



# RODAN(TAIWAN)LTD.

## PHOTOTRANSISTOR

PAGE : 1 / 4

### 1.ELEMENT APPEARANCE

DATE : MAY.30.2005.

Model No.	Material	Lighting Color	Resin Color
RT5-224TBES	Silicon	-	Black Color

### 2.ABSOLUTE MAXIMUM RATINGS AT Ta=25

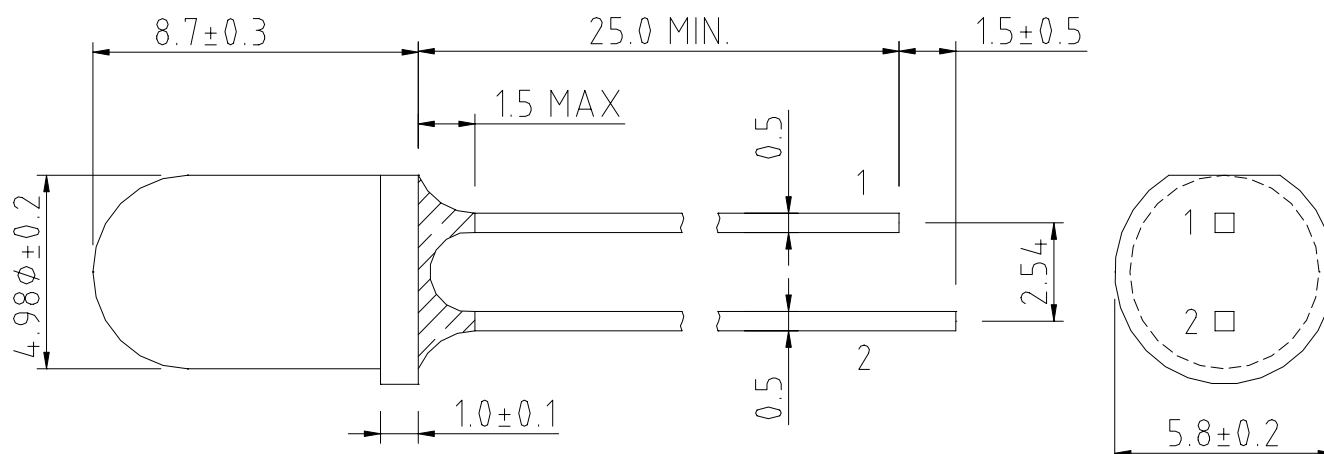
Characteristic	Symbol	Rating	Unit
Operating temperature	Topr	-25 to +75	
Storage temperature	Tstg	-25 to +100	
Power dissipation	Pd	100	mW
Lead soldering temperature (5mm from body ) 260 for 5sec.			

### 3.ELECTRO-OPTICAL CHARACTERISTICS AT Ta=25

Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Collector-Emitter breakdown voltage	BV <sub>CEO</sub>	I <sub>c</sub> = 100 μA	30		100	V
Emitter-collector breakdown voltage	BV <sub>ECO</sub>	I <sub>E</sub> = 100 μA	6.5			V
Collector dark current	I <sub>CEO</sub>	V <sub>ce</sub> = 20 V			100	nA
Light current	I <sub>L</sub>	V <sub>ce</sub> = 10 V E <sub>e</sub> = 0.5 mW/cm <sup>2</sup> p= 940 nm	4.2	7		μA
Collector-Emitter saturation voltage	V <sub>ce(sat)</sub>	I <sub>c</sub> = 2 mA I <sub>B</sub> = 100 μA			0.2	V
Radiant sensitivity area	A			0.186		mm <sup>2</sup>
Peak sensitive wavelength	p			850		nm
Rise/Fall time	tr/tf	V <sub>ce</sub> =5V, I <sub>c</sub> =1mA R <sub>L</sub> = 1000		15/15		μs
Current gain	h <sub>FE</sub>	V <sub>ce</sub> =5V I <sub>c</sub> = 2 mA	1600			
Viewing angle	2 1/2			70		deg.

### 4.DIMENSIONS UNIT : m/m

SIGN : 1. COLLECTOR  
2. EMITTER

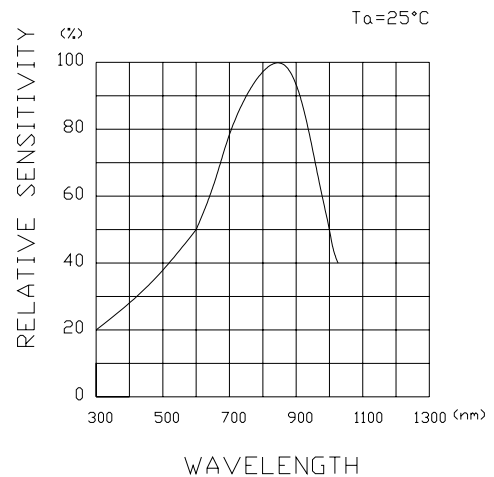
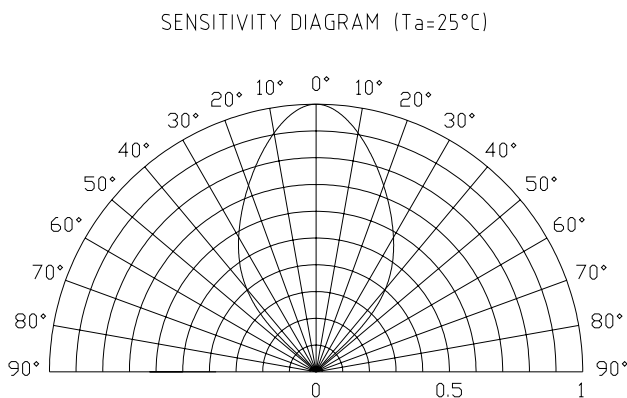
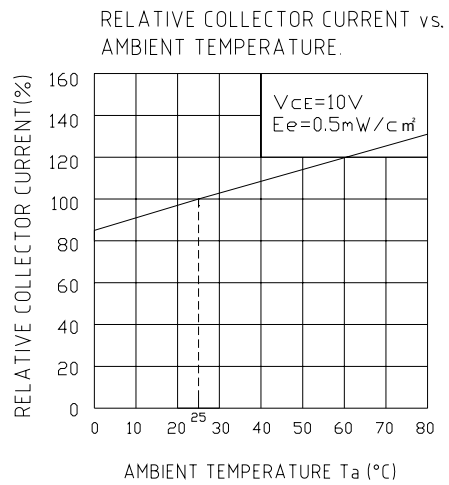
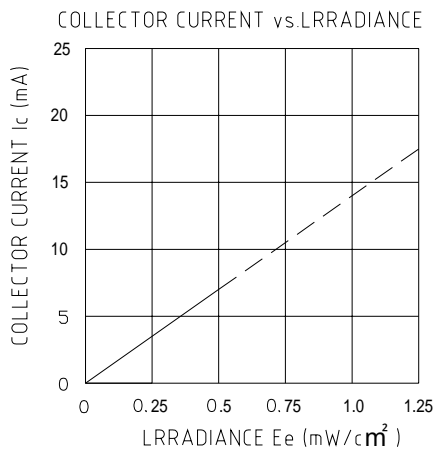
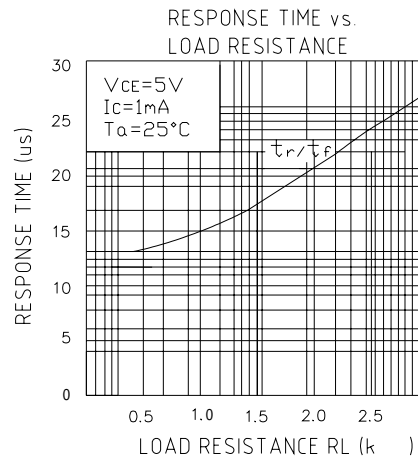
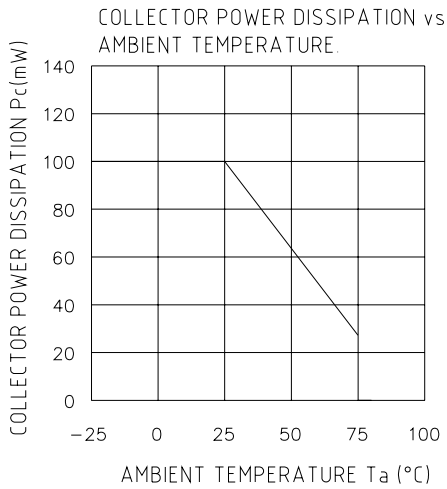




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**Model : RT5-224TBES**

PAGE : 2 / 4



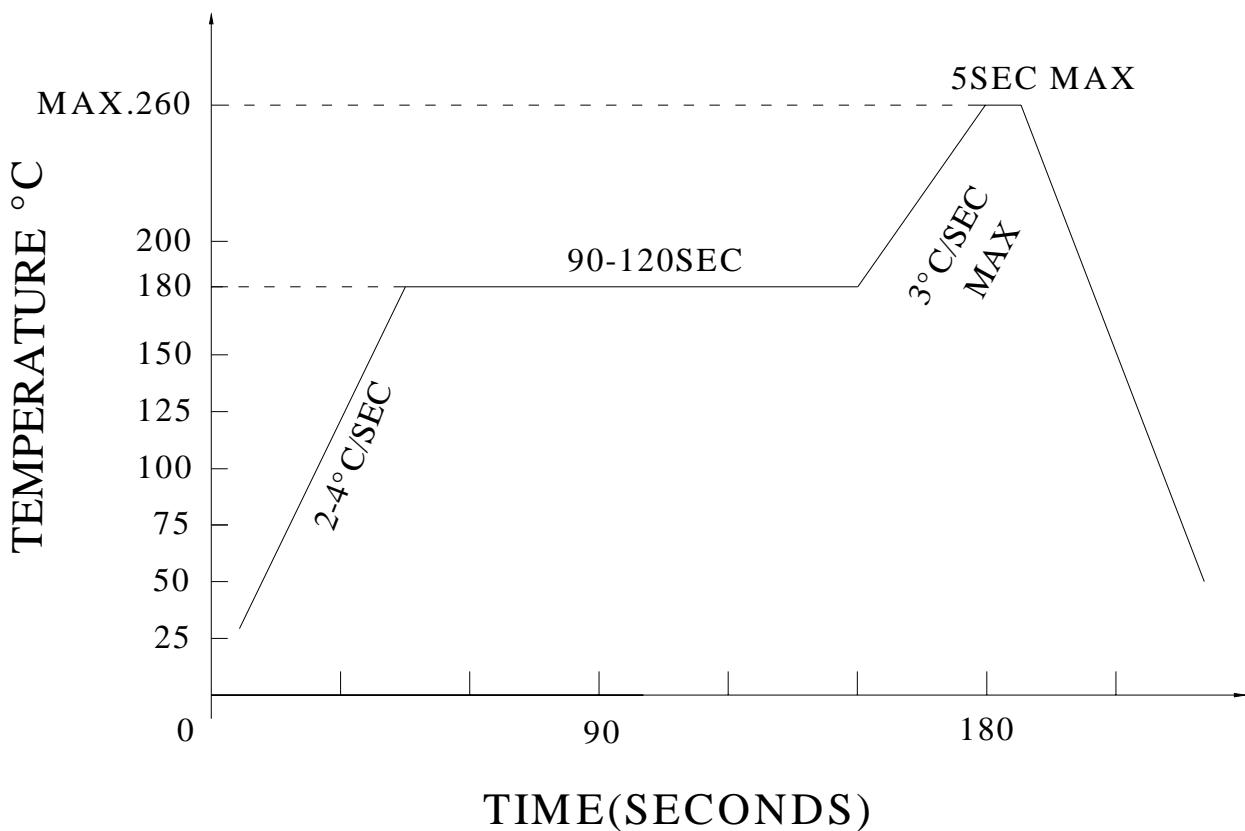


## Lamp Condition

In the automatic mounting of LAMP LED to the L/F, any bending, expanding, and pulling forces against the LAMP LED should be minimized to prevent the electrical failures or mechanical damaged.

## Reflow Soldering and Temperature Profile

The LAMP LED is designed for the reflow soldering process. Too high temperature or too large temperature gradient may cause the electrical and optical failures.





## Reliability Test Items

### CONDITIONS :

The reliability of products shall be satisfied with items listed below.

NO.	Item	Condition	Time/Cycle	Number of Damaged
1	Soldering Heat Test	260	5 sec	0/60
2	Thermal Shock	0 (15sec) ~100 (15sec)	20 cycle	0/60
3	High Temp. Storage	100	1000 Hrs	0/60
4	Low Temp. Storage	-25	1000 Hrs	0/60
5	Operation Temperature Cycle Test	-25 ~75	100 Cycles , 200Hrs	0/60
6	High Temp. High Humidity Test	60 , 90% RH	1000Hrs	0/60
7	Operation Life Test	Room Temp. @IR940nm	1000Hrs	0/60