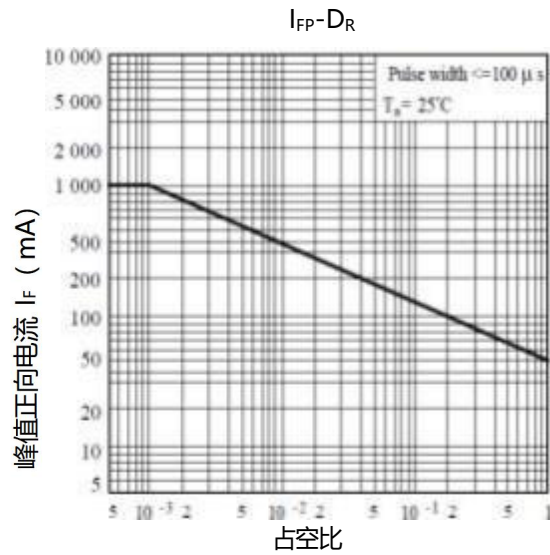
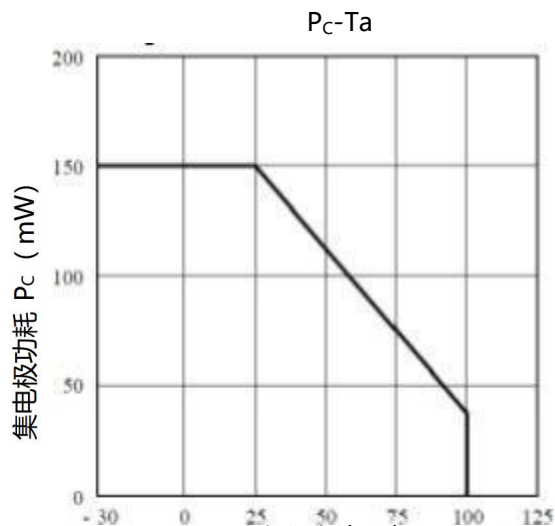
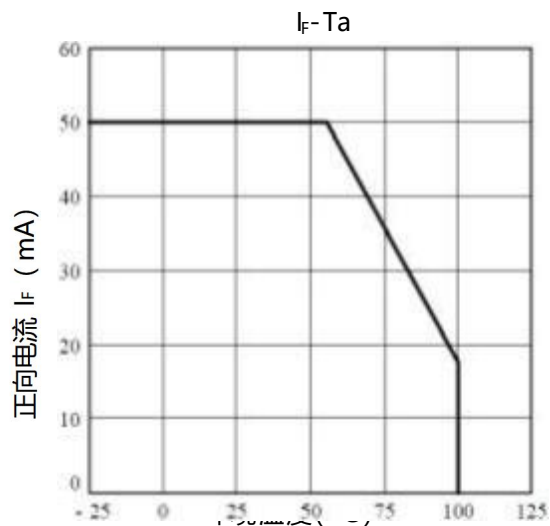
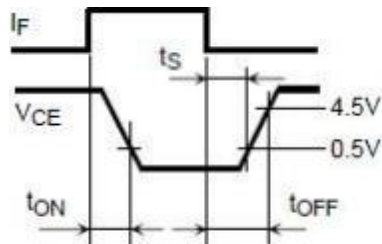
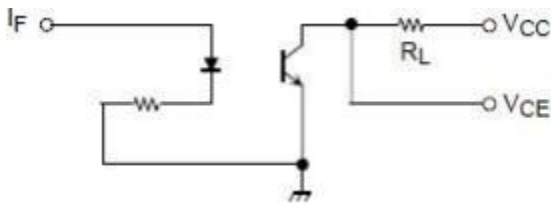
参数	Symbol	Min.	Typ.	Max.	Unit
工作电压	V_{CC}	-	5	48	V
正向电流	I_F	-	16	20	mA
集电极电流	I_C	-	1	10	mA
工作温度	T_{opr}	-25	-	85	°C

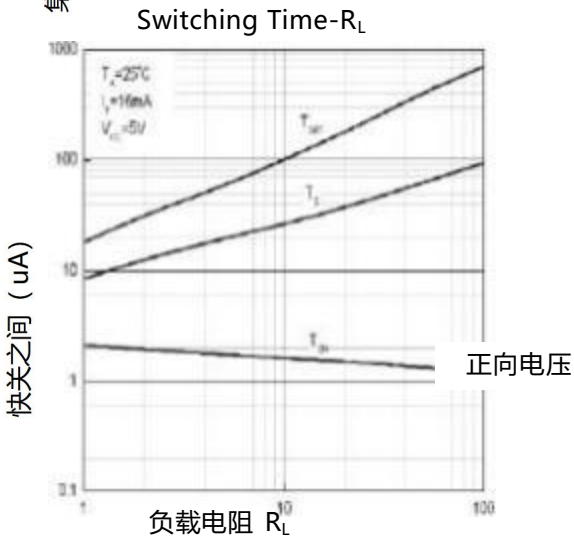
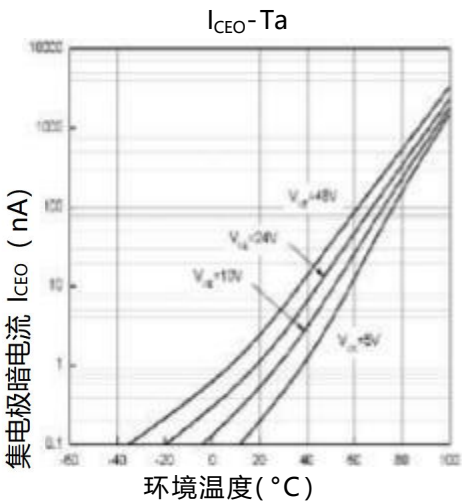
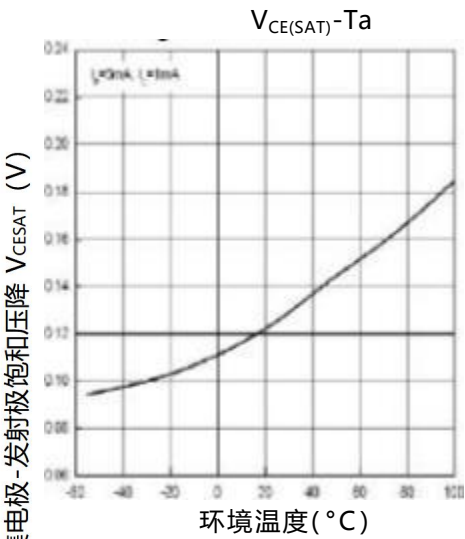
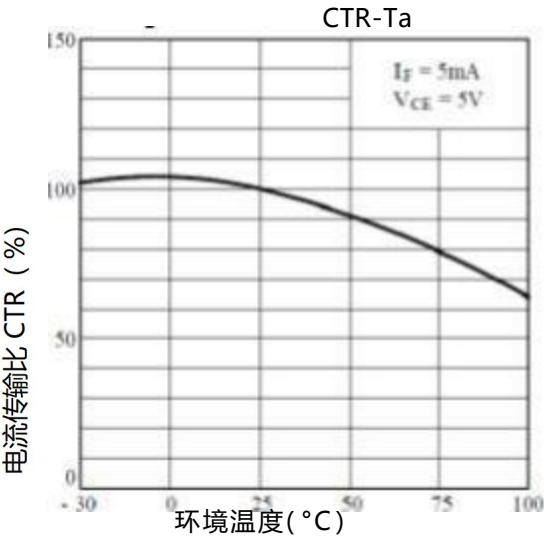
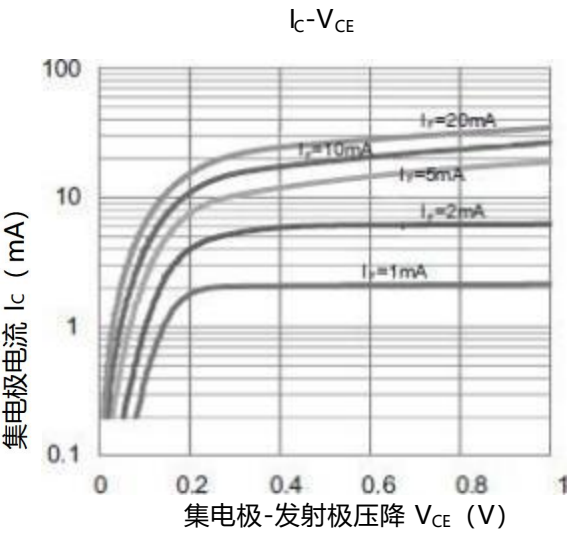
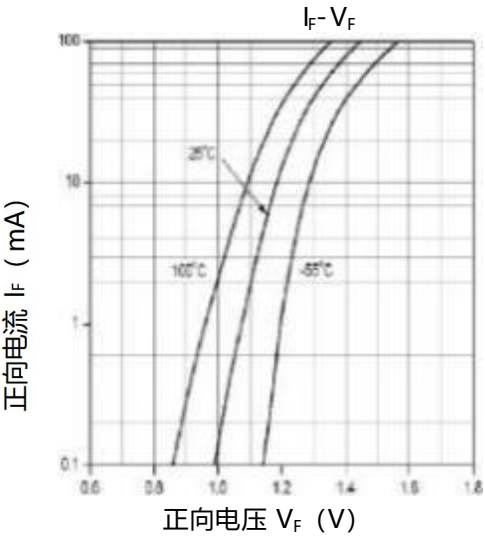
光电特性(Ta=25℃)

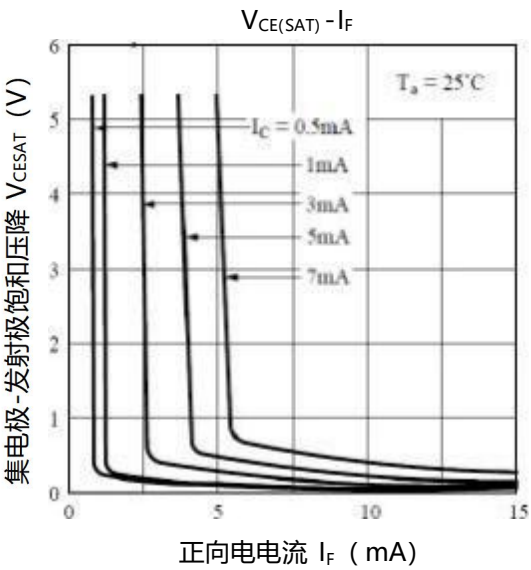
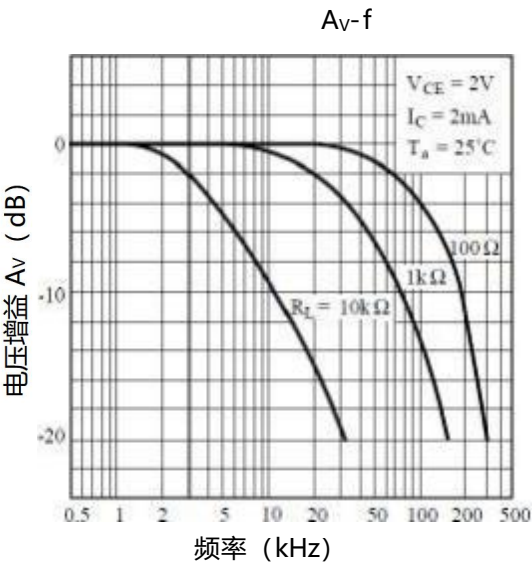
Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
输入	正向电压	V _F	I _F =20mA		1.2	1.4	V
	反向电流	I _R	V _R =5V	-	-	10	μA
	输入端电容	C _{in}	V=0, f= 1MHz	-	30	-	pF
输出	集电极暗电流	I _{CEO}	V _{CE} =70V	-	-	100	nA
	集电极-发射极击穿电压	BV _{CEO}	I _C =0. 1mA, I _F =0	80	-	-	V
	发射极-集电极击穿电压	BV _{ECO}	I _E =0. 1mA, I _F =0	7	-	-	V
传输特性	电流转换比	CTR	I _F =5mA, V _{CE} =5V	50	-	600	%
	集电极-发射极饱和压降	V _{CE(sat)}	I _F =20mA, I _C = 1mA	-	0. 1	0.2	V
	隔离电阻	R _{ISO}	DC1000V, 40~60%R.H.	1x10 ¹¹	-	-	Ω
	隔离电容	C _f	V=0, f= 1MHz	-	0.6	1.0	pF
	集电极-发射极电容	C _{CE}	V=0, f= 1MHz	-	10	-	pF
	输入-输出电容	C _s	V=0, f= 1MHz	-	0.8	-	pF
	截止频率	F _c	V _{CE} =5V , I _C =2mA, R _L = 100Ω, -3dB	-	80	-	kHz
开关时间	上升时间	T _r	V _{CE} = 10V, I _C =2mA, R _L = 100Ω	-	-	12	μs
	下降时间	T _f		-	-	12	μs
	开启时间	T _{on}		-	-	12	μs
	关断时间	T _{off}		-	-	12	μs

* CTR=I_C/I_F x 100%

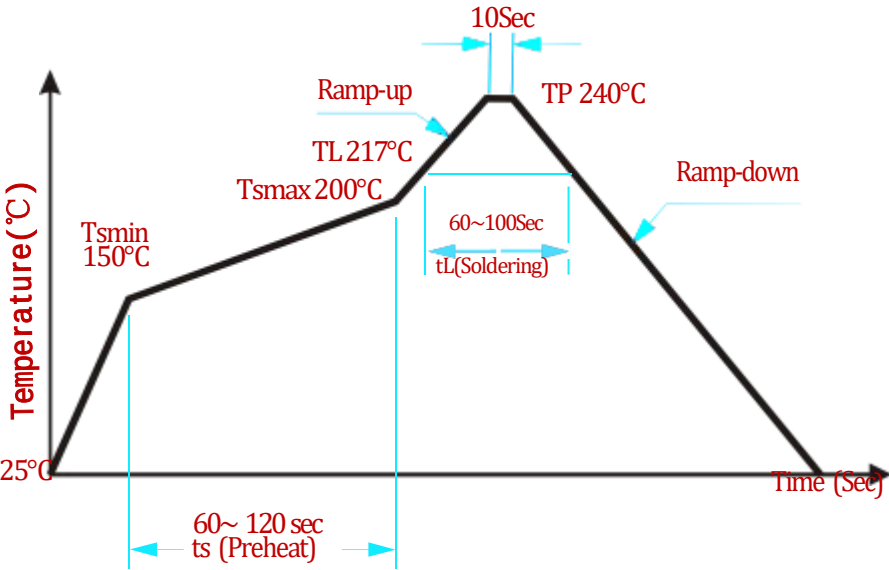
测试电路



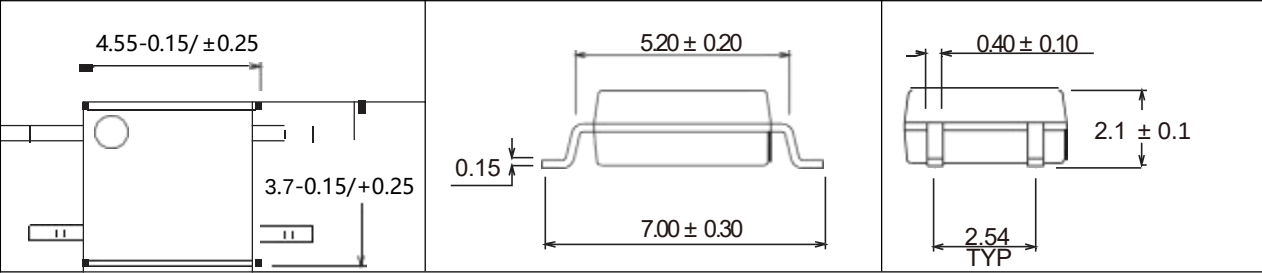




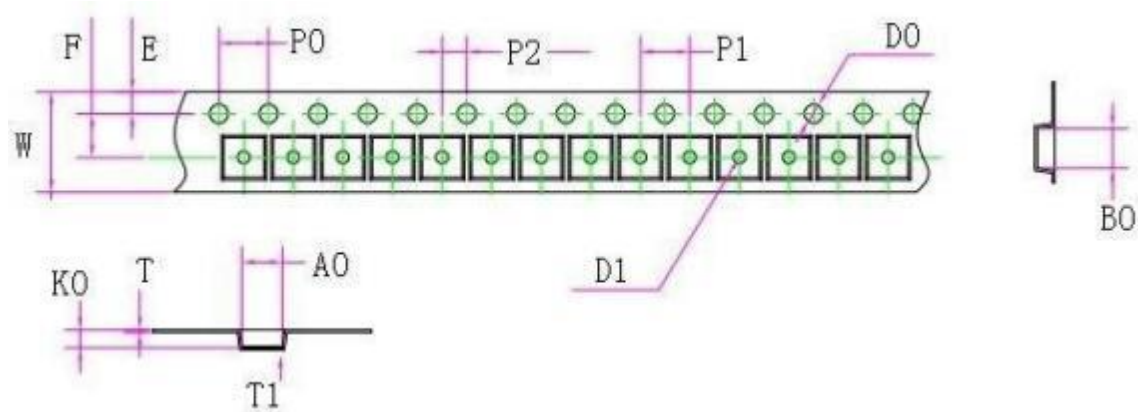
回流焊温度曲线图



外形尺寸



编带尺寸



W	E	F	D0	D1	P0
12.00±0.10	1.75±0.10	5.50±0.05	1.50+0.10/-0	1.50+0.10/-0	4.00±0.10
P1	P2	A0	B0	K0	T
8.00±0.10	2.00±0.10	3.90±0.10	7.38±0.10	2.50±0.10	0.2±0.05
T1	10*P0				
0.10min	40.00±0.20				

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