



Pb-free
HEAT

STANLEY

PS11 5W

Surface Mount Phototransistor/Dome Lens Type

Features

Package	Dome Lenz Type 1105WA : Water clear epoxy 1195WB : Black Visible Radiation Cut Filter epoxy
Product features	<ul style="list-style-type: none"> · Outer Dimension 3.2 x 1.6 x 1.85mm (L x W x H) · High Sensitivity · Narrow Distribution · Photo Current : 8.0mA TYP. ($V_{CE}=5V, E_e=5mW/cm^2$) · Visible Radiation Cut Filter under 700nm (1195WB) · Lead-free soldering compatible · RoHS compliant
Peak Sensitivity Wavelength	880nm (1105WA), 900nm (1195WB)
Half Intensity Angle	45 deg.
Die materials	Si
Rank grouping parameter	Sorted by photo current per rank taping
Assembly method	Auto pick & place machine (Auto Mounter)
Soldering methods	Reflow soldering Please refer to Soldering Conditions about soldering.
Taping and reel	2,000pcs per reel in a 8mm width tape. (Standard) Reel diameter: 180mm
ESD	2kV (HBM)

Recommended Applications

Car Audio, Electric Household Appliances, OA/FA, PC/Peripheral Equipment, Other General Applications

Absolute Maximum Ratings

(Ta=25)

Item	Symbol	Absolute Maximum Ratings	Unit
Collector Dissipation	Pc	75	mW
Collector-Emitter Voltage	V _{CEO}	30	V
Emitter-Collector Voltage	V _{ECO}	5	V
Collector Current	Ic	20	mA
Operating Temperature	T _{opr}	-30 ~ +85	
Storage Temperature	T _{stg}	-40 ~ +90	

Electro-Optical Characteristics

(Ta=25)

Item	Conditions	Symbol	Characteristics		Unit	
			1105WA	1195WB		
Photo Current	V _{CE} =5V, Ee=5mW/cm ² 1	Ic	Min.	1.6	mA	
			TYP.	8	mA	
			Max.	19	mA	
Response Time	V _{CE} =10V, Ic=2mA, R _L =100	tr/tf	TYP.	8/9	μs	
Dark Current	V _{CEO} =10V	I _{CEO}	Max.	0.1	μA	
Peak Sensitivity Wavelength	V _{CE} =5V	p	TYP.	880	900	nm
Spatial Half Width	V _{CE} =5V	2 1/2	TYP.	45		deg.

1 Color temperature is 2,856K. Employs a standard tungsten lamp.

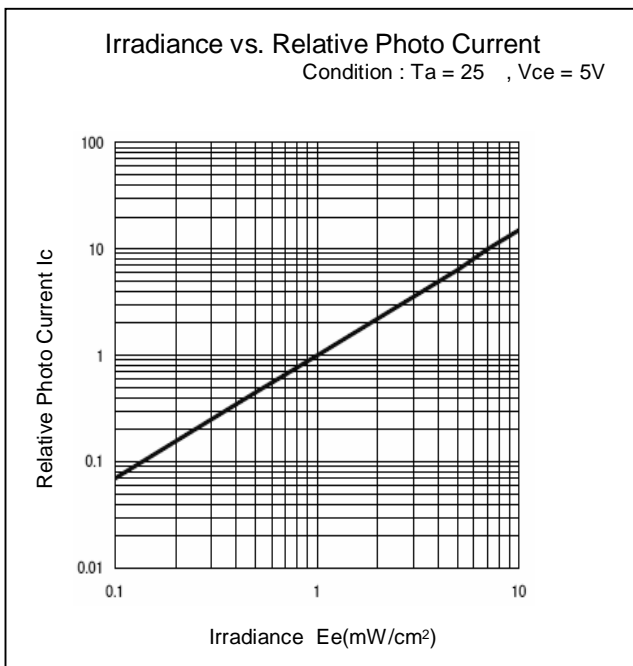
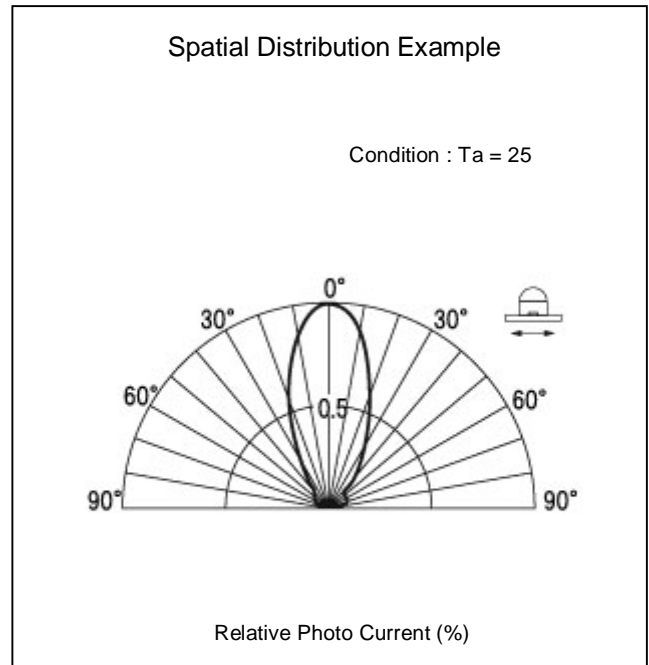
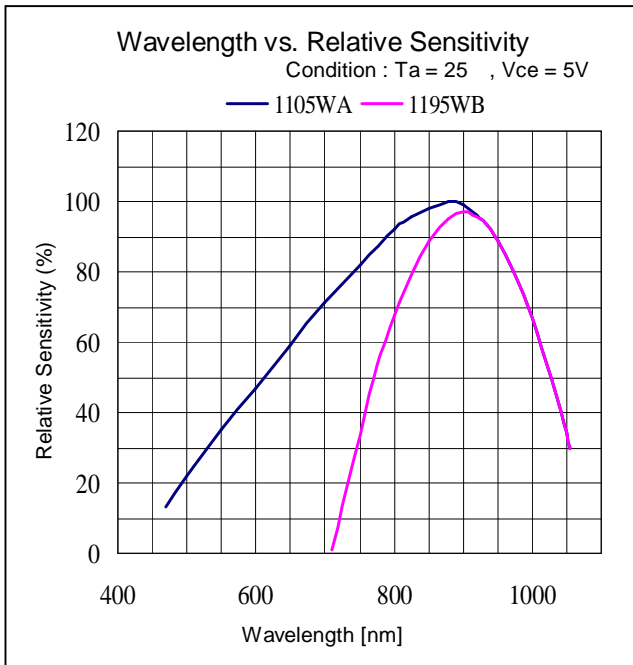
Photo Current Rank

(Ta=25)

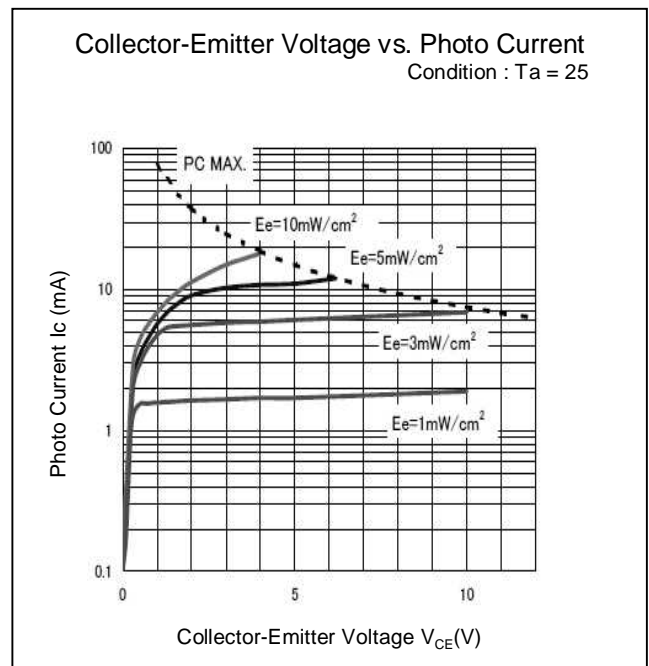
Rank	Ic(mA)		Condition
	MIN.	MAX.	
A	1.6	3.2	$V_{CE} = 5V$ $E_e = 5mW/cm^2$
B	2.8	5.6	
C	4.8	9.6	
D	8.4	16.8	
E	14.4	19.0	

Please contact our sales staff concerning rank designation.

Technical Data

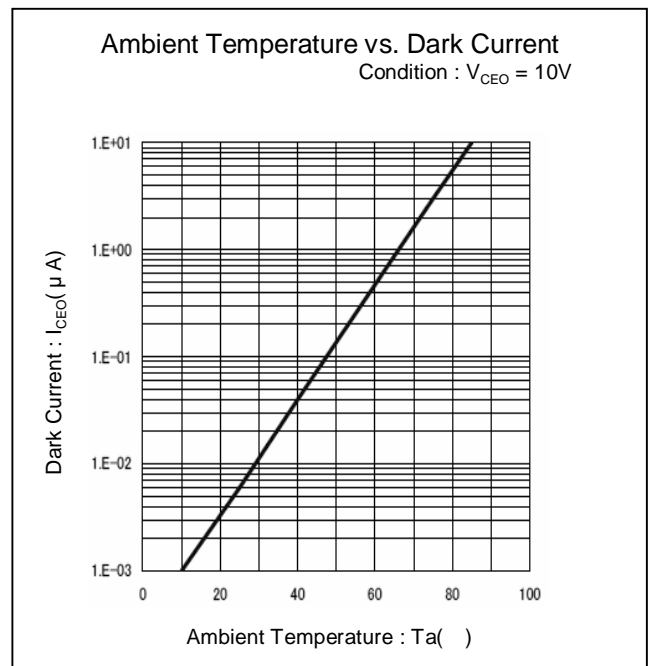
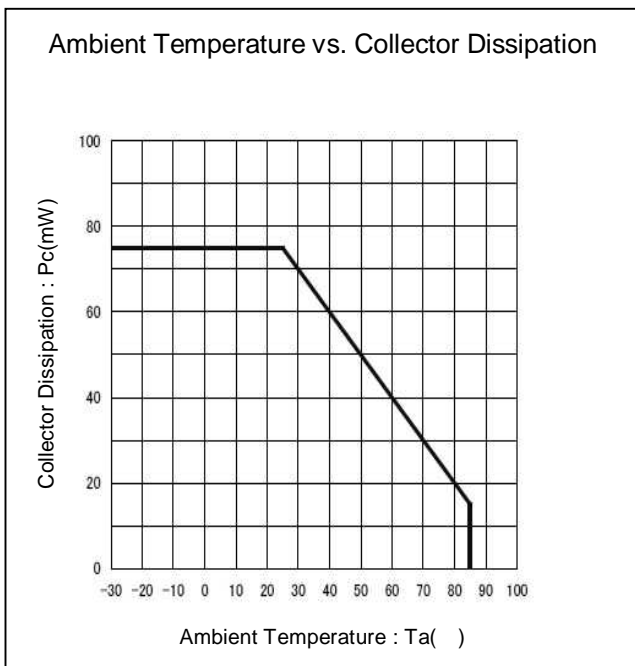
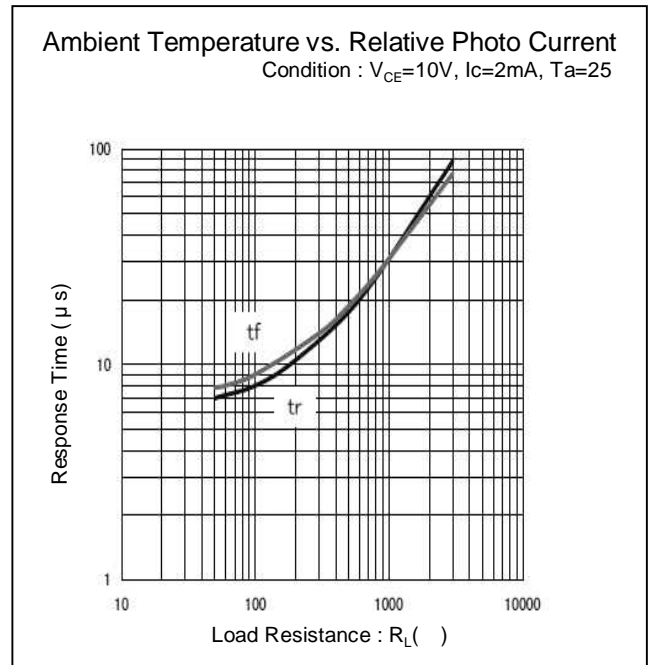
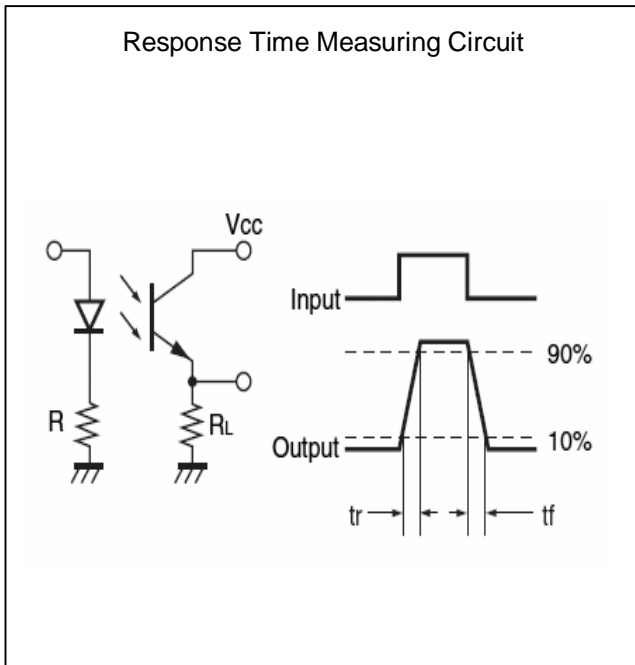


It is based on $E_e = 5\text{mW/cm}^2$.
Employs a standard tungsten lamp of 2,856K.

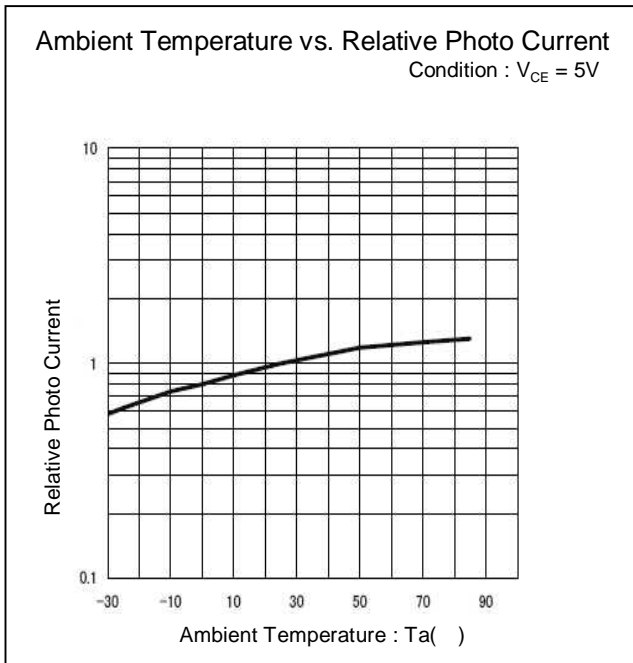


Employs a standard tungsten lamp of 2,856K.

Technical Data



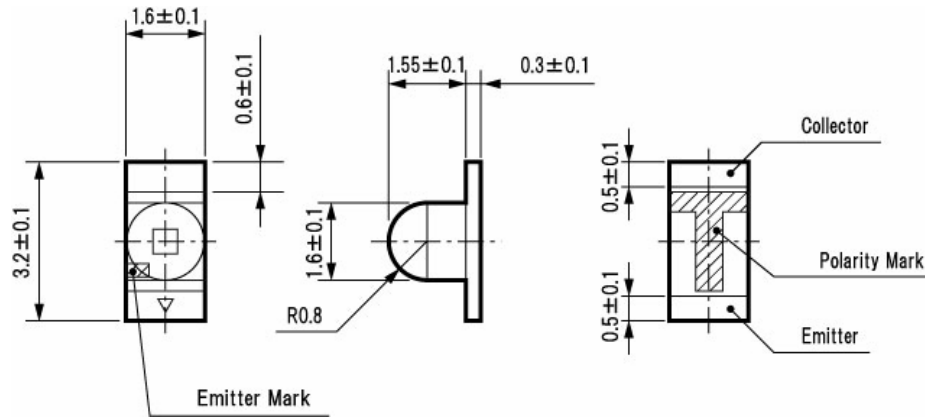
Technical Data



Package Dimensions

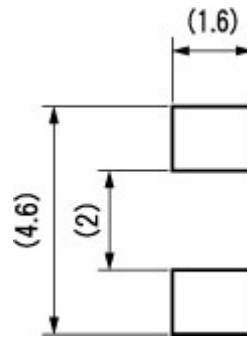
(Unit: mm)

Weight: (7.80)mg



Recommended Soldering Pattern

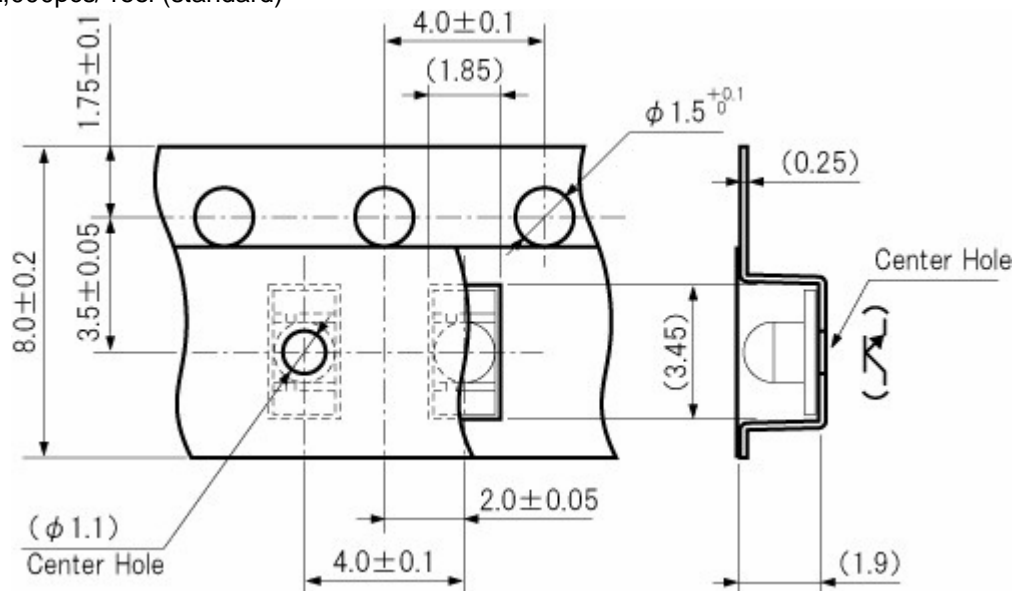
(Unit: mm)



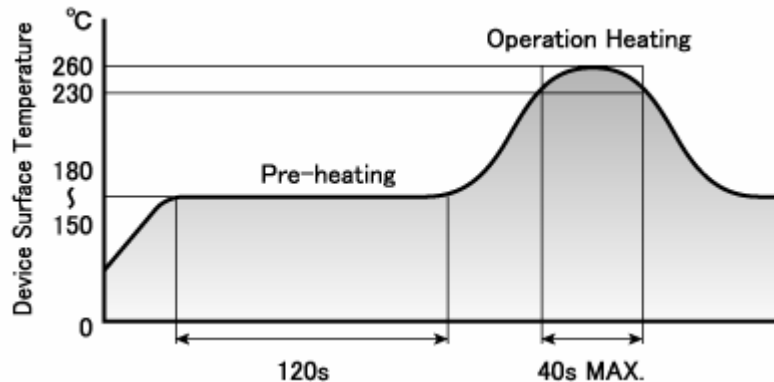
Taping Specification

(Unit: mm)

Quantity: 2,000pcs/ reel (standard)



Reflow Soldering Conditions



- 1) The above profile temperature gives the maximum temperature of the device resin surface. Please set the temperature so as to avoid exceeding this range.
- 2) Total times of reflow soldering process shall be no more than 2 times. When the second reflow soldering process is performed, intervals between the first and second reflow should be short as possible (while allowing some time for the component to return to normal temperature after the first reflow) in order to prevent the device from absorbing moisture.
- 3) Temperature fluctuation to the device during the pre-heating process shall be minimized.

Manual Soldering Conditions

Iron tip temp.	350	(MAX.) (30 W Max.)
Soldering time and frequency	3 s	(MAX.)
	1 time	(MAX.)

Reliability Testing Result

Reliability Testing Result	Applicable Standard	Testing Conditions	Duration	Failure
Room Temp. Operating Life	EAJED-4701/100(101)	Ta = 25 , Pc = Maximum Rated Power Dissipation	1,000 h	0/16
Resistance to Soldering Heat	EAJED-4701/300(301)	(Pretreatment) Individual standard (Reflow Soldering) Pre-heating 150 ~ 180 120s Operating Heating 230 Min. Peak temperature 260	Twice	0/16
Temperature Cycling	EAJED-4701/100(105)	Minimum Rated Storage Temperature(30min) ~ Normal Temperature(15min) ~ Maximum Rated Storage Temperature(30min) ~ Normal Temperature(15min)	5 cycles	0/16
Wet High Temp. Storage Life	EAJED-4701/100(103)	Ta = 60 ± 2 , RH = 90 ± 5%	1,000 h	0/16
High Temp. Storage Life	EAJED-4701/200(201)	Ta = Maximum Rated Storage Temperature	1,000 h	0/16
Low Temp. Storage Life	EAJED-4701/200(202)	Ta = Minimum Rated Storage Temperature	1,000 h	0/16
Vibration, Variable Frequency	EAJED-4701/400(403)	98.1m/s ² (10G), 100 ~ 2KHz sweep for 20min., XYZ each direction	2 h	0/16

Failure Criteria

Items	Symbols	Conditions	Failure criteria
Photo Current	I _C	E _E Value of each product Irradiance of Photo Current V _{CE} Value of each product Collector-emitter Voltage of Photo Current	Testing Max. Value Initial Value x 1.3 Testing Min. Value Initial Value x 0.7
Dark Current	I _{CEO}	V _{CEO} Value of each product Collector-emitter Voltage of Dark Current	Testing Max. Value Spec. Max. Value x 1.2
Cosmetic Appearance	-	-	Occurrence of notable decoloration, deformation and cracking

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