



**THE DATASHEET OF
ESS-153IR1C-A01T2-V2**



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DATA SHEET

ESL NO.. : ESS-153IR1C-A01T2-V2

CUS NO. :

REV : A / 0

Producer: Eden

Auditor _____

Approver: Jack

CUSTOMER'S APPROVAL : _____

DCC : _____

1206 IR SMD LED

ESS-153IR1C-A01T2-V2

REV:A / 0

※ Features:

1. 1206 package
2. Top view LED
3. Compatible with infrared and vapor phase reflow solder process.
4. Narrow viewing angle
5. Pb-free
6. RoHS compliant

※ Applications:

1. Free air transmission system
2. Infrared remote control units with high power requirement
3. Smoke detector
4. Infrared applied system

※ Color

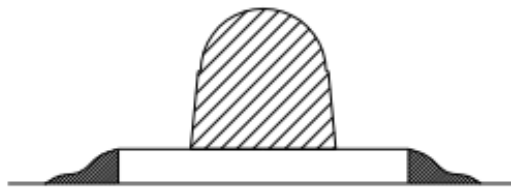
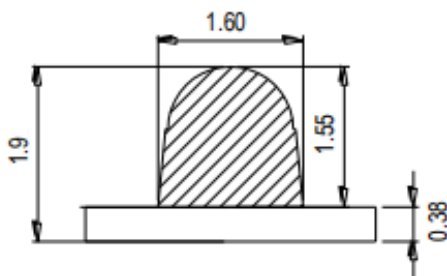
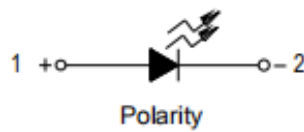
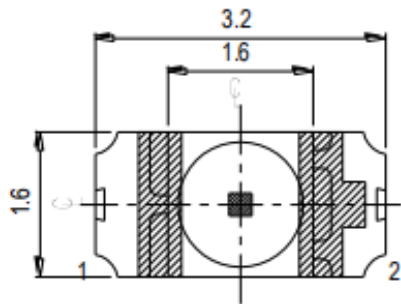
- * Dice Material : AlGaInP/GaAlAs
- * Light Color : IR
- * Lens Color : Water Clean

1206 IR SMD LED

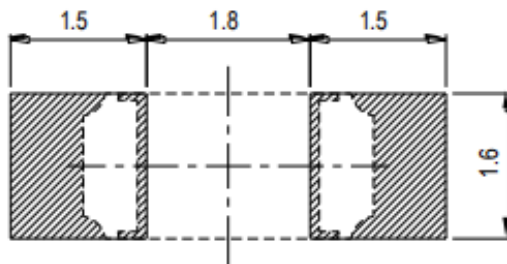
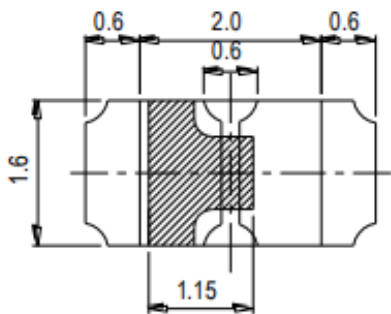
ESS-153IR1C-A01T2-V2

REV:A / 0

* Package Outline Dimension:



Recommended Solder Pad



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REV:A / 0

* Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Power Dissipation	Pd	130	mW
Pulse Forward Current *	I _{FP}	1000	mA
Forward current	I _F	65	mA
Soldering Temperature	T _{sol}	260 (for 10 seconds)	°C
Operating Temperature	T _{opr}	-40°C~85°C	-
Storage Temperature	T _{stg}	-40°C~100°C	-
Reverse Voltage	V _R	5	V

Note:

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

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage	V _f	1.1		1.5	V	I _F =20mA
			1.5	1.8	V	I _F =100mA
Radiant Intensity(IR)	I _e	4		9	mW/Sr	I _F =20mA
			30		mW/Sr	I _F =100mA
Viewing Angle	2θ _{1/2}	-	25		deg	I _F =20mA
Reverse Current	I _R		-	10	μA	V _R =5V
Wavelength	λ		940		nm	I _F =20mA

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Fig.1-Forward Current vs. Forward Voltage $T_a=25^\circ\text{C}$

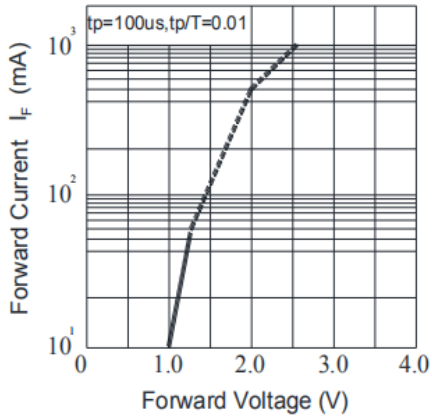


Fig.2-Relative Intensity vs. Forward Current

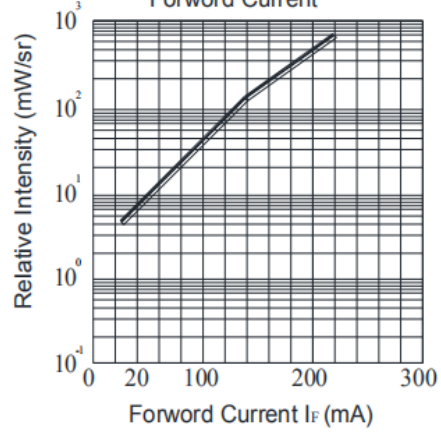


Fig.3-Forward Current vs. Ambient Temperature

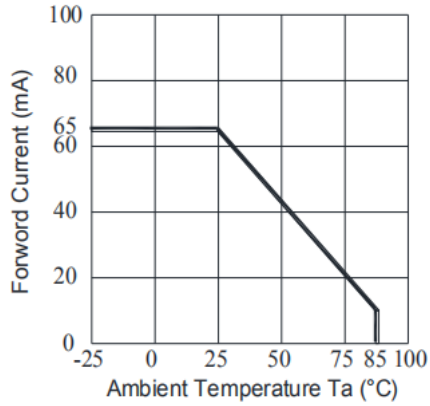


Fig.4-Radiation Diagram $T_a=25^\circ\text{C}$

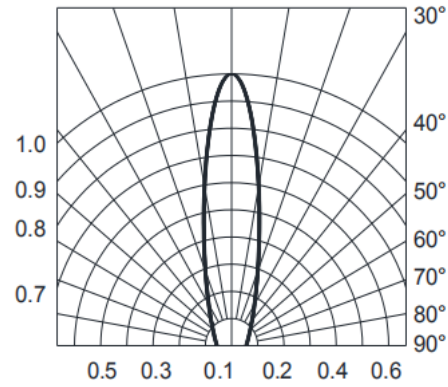


Fig.5-Peak Emission Wavelength vs. Ambient Temperature

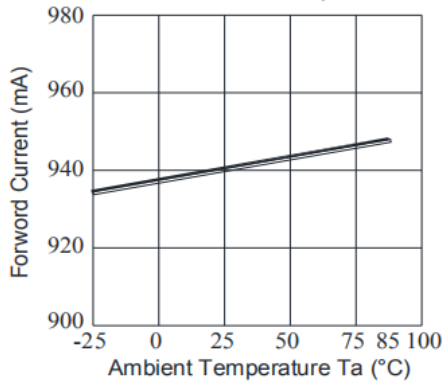
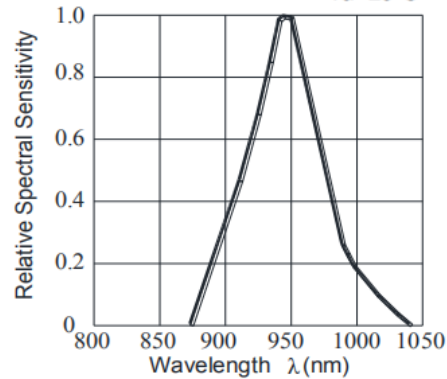


Fig.6-Spectral Sensitivity $T_a=25^\circ\text{C}$

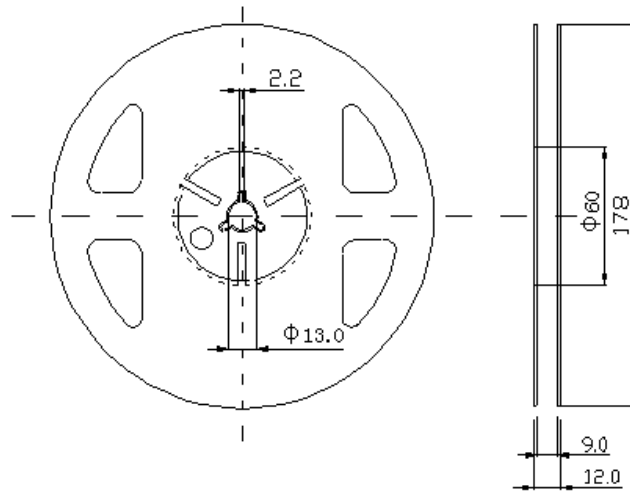


1206 IR SMD LED

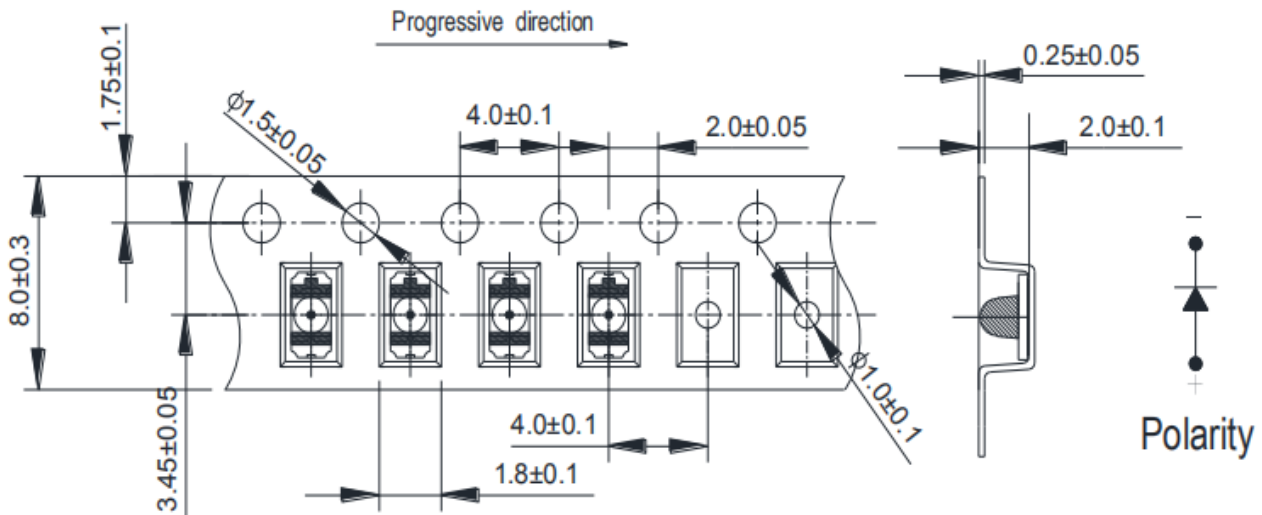
ESS-153IR1C-A01T2-V2

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※ Package Tape Specifications: (1000 pcs/Reel)



Note:
Tolerances unless mentioned $\pm 0.1\text{mm}$, Unit = mm.



Note:
1. Tolerance unless mentioned is $\pm 0.1\text{mm}$, Unit = mm.
2. Minimum packing amount is 1000/2000 pcs per reel.

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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

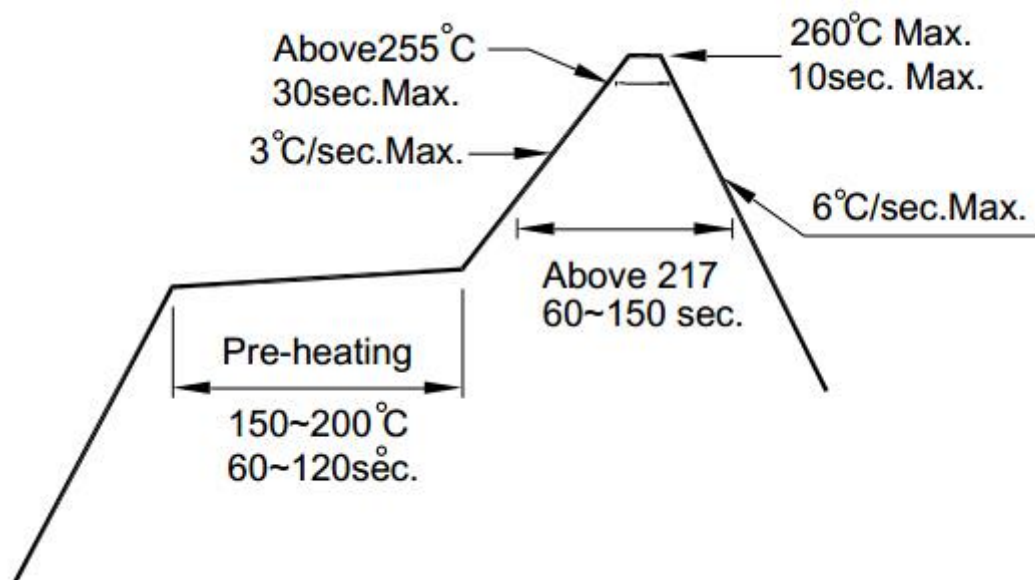
4.3 DIP soldering (Wave Soldering) temp. -time profile:

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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