



THE DATASHEET OF ESS-JC190DS5-H



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DATA SHEET

ESL NO.. : ESS-JC190DS5-H

CUS NO. :

REV : A / 0

Producer: Eden

Auditor _____

Approver: Jack

CUSTOMER'S APPROVAL : _____

DCC : _____

1.6 × 0.8 × 0.4mm SMD LED

ESS-JC190DS5-H

REV:A / 0

※ **Features:**

1. 1.6×0.8×0.4mm SMD LED
2. Top view LED
3. Compatible with infrared and vapor phase reflow solder process.
4. Wide viewing angle
5. Pb-free
6. RoHS compliant

※ **Applications:**

1. General lighting
2. Decorative and Entertainment lighting
3. Status indicators

※ **Color**

*Dice Material :InGaN

* Light Color : White

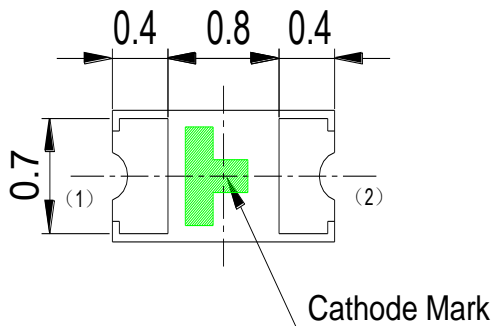
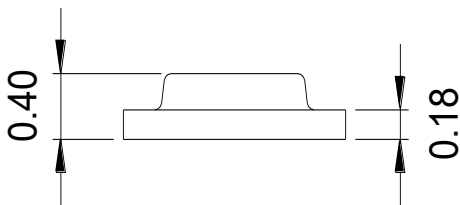
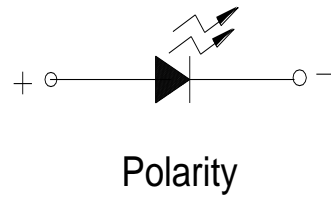
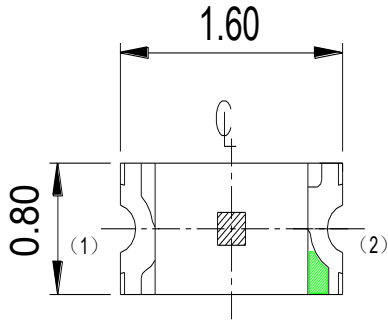
* Lens Color :Yellow Diffused

1.6×0.8×0.4mm SMD LED

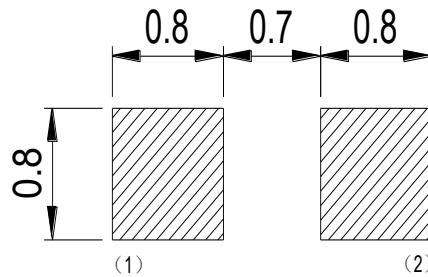
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※ Package Outline Dimension:



Recommended Solder Pad



NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.10\text{mm}$ unless otherwise specified.
3. Specifications are subject to change without notice.

1.6 × 0.8 × 0.4mm SMD LED

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※ Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Power Dissipation	Pd	65	mW
Pulse Forward Current *	IFP	100	mA
Forward current	IF	25	mA
Soldering Temperature	Tsol	260 (for 10 seconds)	°C
Operating Temperature	Topr	-40°C~105°C	-
Storage Temperature	Tstg	-40°C~105°C	-
Reverse Voltage	VR	5	V

Note:

The products are sensitive to static electricity and must be carefully taken when handling products.

※ Electrical-optical characteristics(Ta=25°C)

SYMBOL	PARAMETER	TEST CONDITION	MIN.	TYP	MAX	UNIT
VF	Forward Voltage	IF = 5mA	2.7		3.1	V
IF	Peak Forward Current	VF=3.0V	1.0		20	mA
2 θ 1/2	Half Intensity Angle	IF = 5mA	----	120	----	deg
IV	Luminous Intensity	IF = 5mA	280		450	mcd
IR	Reverse Current	VR = 5V	----	----	5	μA
XY	Chromaticity Coordinate	IF = 5mA		0.24		
		IF = 5mA		0.21		

Note: 1. Tolerance of luminous intensity is ±10%

2. Tolerance of forward voltage is ±0.05V

2. Tolerance of Dominant Wavelength is ±0.1nm

1.6 × 0.8 × 0.4mm SMD LED

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BIN NAMEING

Bin Code	Min.	Max.	Unit	Condition
27	2.7	2.8	V	I _F =5mA
28	2.8	2.9		
29	2.9	3.0		
30	3.0	3.1		

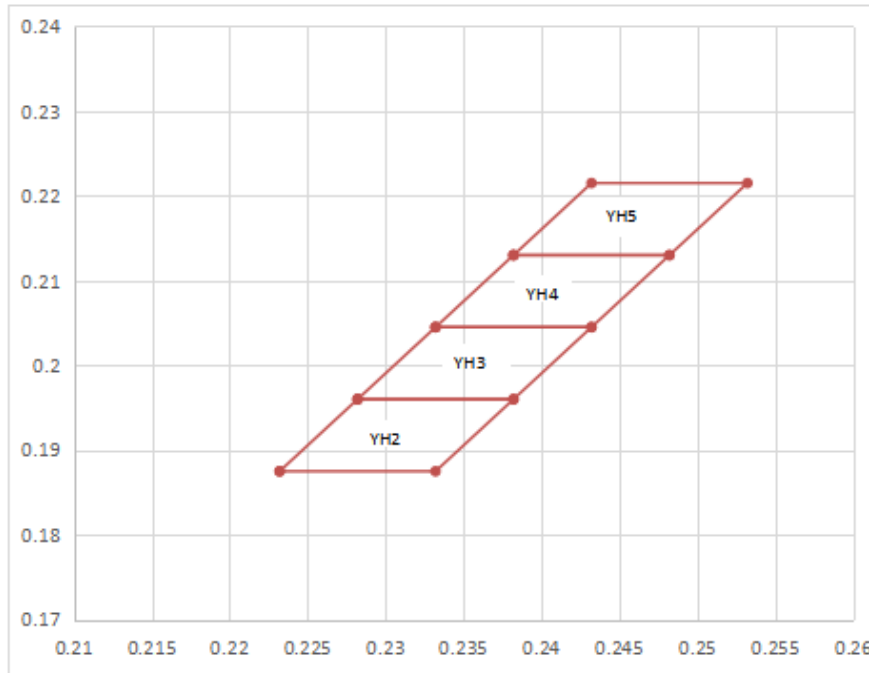
Bin Code	Min.	Max.	Unit	Condition
SU2	280	360	mcd	I _F =5mA
SU3	360	450		

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Color Chromaticity Groups



Bin Code	CIE_x	CIE_y	Bin Code	CIE_x	CIE_y
YH-2	0.2232	0.1875	YH-3	0.2282	0.1960
	0.2332	0.1875		0.2382	0.1960
	0.2382	0.1960		0.2432	0.2045
	0.2282	0.1960		0.2332	0.2045
YH-4	0.2332	0.2045	YH-5	0.2382	0.2130
	0.2432	0.2045		0.2482	0.2130
	0.2482	0.2130		0.2532	0.2215
	0.2382	0.2130		0.2432	0.2215

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Typical Electro-Optical Characteristics Curves

Fig.1-Forward Current(I_F) vs. Forward Voltage

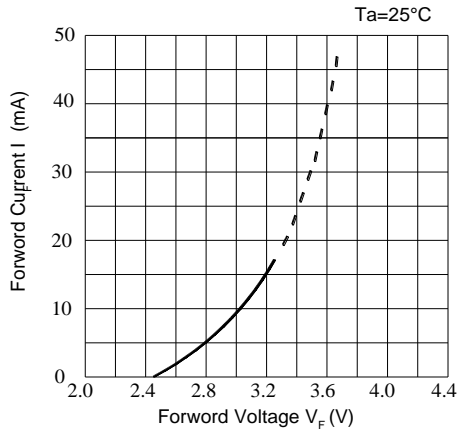


Fig.2-Relative Luminous Intensity vs. Forward Current

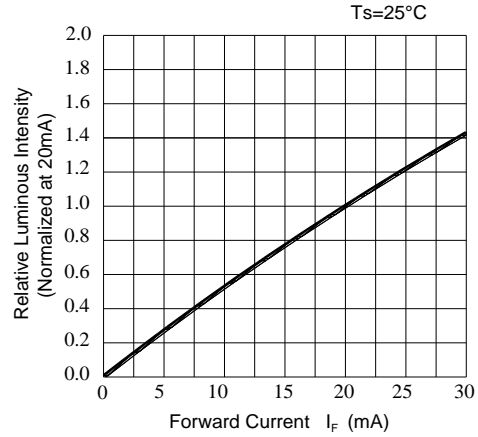


Fig.3-Relative Luminous Intensity vs. Junction Temperature

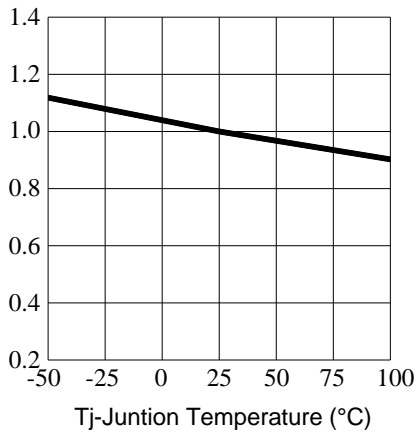


Fig.4-Max. Driving Forward Current vs. Soldering Temperature

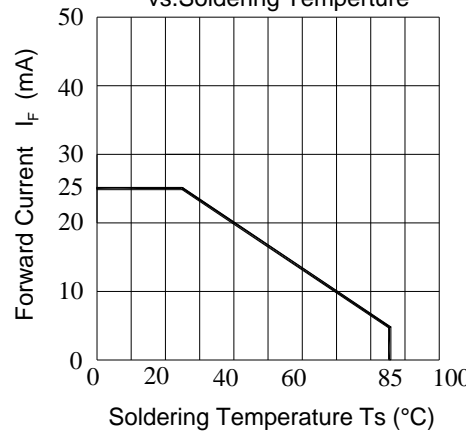


Fig.5-Forward Voltage Shift vs. Junction Temperature

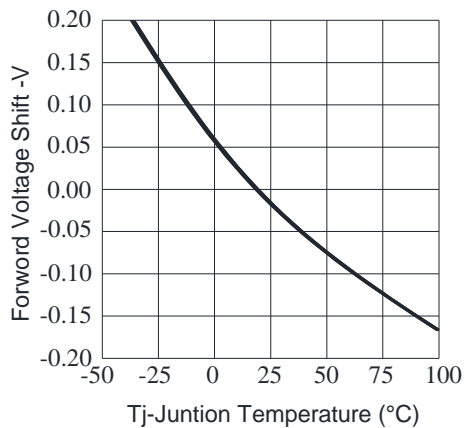
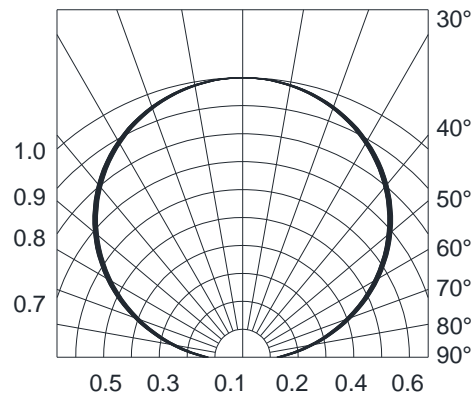


Fig.6-Radiation Diagram Ta=25°C

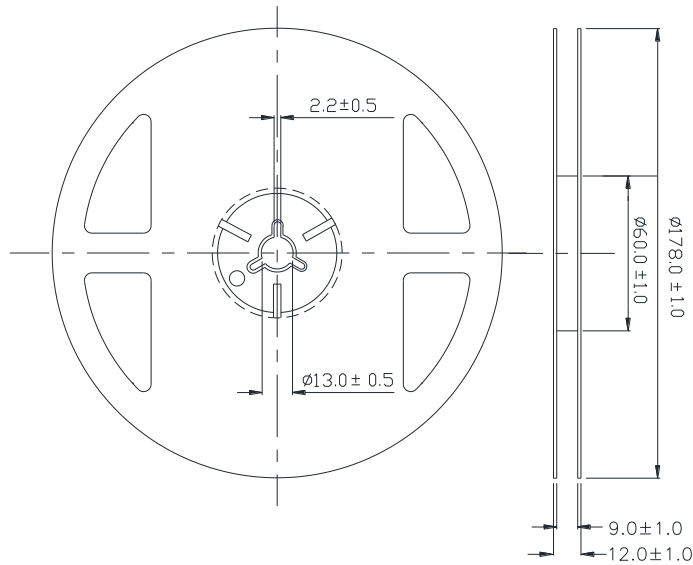


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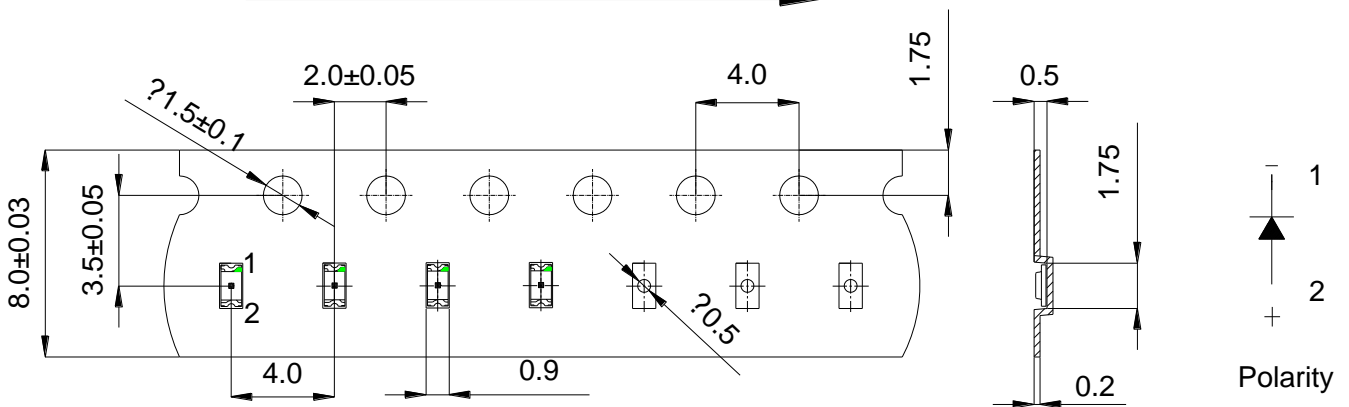
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※ Package Tape Specifications: (4000 pcs/Reel)



Progressive direction



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※ Precautions for use :

1. Customer must apply the current limiting resistor in the circuit so as to drive the LEDs within the rated current. Otherwise slight voltage shift maybe will cause big current change and burn out will happen.
2. Also, caution should be taken not to overload the LEDs with instantaneous high voltage at the turning ON and OFF of the circuit.
3. Storage:

3.1 Don't open the moisture proof bag before ready to use the LEDs.

3.2 The LEDs should be kept at 30°C or less and 60%RH or less before opening the package.

The max. storage period before opening the package is 1 year.

3.3 After opening the package, the LEDs should be kept at 30°C/35%RH or less, and it should

be used within 7 days.

3.4 If the LEDs be kept over the conditions of 3.4, baking is required before mounting.

Baking

condition as below: 60±5°C for 12 hrs.

4. Soldering condition:

4.1 Manual of soldering:

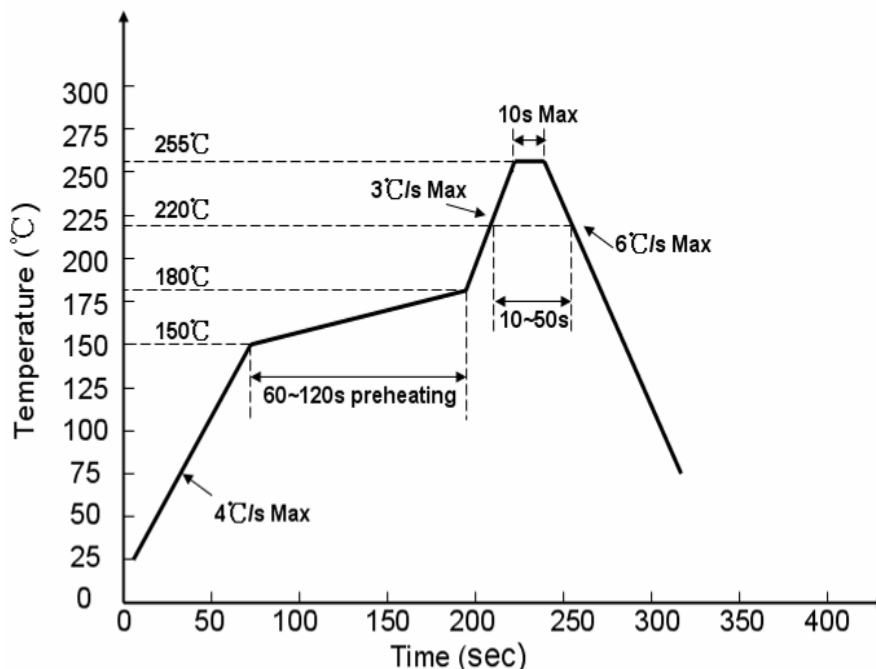
The temp. of the iron should be lower than 260°C and soldering within 3sec per solder-pad is to be observed.

4.2 Pb-free solder temp. -time profile

4.3 DIP soldering (Wave Soldering) temp. -time profile:

Note:

- a) Reflow soldering should not be done more than two times.
- b) Don't put stress on the LEDs when soldering.
- c) Don't warp the circuit board before it have been returned to normal ambient conditions after soldering.



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