



YETDA INDUSTRY LTD.

## 5mm Phototransistor LED P500M5D-C

5mm with Silicon Dice ◦

Encapsulated with Black Lens color Package ◦

The epoxy package itself is an IR filter, spectrally matched to GaAs IR emitters with  $\lambda_p \geq 700\text{nm}$  ◦

Long Leads ◦

### Absolute Maximum Ratings:

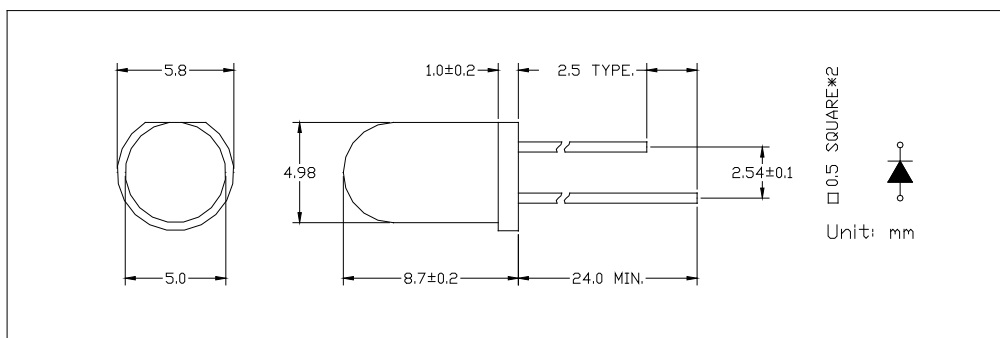
Parameter	Maximum Rating	Unit
Peak Forward Current	120	mA
Continuous Forward Current	50	mA
Operating Temperature Range	-20°C to +75°C	
Storage Temperature Range	-40°C to +100°C	
Lead Soldering Temperature	260°C for 3 seconds 1.6mm(0.063 inch) from body	

### Electro-Optical Characteristics (Ta = 25°C)

Parameter	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Dark current	VR=10V Ee=0mW/c m <sup>2</sup>	ICEO			10	nA
C-E Saturation Voltage	IC=0.5Ma Ee=10mW/c m <sup>2</sup>	VCE(Sat)			0.4	V
Light Current	VCE=5V Ee=1mW/c m <sup>2</sup>	Ic(on)	0.7	3.0		mA
Rise Time(10%to90%)	Vce=5V Ic=1mA			10		uS
Fail Time(90%to10%)	RL=100ohms			10		
Wavelength of Peak Sensitivity		$\lambda_p$		940		nm
Range of Spectral Bandwidth		$\lambda$ 0.5	700-1050			nm
Collector-Emitter Down Voltage		VCEO	30			V
Emitter-Collector Down Voltage		VCEO	5			
Collector Current		IC	20			mA
C-Power dissipation		PC	200			mW

### Package

Item: 500

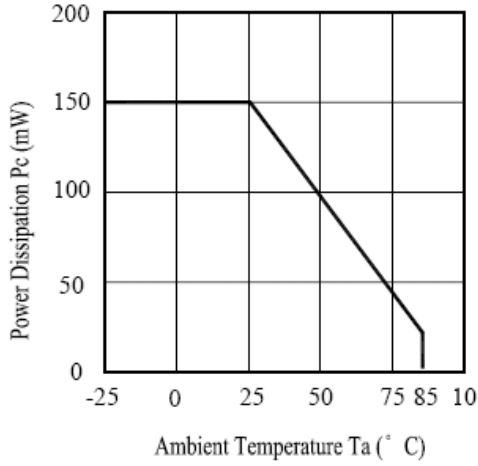


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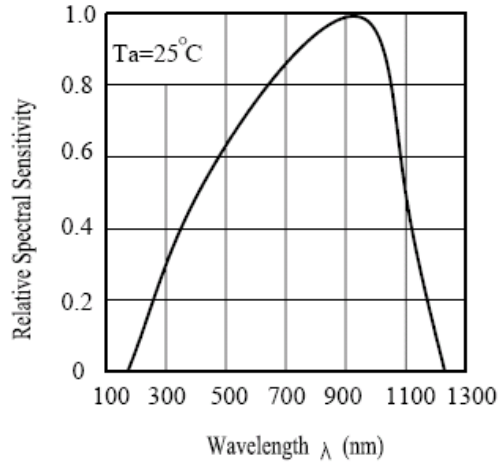


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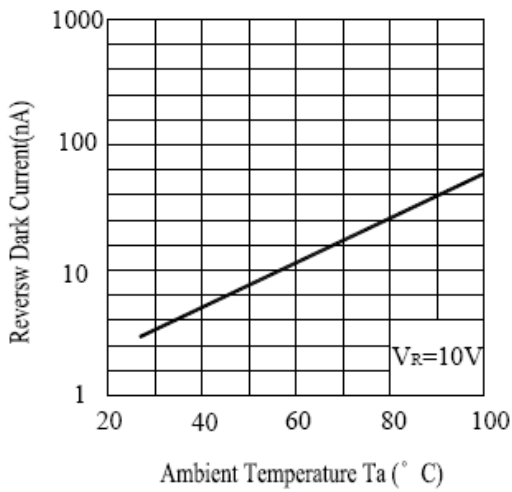
## Typical Electro-Optical Characteristics Curves



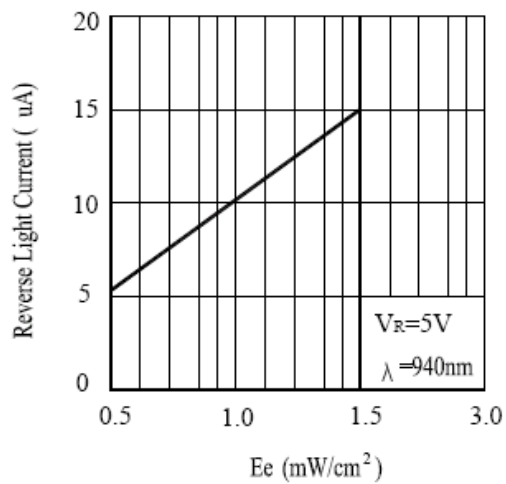
Power Dissipation vs Ambient Temperature



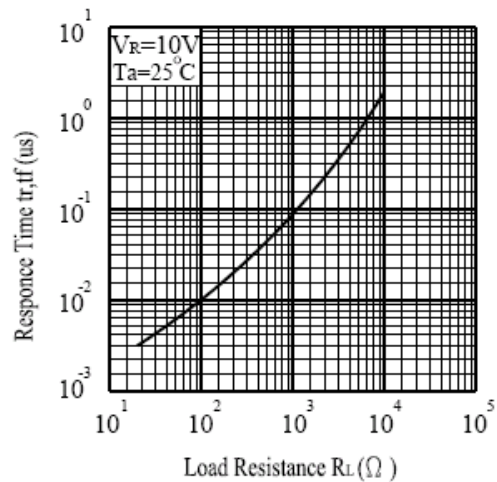
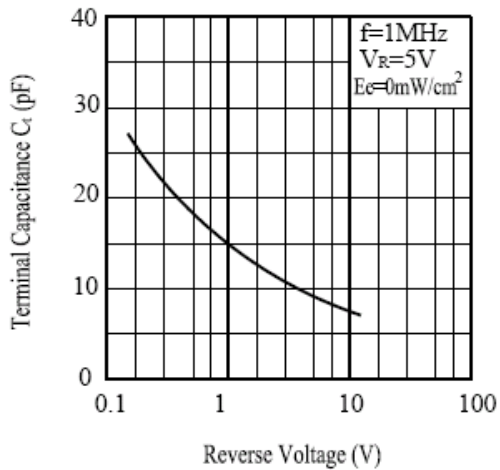
Spectral Sensitivity



Dark Current vs Ambient Temperature



Reverse Light Current vs.  $E_e$





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## •Soldering:

### 1. Manual of soldering

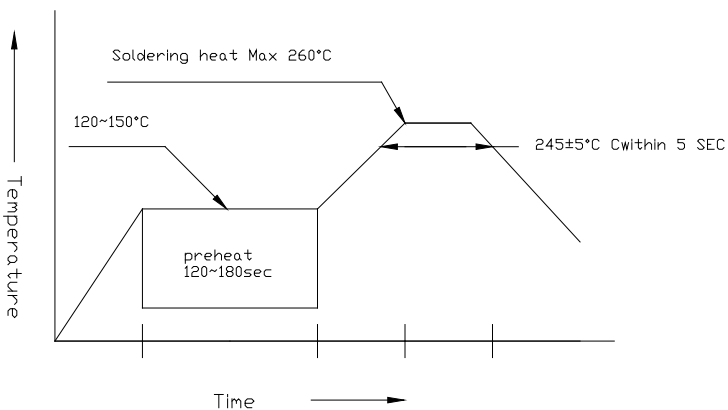
The temperature of the iron tip should not be higher than  $260^{\circ}\text{C}$  and

Soldering within 3 seconds per solder-land is to be observed

### 2. DIP soldering (Wave Soldering):

Preheating:  $120^{\circ}\text{C} \sim 150^{\circ}\text{C}$  within 5 sec.  $260^{\circ}\text{C}$  (Max)

Gradual Cooling (Avoid quenching)

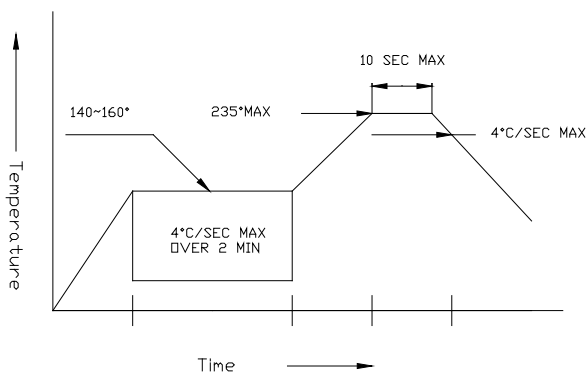


### 3. Reflow Soldering

Preheating:  $140^{\circ}\text{C} \sim 160^{\circ}\text{C} \pm 5^{\circ}\text{C}$ , within 2 minutes.

Operation heating:  $235^{\circ}\text{C}$  (Max) within 10 seconds (Max)

Gradual Cooling (Avoid quenching)



## •Handling:

Care must be taken not to cause to the epoxy resin portion of Yetda LEDS while it is exposed to high temperature.

Care must be taken not rub the epoxy resin portion of Yetda LEDS with hard or sharp article such as the sand blast and the metal hook