



概述

EL357是一块小外形的贴片光电耦合器件，适合表面贴装生产。EC357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。

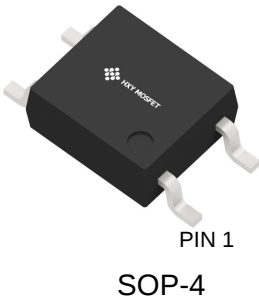
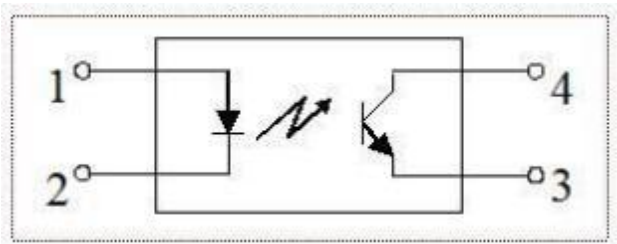
特性

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

应用参数

- 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

结构原理图和封装



极限参数($T_a=25^{\circ}\text{C}$)

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	6	V
	功耗	P	70	mW
	结温	T_j	125	$^{\circ}\text{C}$
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	$^{\circ}\text{C}$
总功耗		P_{tot}	200	mW
隔离电压		V_{iso}	5000	V_{rms}
工作温度		T_{opr}	$-55\sim +110$	$^{\circ}\text{C}$
储存温度		T_{stg}	$-55\sim +125$	$^{\circ}\text{C}$
焊接温度		T_{sol}	260	$^{\circ}\text{C}$



光电特性(Ta=25 ° C)

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
	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} =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	-	400	%
	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
	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	Tr	V _{CE} =10V, I _C =2mA, R _L =100Ω	-	4	18	μs
	下降时间	Tf		-	3	18	μs

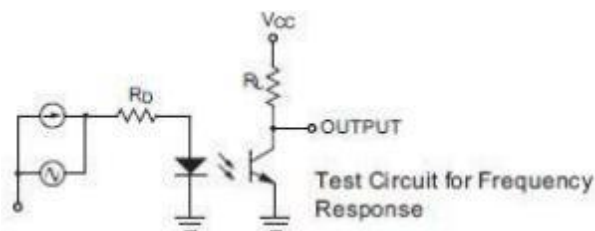
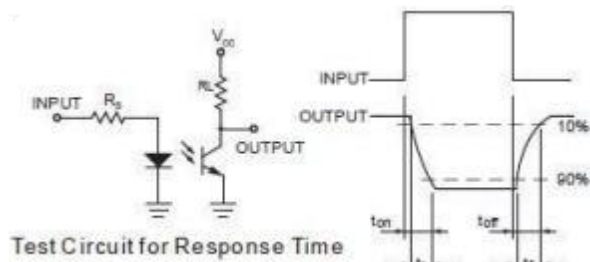
* CTR=I_C/I_F x 100%

CTR分级表

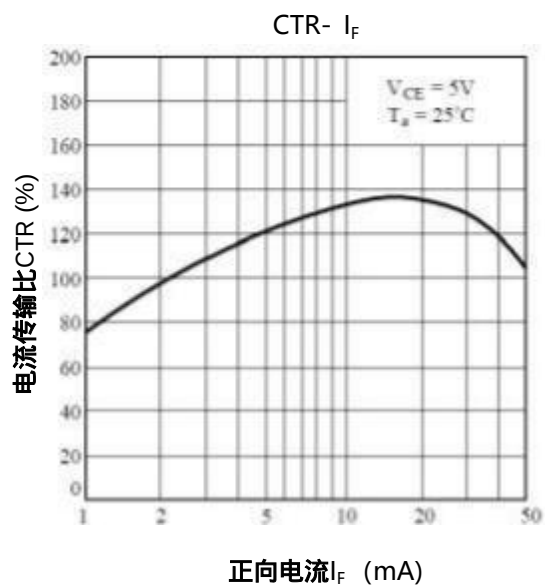
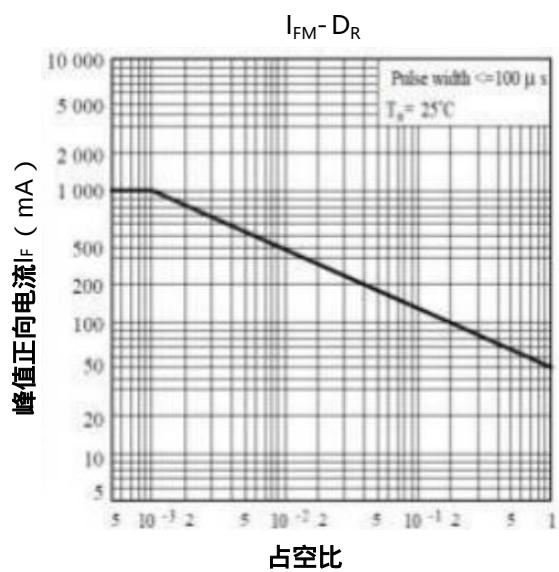
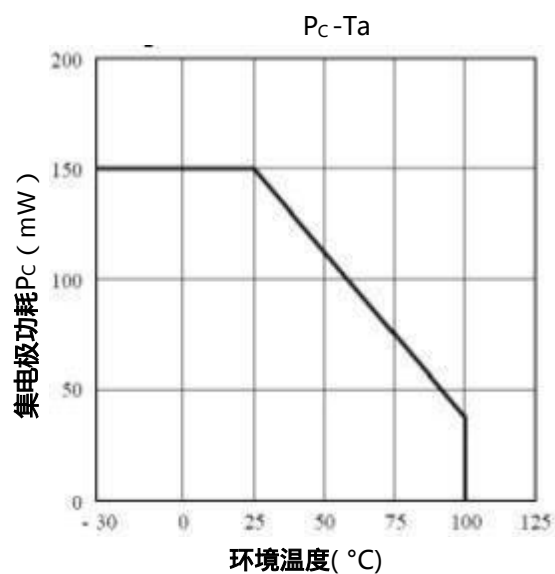
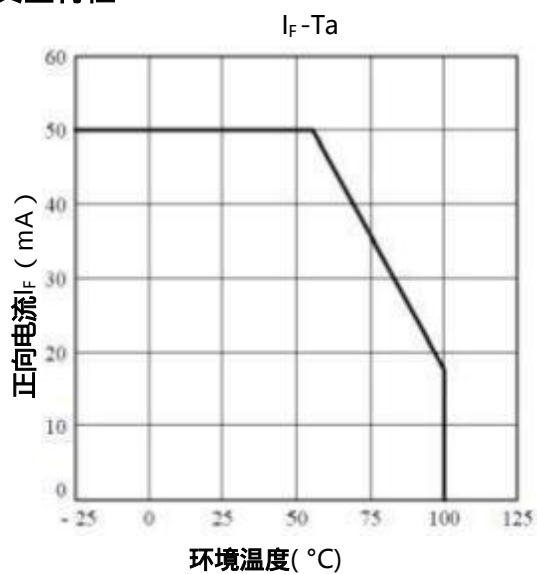
型号	分级标准	I _C (mA)		对应CTR (%)	
		I _F = 5mA, V _{CE} = 5V, Ta = 25°C		I _F = 5mA, V _{CE} = 5V, Ta = 25°C	
		Min	Max	Min	Max
EL357	Blank	2.5	30.0	50	600
	A	4.0	8.0	80	160
	B	6.5	13.0	130	260
	C	10.0	20.0	200	400
	D	15.0	30.0	300	600
	A or B	4.0	13.0	80	160
	B or C	6.5	20.0	130	400
	C or D	10.0	30.0	200	600
	A,B or C	4.0	20.0	80	400
	B,C or D	6.5	30.0	130	600
	A,B,C or D	4.0	30.0	80	600

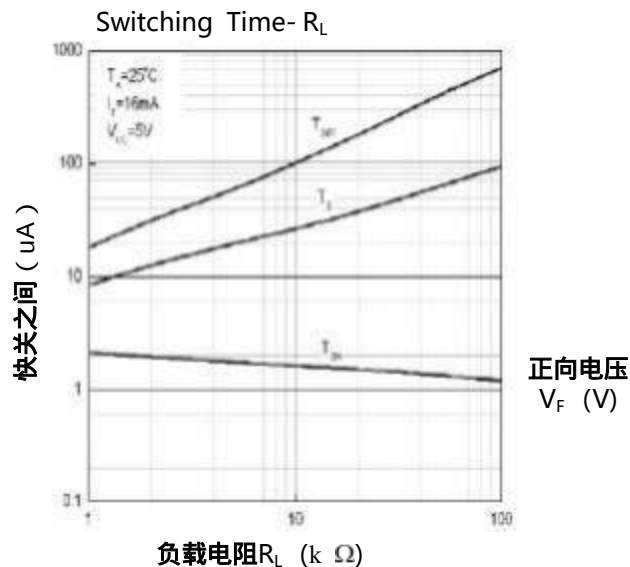
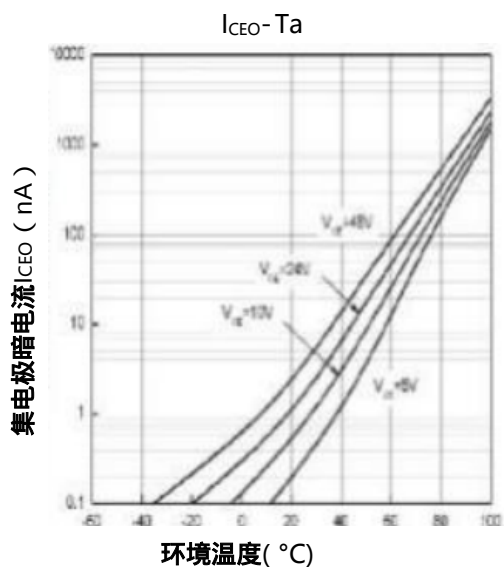
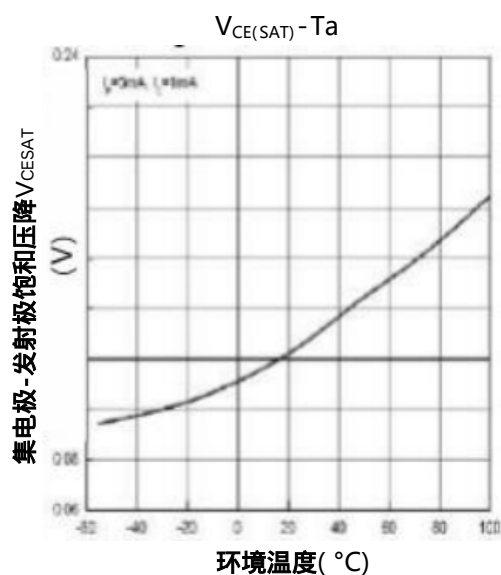
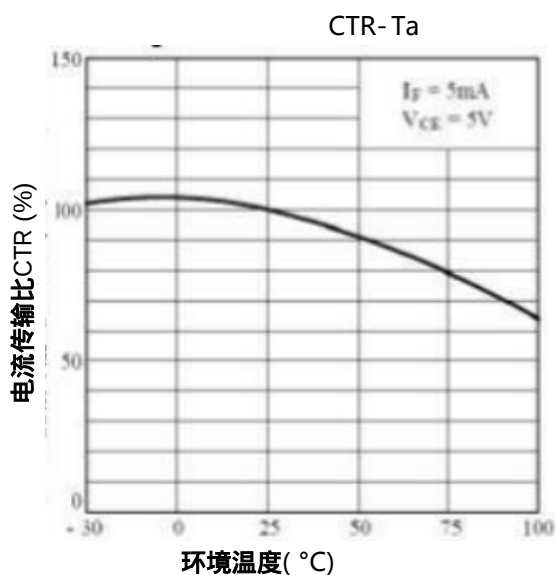
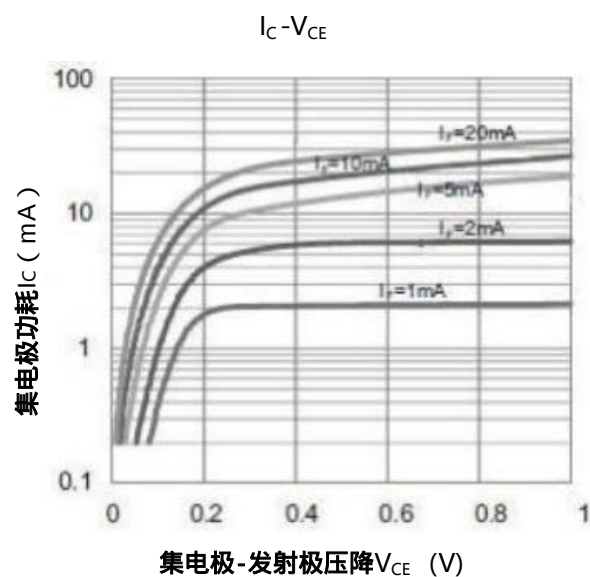
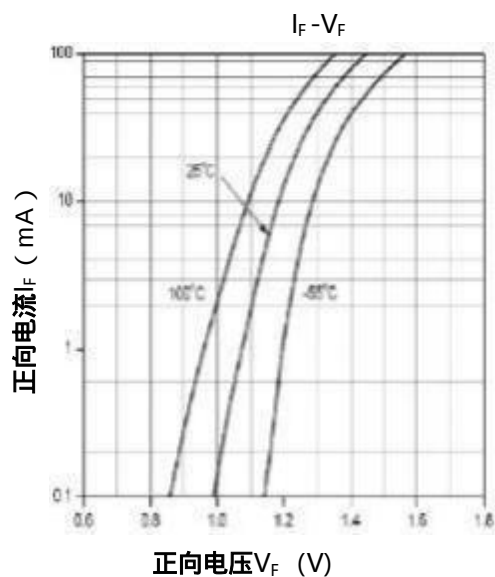


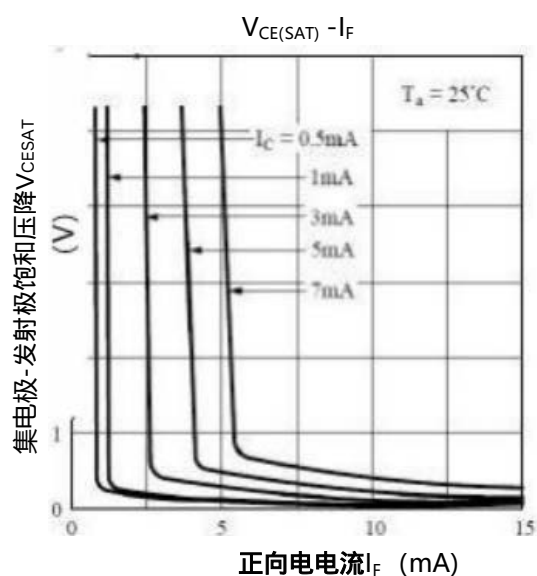
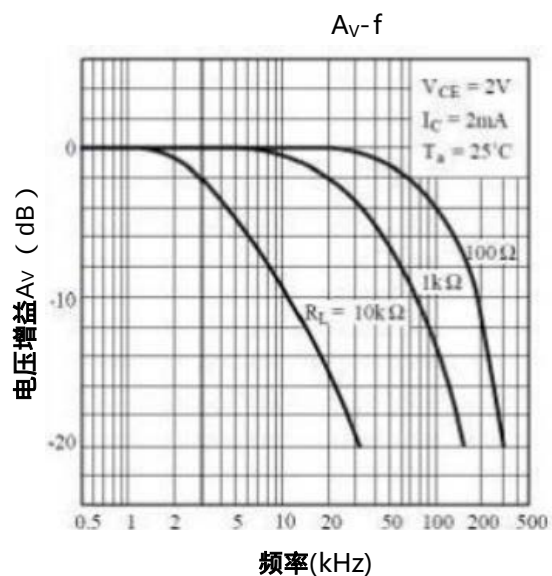
测试电路



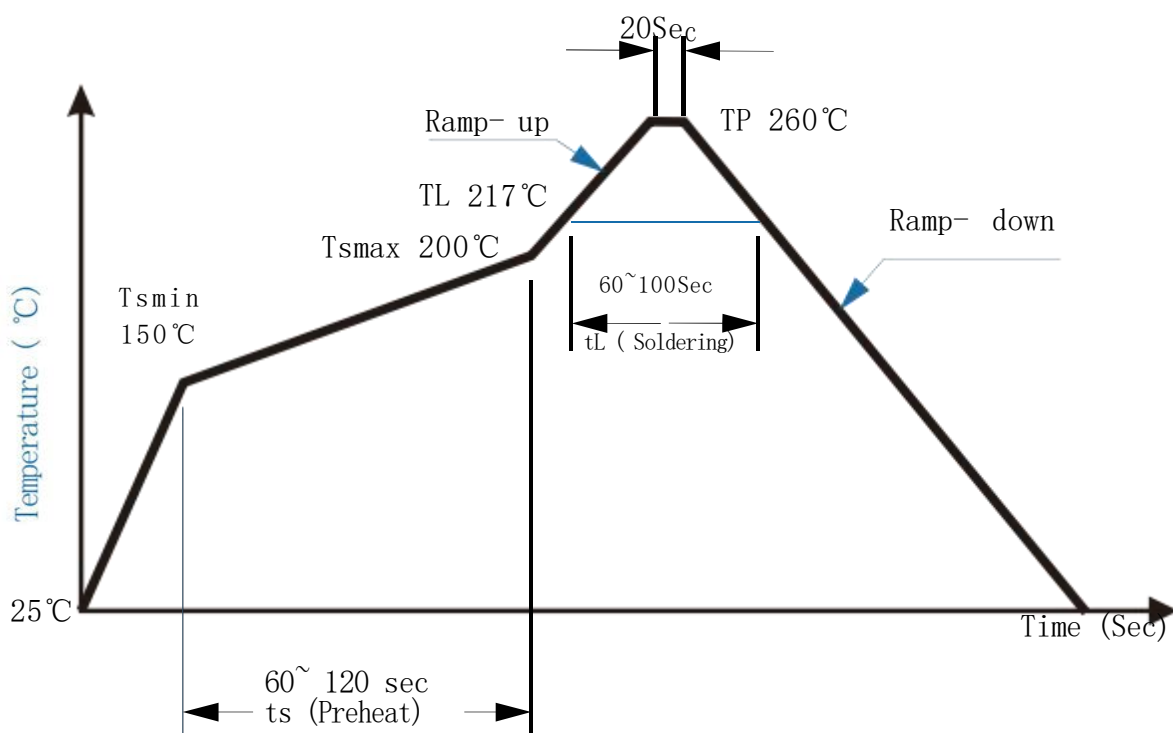
典型特性





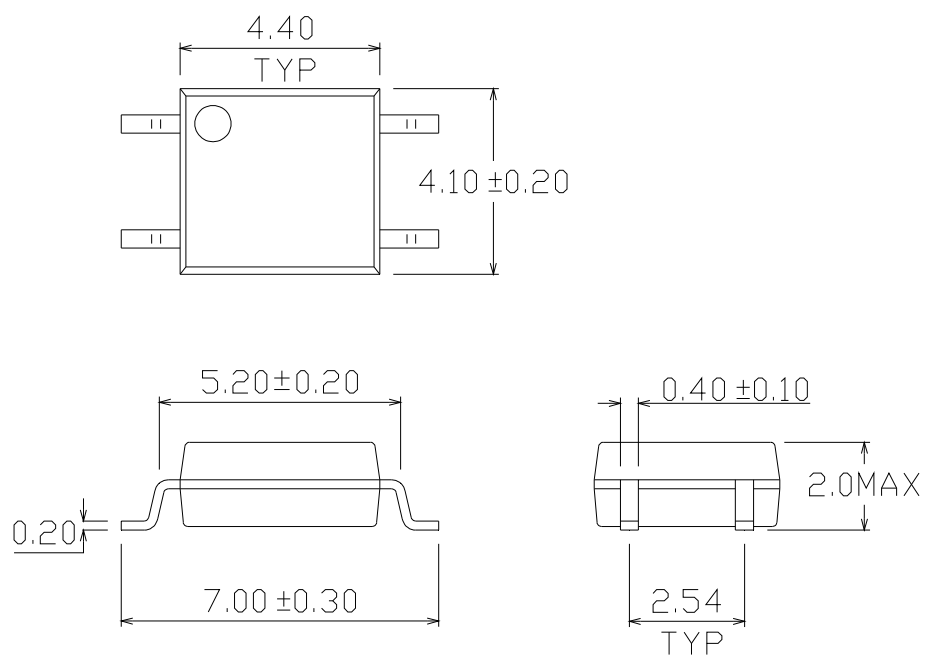


回流焊温度曲线图





外形尺寸 (单位 : mm)





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