

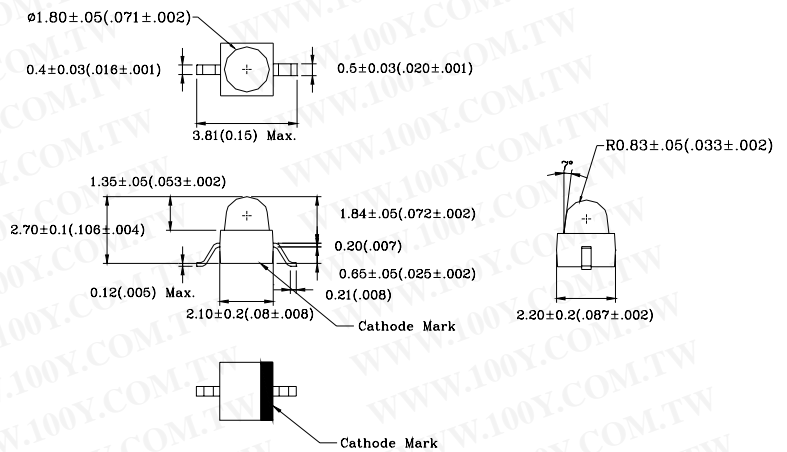
● Features:

1. Emitted Color :Super Yellow.
2. Lend Appearance: Water Clear.
3. Wide range of collector current.
4. Low cost plastic package
5. This product doesn't contain restriction Substance, comply ROHS standard.

● Applications:

1. Smoke Detector
2. Automatic Control System

● Package Dimensions:



NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.10 mm (0.004") unless otherwise specified.
3. Specifications are subject to change without notice.

勝特力材料 886-3-5753170
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[Http://www.100y.com.tw](http://www.100y.com.tw)

● Absolute Maximum Ratings(Ta=25°C)

Parameter	Rating	Unit
Power Dissipation	100	mW
Collector-Emitter Voltage(Max.)	30	V
Emitter-Collector Voltage(Min.)	100	V
Operating Temperature Range	-25°C~80°C	-
Storage Temperature Range	-30°C~85°C	-
Soldering Temperature	See Page 4	-

● Electrical and optical characteristics(Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V _f	I _F =20mA	-	2.1	2.6	V
Luminous Intensity	I _v	I _F =20mA	94	200	-	mcd
Reverse Current	I _R	V _R =5V	-	-	100	μA
Peak Wave Length	λ _p	I _F =20mA	-	590	-	nm
Dominant Wave Length	λ _d	I _F =20mA	582		592	nm
Spectral Line Half-width	Δλ	I _F =20mA	-	15	-	nm
Veiwng Angle	2θ _{1/2}	I _F =20mA	-	35	-	deg

● Typical Electro-Optical Characteristics Curves

Fig.1 RELATIVE INTENSITY VS. WAVELENGTH

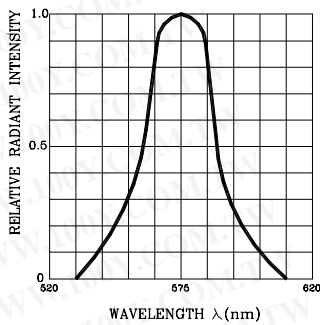


Fig.2 FORWARD CURRENT DERATING CURVE

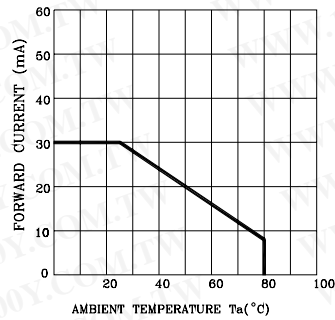


Fig.3 FORWARD CURRENT VS. FORWARD VOLTAGE

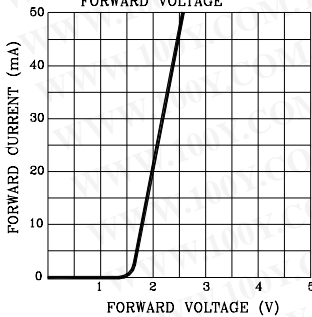


Fig.4 RELATIVE LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE

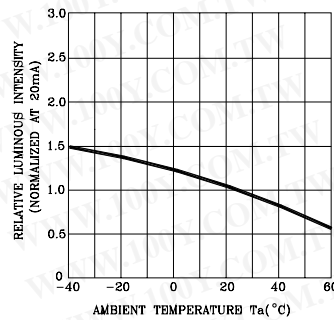
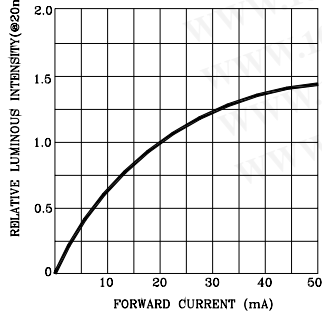
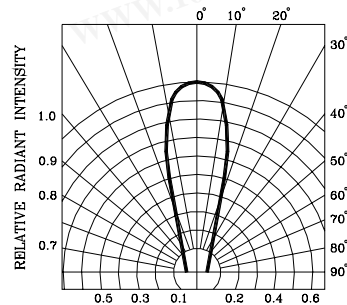


Fig.5 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



RADIATION DIAGRAM



● Reliability Test

Classification	Test Item	Reference Standard	Test Conditions	Result
Endurance Test	Operation Life	MIL-STD-750:1026 MIL-STD-883:1005 JIS C 7021 :B-1	Connect with a power $V_{CE}=5V$ T_a =Under room temperature Test time=1,000hrs	0/20
	High Temperature High Humidity Storage	MIL-STD-202:103B JIS C 7021 :B-11	$T_a=+65^{\circ}C \pm 5^{\circ}C$ RH=90%-95% Test time=240hrs	0/20
	High Temperature Storage	MIL-STD-883:1008 JIS C 7021 :B-10	High $T_a=+85^{\circ}C \pm 5^{\circ}C$ Test time=1,000hrs	0/20
	Low Temperature Storage	JIS-C-7021 :B-12	Low $T_a=-35^{\circ}C \pm 5^{\circ}C$ Test time=1,000hrs	0/20
Environmental Test	Temperature Cycling	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1010 JIS C 7021 :A-4	$-35^{\circ}C \sim +25^{\circ}C \sim +85^{\circ}C \sim +25^{\circ}C$ 60min 20min 60min 20min Test Time=5cycle	0/20
	Thermal Shock	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1011	$-35^{\circ}C \pm 5^{\circ}C \sim +85^{\circ}C \pm 5^{\circ}C$ 20min 20min Test Time=10cycle	0/20
	Solder Resistance	MIL-STD-202:201A MIL-STD-750:2031 JIS C 7021 :A-1	Preheating : 140°C-160°C, within 2 minutes. Operation heating : 260°C (Max.), within 10seconds. (Max.)	0/20

● Judgment criteria of failure for the reliability

Measuring items	Symbol	Measuring conditions	Judgment criteria for failure
Collector Dark Current	I_{CEO}	$V_{CE}=20V$	Over U_{x2}
Collector Light Current	$I_{C(ON)}$	$V_{CE}=5V, H=1.0 \text{ mW/cm}^2, \lambda_p=940\text{nm}$	Below $SX0.5$

Note: 1.U means the upper limit of specified characteristics. S means initial value.

2. Measurement shall be taken between 2 hours and after the test pieces have been returned to normal ambient conditions after completion of each test.

● Soldering :

1. Manual of Soldering

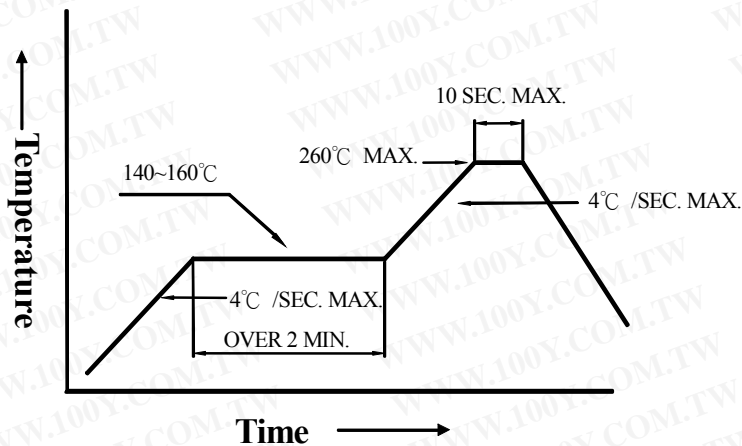
The temperature of the iron tip should not be higher than 300°C (572°F) and Soldering within 3 seconds per solder-land is to be observed.

2. Reflow Soldering

Preheating : 140°C~160°C ±5°C, within 2 minutes.

Operation heating : 260°C (Max.) within 10 seconds.(Max)

Gradual Cooling (Avoid quenching).

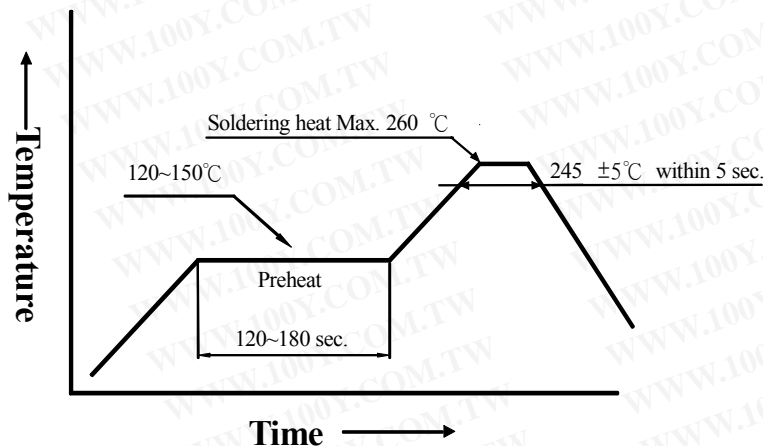


3. DIP soldering (Wave Soldering) :

Preheating : 120°C~150°C, within 120~180 sec.

Operation heating : 245°C ±5°C within 5 sec. 260°C (Max)

Gradual Cooling (Avoid quenching).



● Handling :

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

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

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