



## PHOTODIODE

### 1.ELEMENT APPEARANCE

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Model No.	Lighting Color	Resin Color
RT4-09SDT	Non-Visible	Water Clear

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

Characteristic	Symbol	Rating	Unit
Operating temperature	Topr	-40 to +85	°C
Storage temperature	Tstg	-40 to +100	°C

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

Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse breakdown voltage	V <sub>BR</sub>	I <sub>R</sub> =100μA	33			V
Reverse dark current	I <sub>D</sub>	V <sub>R</sub> =10V			30	nA
Light current	I <sub>L</sub>	Ee=0.5mW/cm <sup>2</sup> ,@940nm	12	20		μA
Open circuit voltage	Voc	Ee=5mW/cm <sup>2</sup>		390		mV
Short circuit current	Isc	Ee=5mW/cm <sup>2</sup>	30	40		μA
Total capacitance	Ct	V <sub>R</sub> =5V , f= 1MHZ		20		pF
Wavelength of the max. sensitivity	λp			950		nm
Radiant sensitivity area	A			4		mm <sup>2</sup>
Turn-on/Turn-off Time	ton/toff	V <sub>R</sub> =5V , RL= 50Ω λ=850nm		50/50		ns
Viewing angle	2θ 1/2			120		deg.

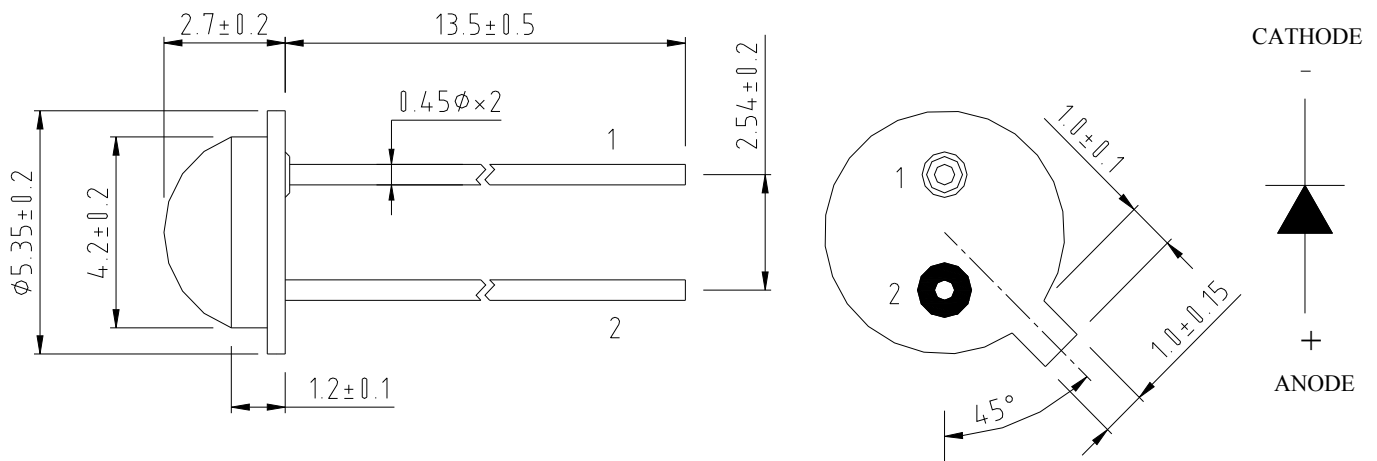
※Reverse light current Measurement allowance is ±15%

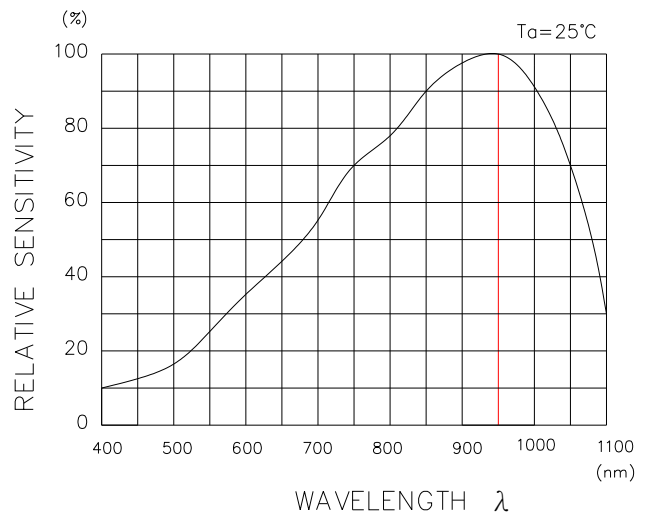
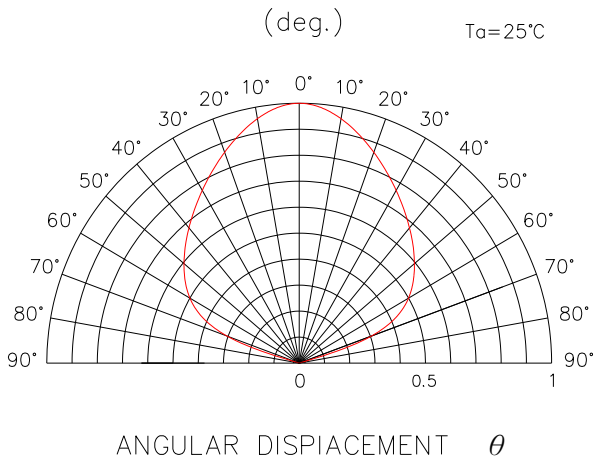
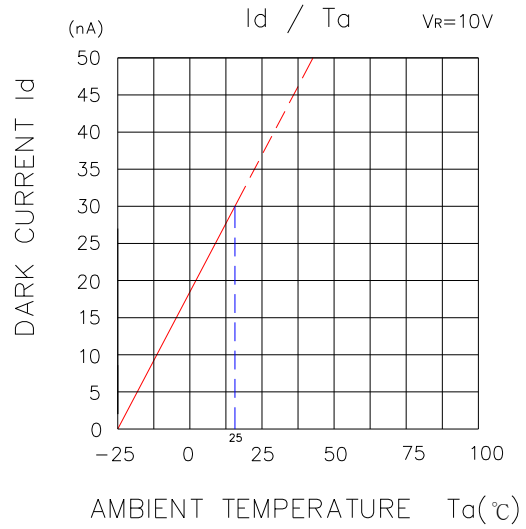
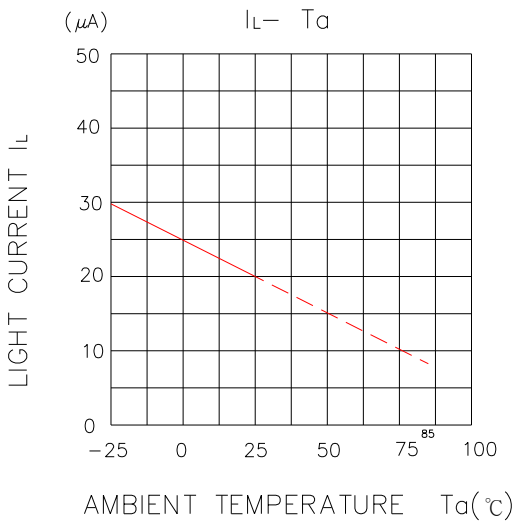
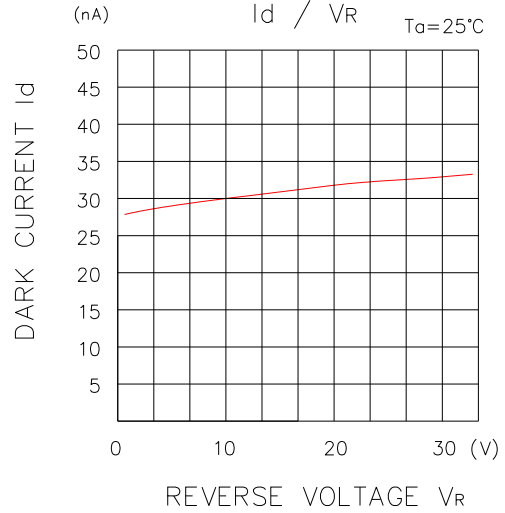
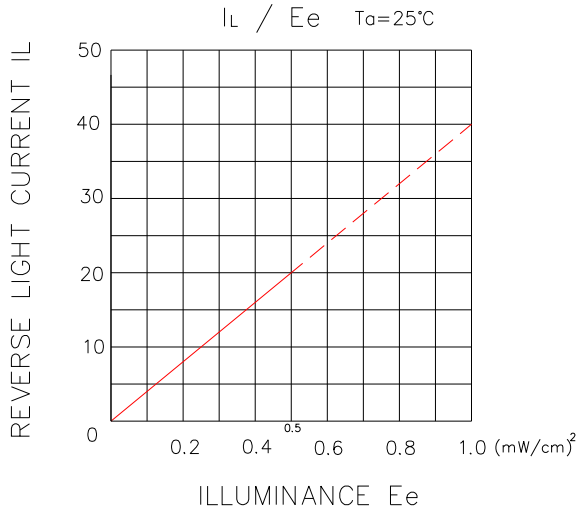
### 4.DIMENSIONS UNIT : m/m

SIGN : 1.CATHODE

2.ANODE

Tolerance is ±0.25mm unless otherwise specified.







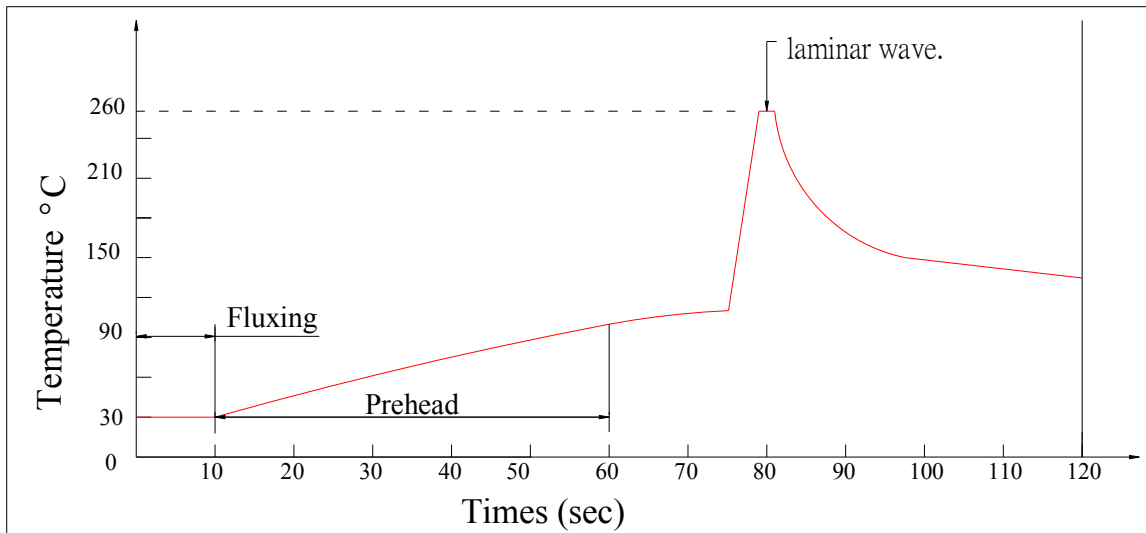
## Soldering Profile

Compliant with the following condition :

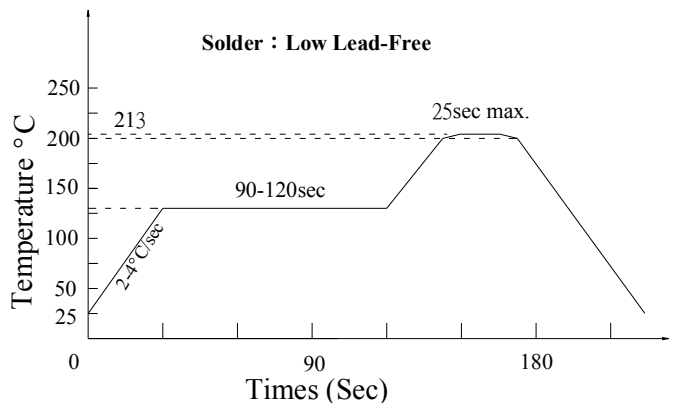
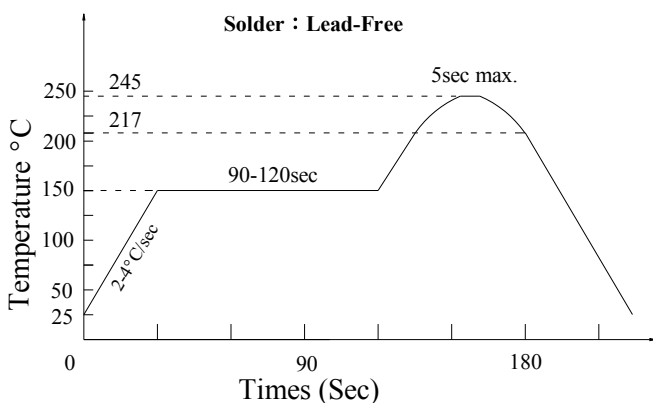
(1) Leaded quantity of product below 100 ppm

(2) Lead-free process

Shape	Lead Frame Type
Hand soldering	1.Temp.at tip of iron : 300 °C max.(30W max.) 2.Soldering time : 3 sec max. 3.Distance : 3 mm MIN (from solder joint to case)
DIP soldering	1.Preheat temp : 100 °C max , 60 sec max. 2.Bath temp : 260 °C max. 3.Bath time : 3 sec max. 4.Distance : 3 mm MIN (From solder joint to case)
Recommended soldering profile	1.Preheat temp. : 100 °C , 50 sec max. 2.Peak temp. : 260 °C max. 3.Peak time : 3 sec max. 4.Duration above: 200°C , 3 sec max.



SMD Type		
Profile Feature	Solder : Lead-Free	Solder : Low Lead-Free
Preheat temp	150-180 °C , 4°C/sec max. 120 sec max.	130-170 °C , 4°C/sec max. 120 sec max.
Peak temp	245 °C max. , 5 sec max.	213 °C max. , 25 sec max.
Duration above	217 °C , 60 sec max.	200 °C , 40 sec max.





## Reliability Test Items

### CONDITIONS :

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

NO.	<u>Item</u>	Condition	Time / Cycle	Criteria	Ac / Re	Sample Quantity
1	Soldering Heat Test	260°C	5 sec	Open / Short	0 / 1	60 pcs
2	Thermal Shock	0°C (5min) ~100°C (5min)	20 Cycles	Open / Short	0 / 1	60 pcs
3	High Temp. Storage	100°C	1000 Hrs	Open / Short	0 / 1	60 pcs
4	Low Temp. Storage	-40°C	1000 Hrs	Open / Short	0 / 1	60 pcs
5	Temperature Cycle Test	-40°C~85°C	100 Cycles , 200Hrs	Open / Short	0 / 1	60 pcs
6	High Temp. High Humidity Test	60°C , 90% RH	1000Hrs	Open / Short	0 / 1	60 pcs