

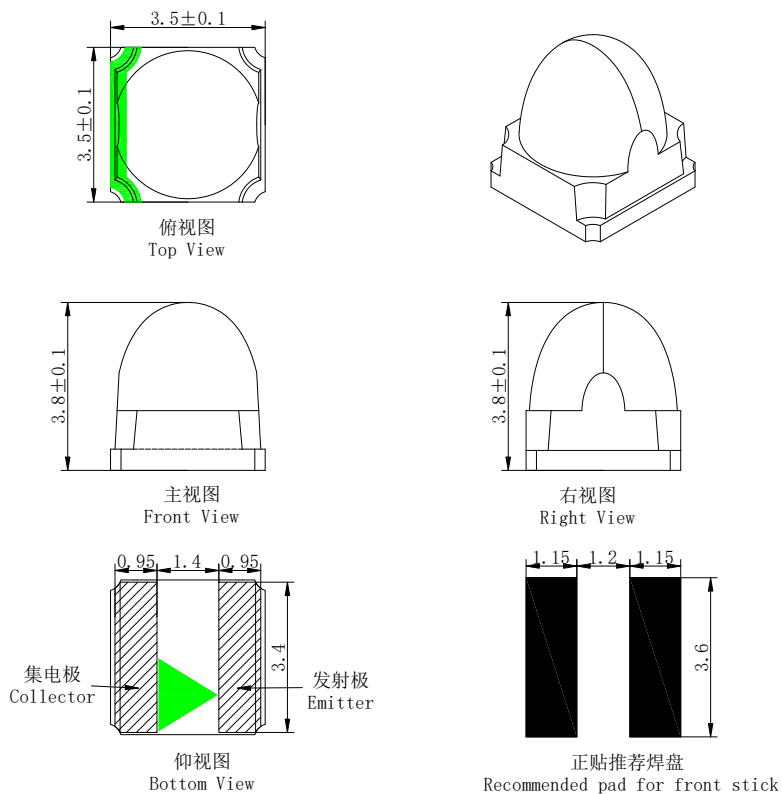
Features

- Small double-end package
- High photo sensitivity
- High reliability
- Spectral range of sensitivity: 700-1100nm
- Fast Response time
- RoHS compliance

Applications

- Miniature switch
- Counters and sorter
- Position sensor
- Infrared applied system

Package Dimension *All dimensions are in mm, unless otherwise stated*



Absolute Maximum Rating at 25°C

Symbol	Parameters	Ratings	Units	Notes
I _C	Collector Current	20	mA	
B _V CEO	Collector-Emitter Voltage	35	V	1
B _V ECO	Emitter-Collector Voltage	5	V	2
T _{opr}	Operating Temperature	-40 ~ +85	°C	
T _{stg}	Storage Temperature	-40 ~ +100	°C	
T _{sol}	Soldering Temperature	260	°C	3
P _{to}	Total Power Dissipation	150	mW	

Optical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
λ	Spectral Bandwidth	-	700	-	1100	nm	
λ _P	Peak Sensitivity	-	-	940	-	nm	
θ _{1/2}	View Angle	V _{CE} =5V	-	±20	-	deg	

Electrical Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
I _{CEO}	Dark Current	E _e =0mW /cm ² V _{CE} =20V	-	-	100	nA	
V _{CE(sat)}	Collector-Emitter Saturation Voltage	E _e =1mW /cm ² I _C =1.4mA	-	-	0.4	V	
I _C	Collector Light Current	E _e =1mW /cm ² λ _P =940nm, V _{CE} =5V	25	38	-	mA	4
C _T	Terminal Capacitance	E _e =0mW /cm ² f=1MHz, V _{CE} =5V	-	3.80	-	pF	

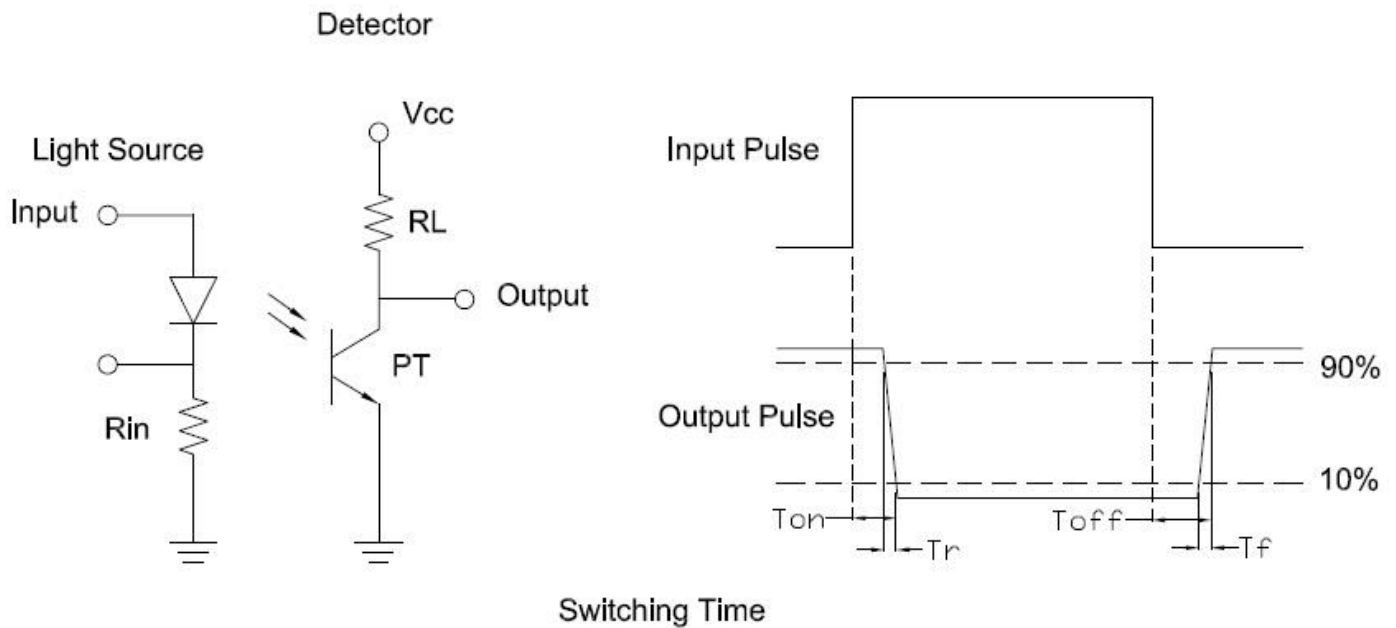
Switching Characteristics

Symbol	Parameters	Test Conditions	Min	Typ	Max	Units	Notes
t_r	Rise Time	$V_{ce} = 5V, R_L = 100\Omega$ $I_C = 1.0mA$	-	6	-	μs	5
t_f	Fall Time		-	7	-		
t_{on}	Turn on Delay Time		-	11	-		
t_{off}	Turn off Delay Time		-	7.9	-		

Notes:

- 1 : Test conditions : $I_C = 100\mu A, E_e = 0mW/cm^2$.
- 2 : Test conditions : $I_E = 100\mu A, E_e = 0mW/cm^2$.
- 3 : Soldering time ≤ 5 seconds.

5 : Test circuit:



Switching Time

Typical Characteristic Curves

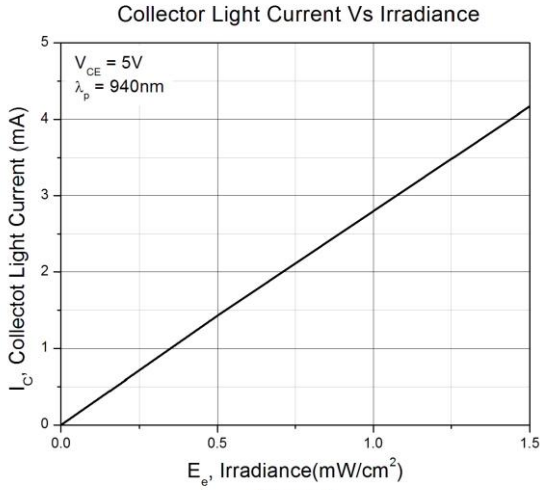


Figure 1

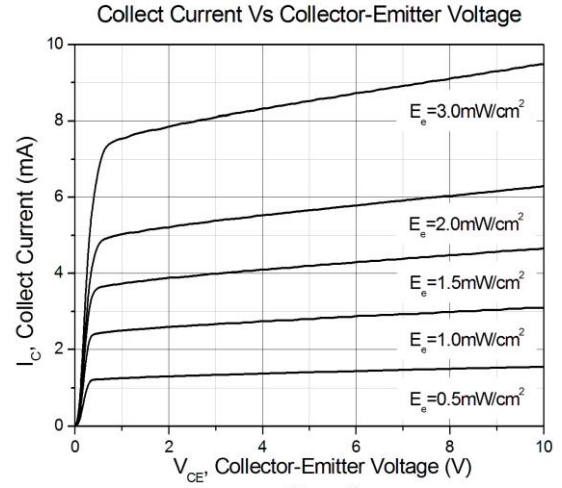


Figure 2

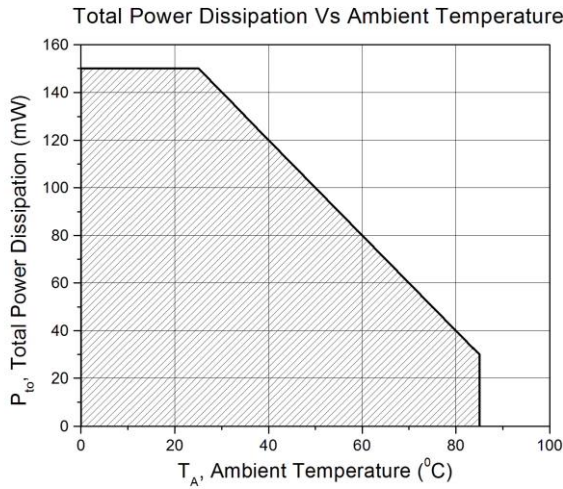


Figure 3

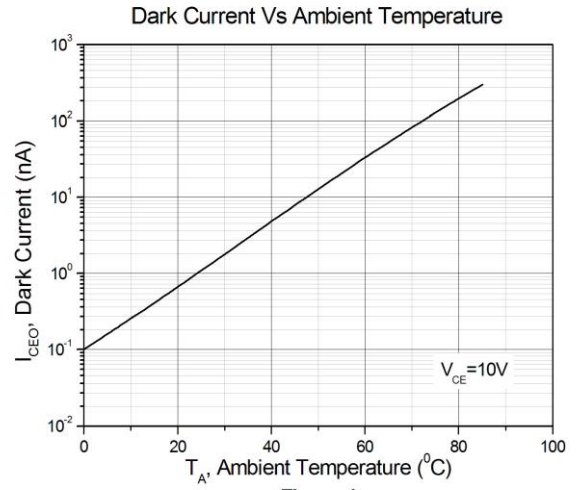


Figure 4

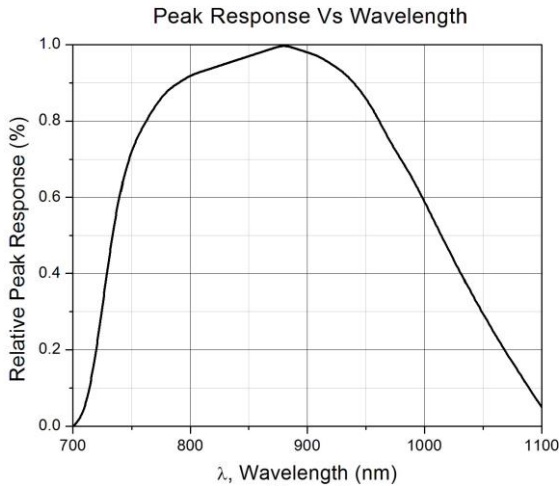


Figure 5

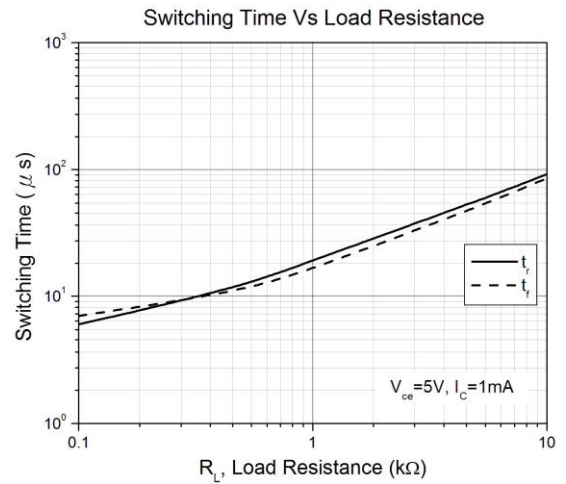
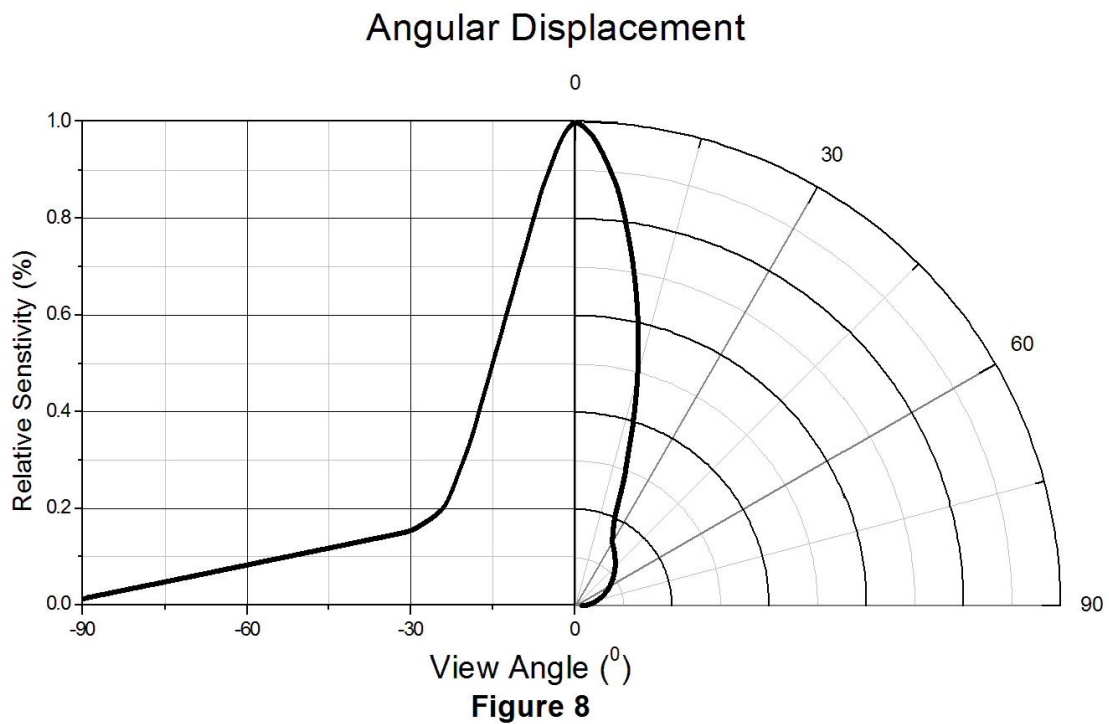
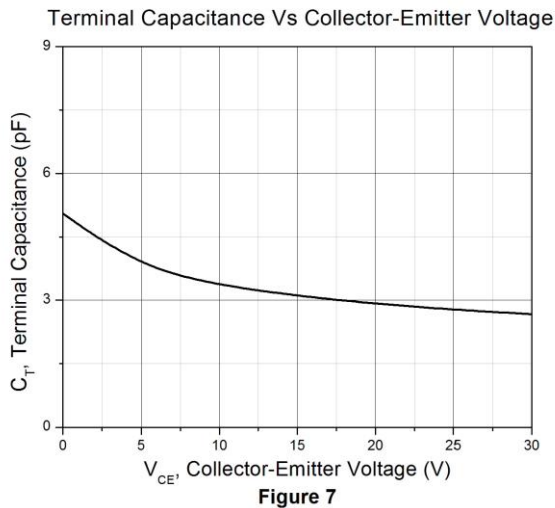


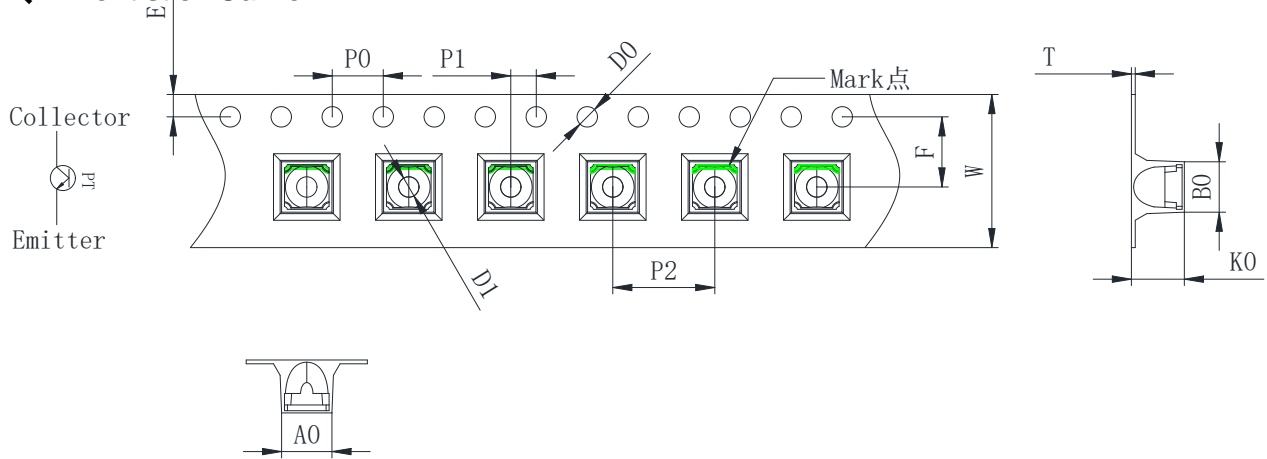
Figure 6

Typical Characteristic Curves



Packing specification :

1、Front stick Carrier

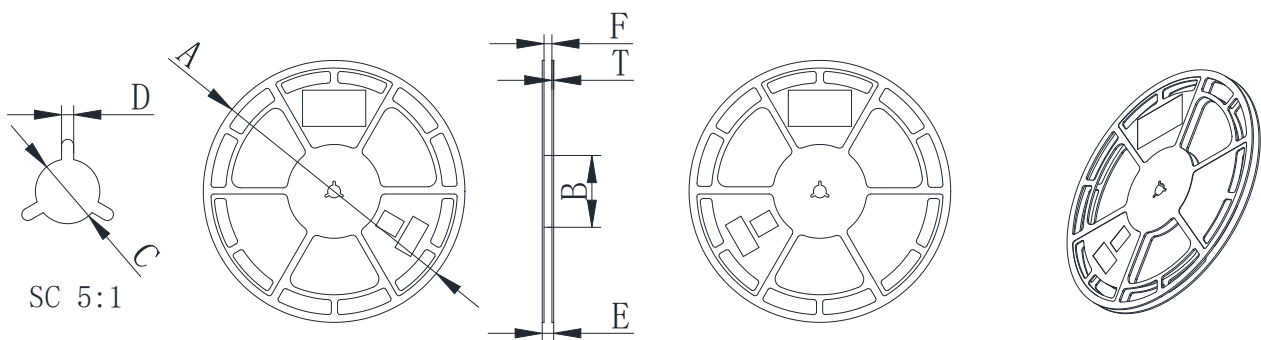


TIEM	W	A0	B0	K0	E	F	D0	D1	P0	P1	P2	T
DIM	12.00	3.75	3.75	3.95	1.75	3.50	1.60	1.60	4.00	2.00	8.00	0.3
TOLE	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.10	±0.

说明：产品正面绿色 Mark 点为集电极。

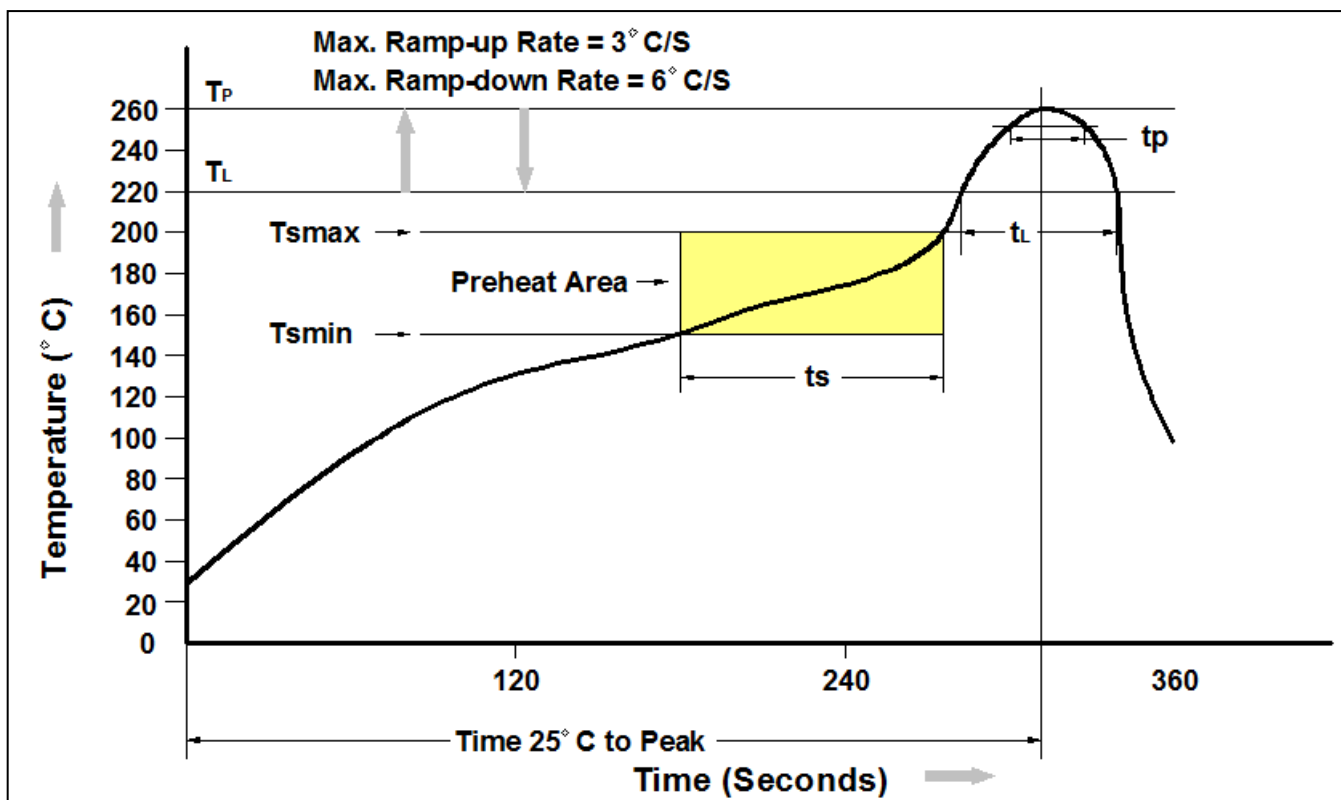
Note: The green Mark point on the front of the product is the collector.

2 Reel(1500pcs/reel)



TIEM	A	B	C	D	E	F	T
DIM	290.0	79.5	14.3	2.70	12.70	8.70	2.0
TOLE	±0.20	±0.20	±0.20	±2.0	±0.20	±0.20	±0.20

Reflow Profile



Profile Feature	Pb-Free Assembly Profile
Temperature Min. (Tsmmin)	150°C
Temperature Max. (Tsmmax)	200°C
Time (ts) from (Tsmmin to Tsmmax)	60-120 seconds
Ramp-up Rate (tL to tP)	3°C/second max.
Liquidous Temperature (TL)	217°C
Time (tL) Maintained Above (TL)	60 – 150 seconds
Peak Body Package Temperature	260°C +0°C / -5°C
Time (tP) within 5°C of 260°C	30 seconds
Ramp-down Rate (TP to TL)	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.