

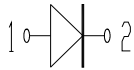
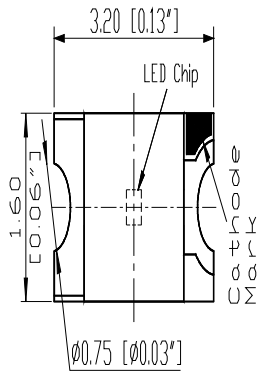
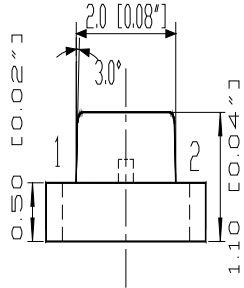
SURFACE MOUNT LED LAMPS

表面黏著型發光二極體指示燈

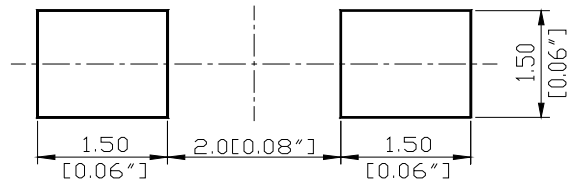
S150 Series SMD Chip LED Lamps

Part Number: 150UR

Package outlines



RECOMMEND PAD LAYOUT





ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
SENSITIVE DEVICES

ITEM	MATERIALS
Resin (mold)	Epoxy
Bonding Wire	Ø 25 µm Au
Lens color	Water transparent
Printed circuit board	BT (white)
Dice	GIGaAs
Emitted color	Red

NOTES:

1. All dimensions are in millimeters (inches);
2. Tolerances are $\pm 0.1\text{mm}$ (0.004inch) unless otherwise noted.

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Part Number: 150UR

Absolute maximum ratings $(T_A=25^\circ\text{C})$

Parameter	Symbol	Value	Unit
Forward current	I _f	30	mA
Reverse voltage	V _r	5	V
Power dissipation	P _d	120	mW
Operating temperature range	T _{op}	-20 ~+80	°C
Storage temperature range	T _{stg}	-20 ~+80	°C
Peak pulsing current (1/8 duty f=1kHz)	I _{fp}	125	mA

Electro-optical characteristics $(T_A=25^\circ\text{C})$

Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Wavelength at peak emission	I _f =20mA	λ_{peak}		660		nm
Spectral half bandwidth	I _f =20mA	$\Delta\lambda$	--	20	--	nm
Dominant wavelength	I _f =20mA	λ_{dom}	--	643	--	nm
Forward voltage	I _f =20mA	V _f	--	1.9	2.6	V
Luminous intensity * 1	I _f =20mA	I _v		17	--	mcd
Viewing angle at 50% I _v	I _f =10mA	2 $\theta_{1/2}$	--	140	--	Deg
Reverse current	V _r =5V	I _r	--	--	10	μA

* 1 Note: Luminous intensity tolerance is $\pm 10\%$.

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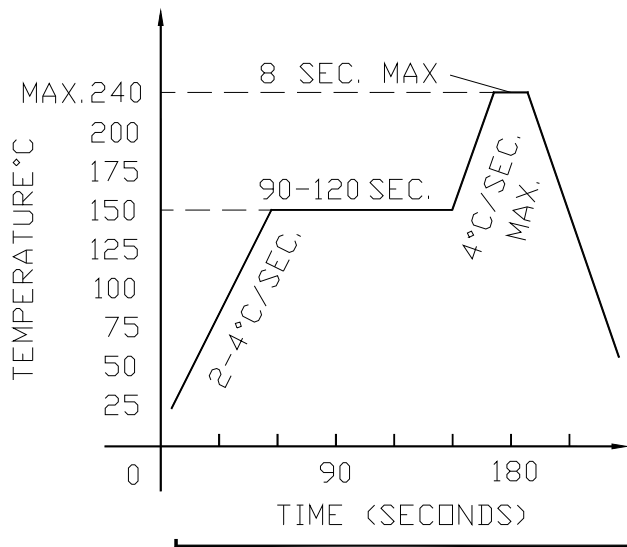
Reflow Profile

SURFACE MOUNT LED LAMPS

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Test circuit

REFLOW PROFILE



Test circuit

Soldering iron

Basic spec is ≤ 5 sec when 260°C . If temperature is higher, time should be shorter

Handling precautions

- Over-current-proof (+10°C \rightarrow -1sec). Power dissipation of iron should be smaller than 15W, and temperatures should be controllable. Surface temperature of the device should be under 230°C . Customer must apply resistors for protection; otherwise slight voltage shift will cause

Rework

- Customer must finish rework within 5 sec under 260°C .

Storage

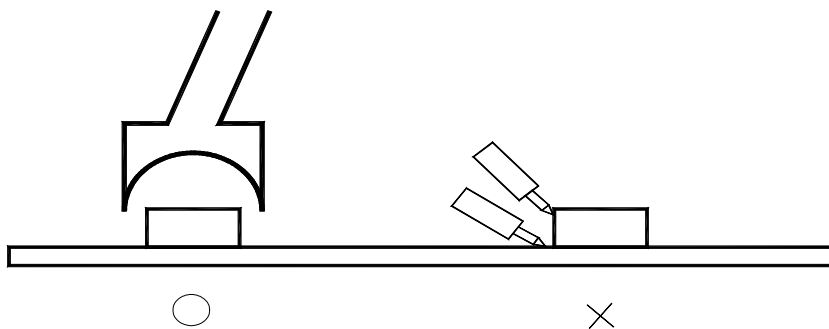
- The head of iron can not touch copper foil
- It is recommended to store the products in the following conditions:
 - Twin-head type is preferred.
 - Humidity: 60% R.H. Max.

Temperature

2.2 Shelf life

Opened

≤ 20 R.



After the package is
kept to stored at

Baking

It is recommended

72hrs. The

Conditions :

3.1 $60 \pm 3^{\circ}\text{C}$ x(12~24hrs) and $< 5\%$ RH, taped reel type

3.2 $100 \pm 3^{\circ}\text{C}$ x(45min~1hr), bulk type

3.3 $130 \pm 3^{\circ}\text{C}$ x(15~30min), bulk type

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Test items and results of reliability

Type	Test Item	Test Conditions	Note	Number of Damaged
Sequential	Temperature Cycle	-20°C 30min ↑↓ 80°C 30min	100 cycle	0/22
	Thermal Shock	-20°C 15min ↑↓ 80°C 15min	100 cycle	0/22
	High Humidity Heat Cycle	30°C ↔ 65°C 90%RH 24hrs/1cycle	10 cycle	0/22
	High Temperature Storage	T _a =80°C	1000 hrs	0/22
	Humidity Heat Storage	T _a =60°C RH=90%	1000 hrs	0/22
	Low Temperature Storage	T _a =-30°C	1000 hrs	0/22
Se@peration	Life Test	T _a =25°C I _F =20mA	1000 hrs	0/22
	High Humidity Heat Life Test	60°C RH=90% I _F =10mA	500 hrs	0/22
	Low Temperature Life Test	T _a =-20°C I _F =20mA	1000 hrs	0/22