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Technical Data Sheet

MODEL NO： P170M4-550nm **Photo-transistor 0805 Package**

Features：

●Package in 8mm tape on 7” diameter reel

●Compatible with automatic placement equipment

●Compatible with reflow solder process

Applications：

●Indicators

●Automotive：backlighting in dashboard and switch

●Backlight for LCD

Dice material	Emitted color	Lens Color
PT	Photo-transistor	Water Clear

Electrical/Optical Characteristics(Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Units	Test Conditions
Sensitive peak wavelength	Λ p		550		Nm	/
Rang Of Spectral Bandwidth	λ p	400	---	700	nm	/
Operating voltage	VCC	---	5	---	V	/
OnState CollectorCurrent	IC(on)	2	-	6	uA	VCC=5V v=10Lux
		5	-	15	uA	VCC=5V Ev=30Lux
		15	30	45	uA	VCC=5V Ev=100Lux
Infrared Light Current	IIR	- -	- --	0.1	uA	VCC=5V/850nmIRled Ee=1mW/c ㎡
Dark current	Id	---	---	0.4	μ A	Vcc=5V RL=1KΩ IC=1mA
Rise Time	Tr	---	3.1	---	us	R_L = 50Ω,V_R = 5V, F = 1KHz, CCT/K = 11195, 1000Lux
Fall Time	Tf	---	0.9	---	us	

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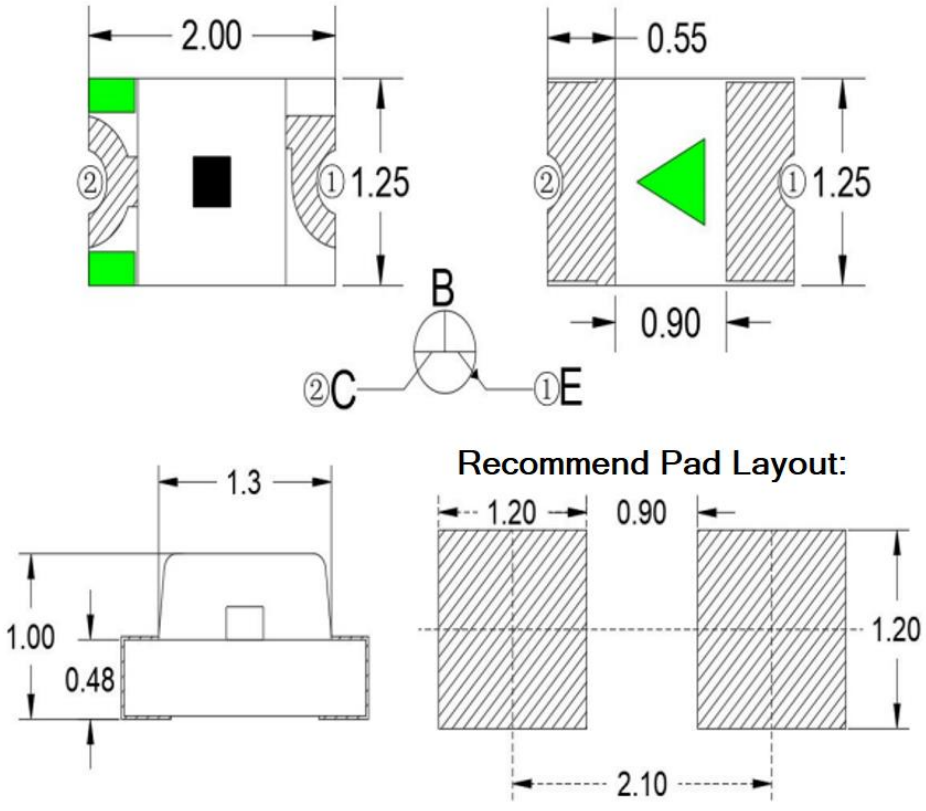
Absolute Maximum Ratings(Ta=25℃)

Parameter	Symbol	Rating	Units
Power Dissipation	PC	75	mW
Operating voltage	Vcc	0.5-10	V
Collector-Emitter Voltage	VCEO	50	mA
Reverse Voltage	VR	5	V
Electrostatic Discharge (HBM)	ESD	2000	V
Operating Temperature	Topr	-40～+85	℃
Storage Temperature	Tstg	-40～+100	℃

PACKAGING DIMENSIONS (mm):



Notes:

1. All dimensions are in millimeters (inches);
2. Tolerances are ±0.1mm (0.004inch) unless otherwise noted.

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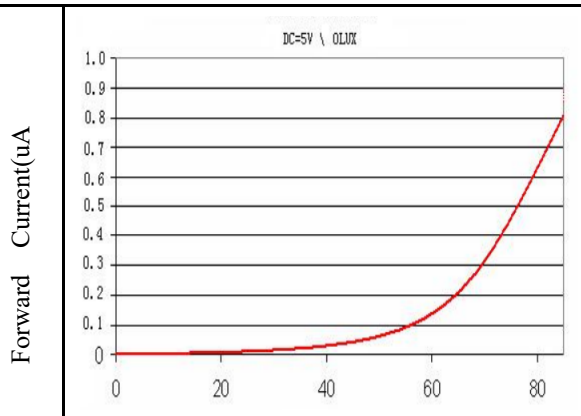
Typical optical characteristics curves　　典型光学特性曲线

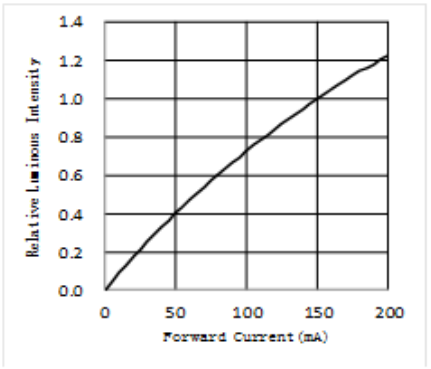
Ambient Temperature vs. Forward Current
环境温度与正向电流特性曲线



Forward Current(uA)

Dark Current

Forward Current VS. Relative Intensity
正向电流与相对光强特性曲线



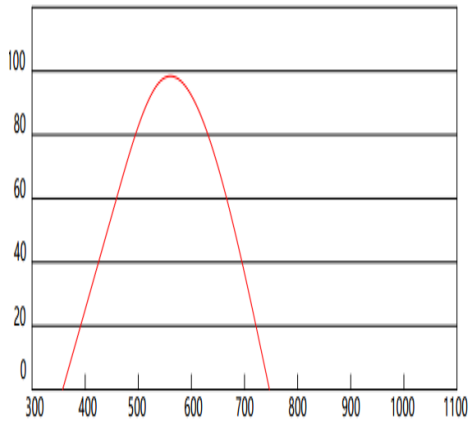
Relative luminous Intensity

Forward Current(mA)

Forward Voltage VS. Forward Current
正向电压与正向电流特性曲线

Terminal Capacitance vs. Reverse Voltage
终端电容与反向电压

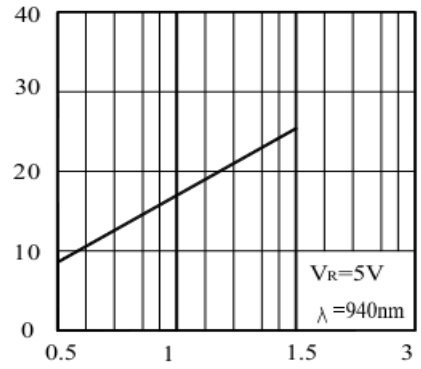
Relative spectral emission
相对光谱分布特性曲线



Relative Radiant Intensity(%)

Wavelength(nm)

Reverse Light Current vs. Ee
反向光电流与辐射



Ee(mW/cm2)

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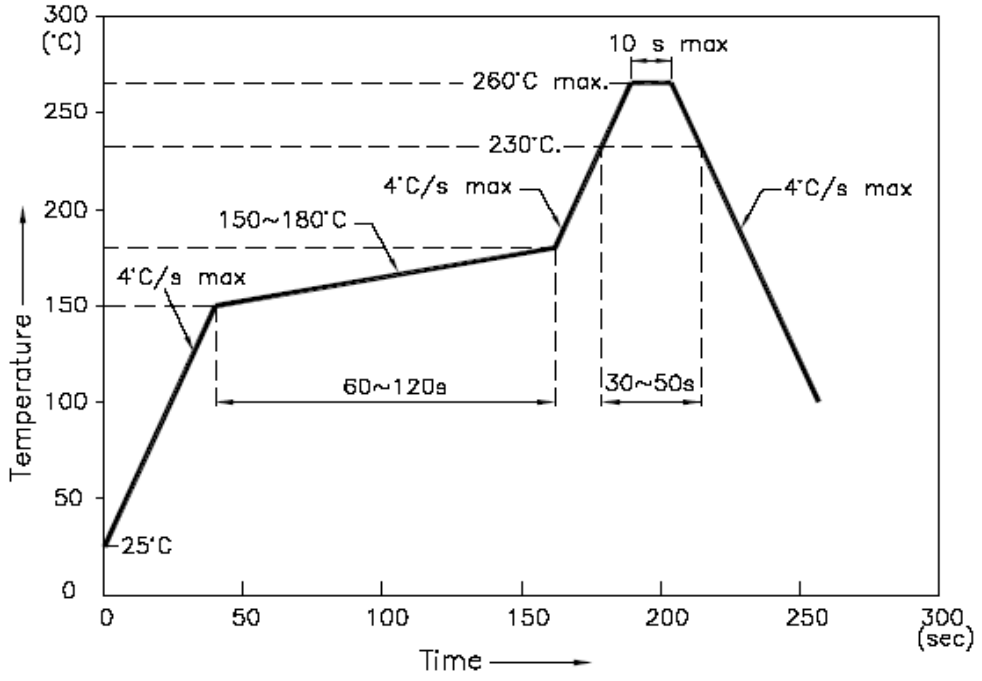
Precautions For Use：
Over－current－proof
Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change （Burn out will happen）
Storage
1. The operation of temperature and R.H. are：5℃～30℃, 60%R.H. Max.
2. Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a dampproof box with desiccating regent. Considering the tape life, we suggest our customers to use our products within 1.5 year（from production date）.
3. It's recommended to bake before soldering when the package is unsealed after 72 hrs. The condition is：60℃±5℃ for 15hrs.

■ Reflow Temp/Time



NOTES:

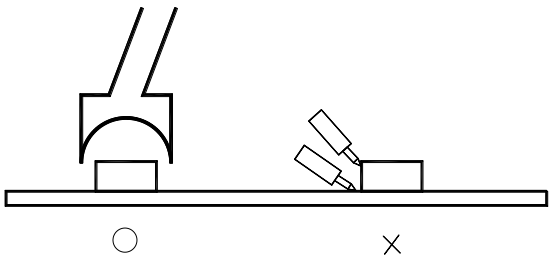
1. We recommend the reflow temperature 245℃(±5℃).the maximum soldering temperature should be limited to 260℃.
2. dont cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

■Soldering iron

Basic spec is ≤ 5sec when 260℃. If temperature is higher, time should be shorter (+10℃→ -1sec).Power dissipation of iron should be smaller than 20W, and temperatures should be controllable .Surface temperature of the device should be under 230℃ .

■Rework

1. Customer must finish rework within 5 sec under 260℃.
2. The head of iron can not touch copper foil
3. Twin-head type is preferred.



■ **Avoid rubbing or scraping the resin by any object, during high temperature, for example reflow 、 solder etc.**