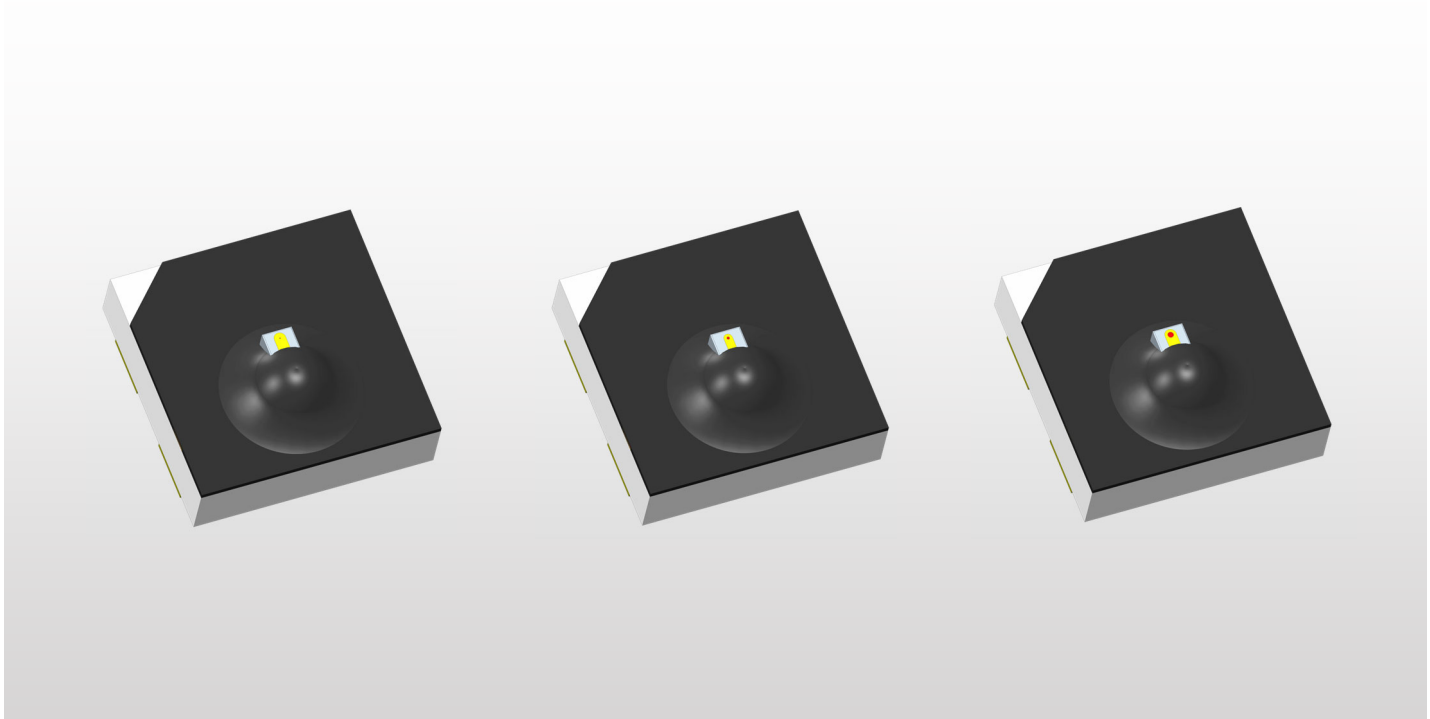


JENOPTIK

MORE LIGHT

LED Emitter | 650 nm | AlInGaP/GaAs | PCB

ELP-650-992-0XX-2

Pat. US 8847241 B2

Features

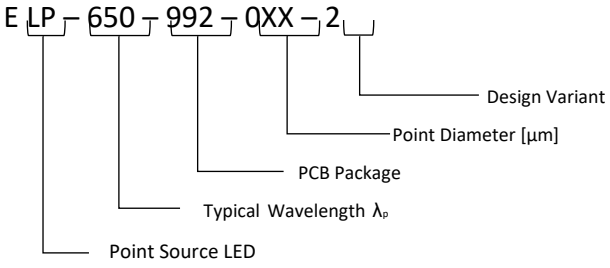
– 8 µm, 25 µm, 50 µm Point Source on PCB
– Radiation 650 nm (Red)
– High Efficiency
– Long Lifetime
– Designed for Minimum Parasitic Light

Applications

– Industrial, Scientific and Medical Systems
– Safety and Security

Lead (Pb) Free Product – RoHS Compliant

Parameters



Contained Products
ELP-650-992-008-2
ELP-650-992-025-2
ELP-650-992-050-2

Measurement Conditions	0XX-2	Symbol	Value	Unit
Measurement Current	008-2	I_{Meas}	1	mA
	025-2		3	
	050-2		10	
Ambient Temperature		T_{amb}	+25	°C
These conditions apply for all parameters below, unless otherwise specified				
All parameters are measured with Jenoptik equipment				

Maximum Ratings	0XX-2	Symbol	Value	Unit
Forward Current (DC)	008-2	I_F	1.5	mA
	025-2		3	
	050-2		10	
Junction Temperature		T_J	+125	°C
Operating Temperature Range		T_{amb}	-40 to +85	°C
Storage Temperature Range		T_{stg}	-40 to +125	°C

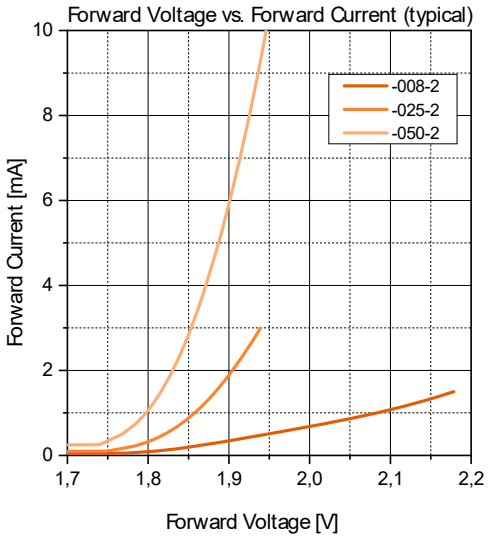
Parameters

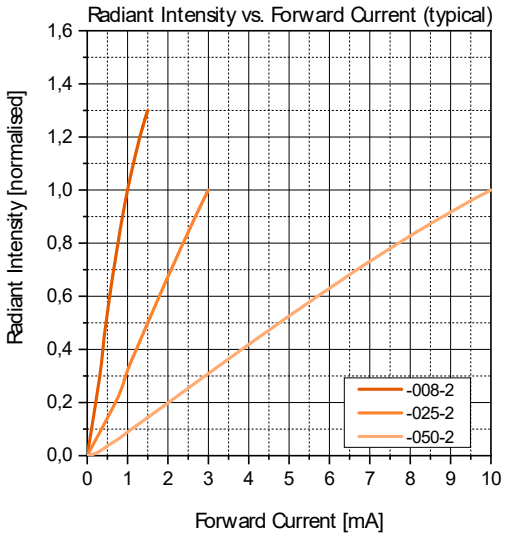
Optical / Electrical Characteristics[1]	0XX-2	Test conditions		Symbol	Min	Typ	Max	Unit
Forward Voltage	008-2	I_F =	1 mA	V_F		2.10		V
	025-2		3 mA			1.95	2.4	
	050-2		10 mA			1.95	2.5	
Reverse Voltage[2]		I_F =	10 µA	V_R	5			V
Radiant Power	008-2	I_F =	1 mA	Φ_e		15		µW
	025-2		3 mA			175		
	050-2		10 mA			550		
Radiant Intensity	008-2	I_F =	1 mA	I_e		8.0		µW/sr
	025-2		3 mA		60	75		
	050-2		10 mA		180	250		
Luminous Intensity	008-2	I_F =	1 mA	I_v		0.8		mcd
	025-2		3 mA			7.5		
	050-2		10 mA			23		
Peak Wavelength[2]	008-2	I_F =	I_{Meas}	λ_p		650		nm
	025-2							
	050-2							
Centroid Wavelength[2]	008-2	I_F =	I_{Meas}	λ_c	635	650	660	nm
	025-2							
	050-2							
Spectral Bandwidth at 50%[2]	008-2	I_F =	I_{Meas}	$\Delta\lambda_{0.5}$		15		nm
	025-2							
	050-2							
Switching Time[2]	008-2	I_F =	I_{Meas}	t_r / t_f		10/10		ns
	025-2							
	050-2							
Emitting Point Diameter	008-2			D		8		µm
	025-2					25		
	050-2					50		

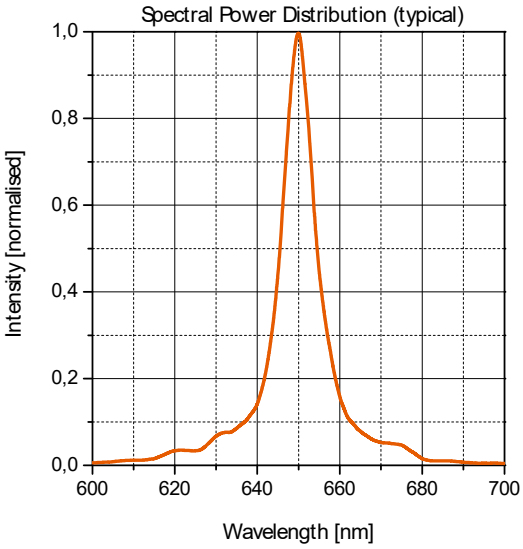
1 T_{amb} = 25°C, unless otherwise specified; all parameters measured with Jenoptik equipment

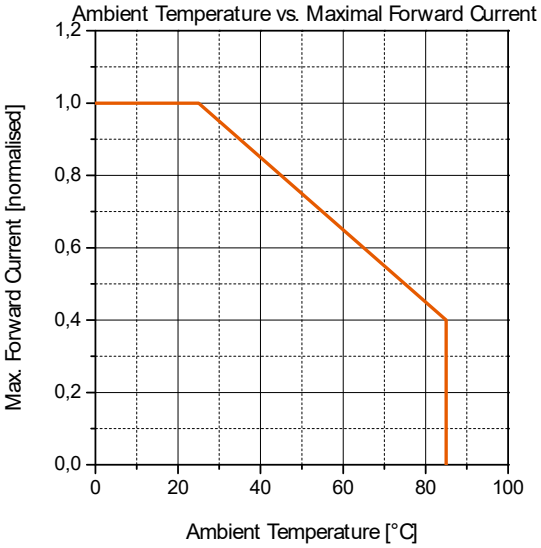
2 measured on bare chip

Parameters









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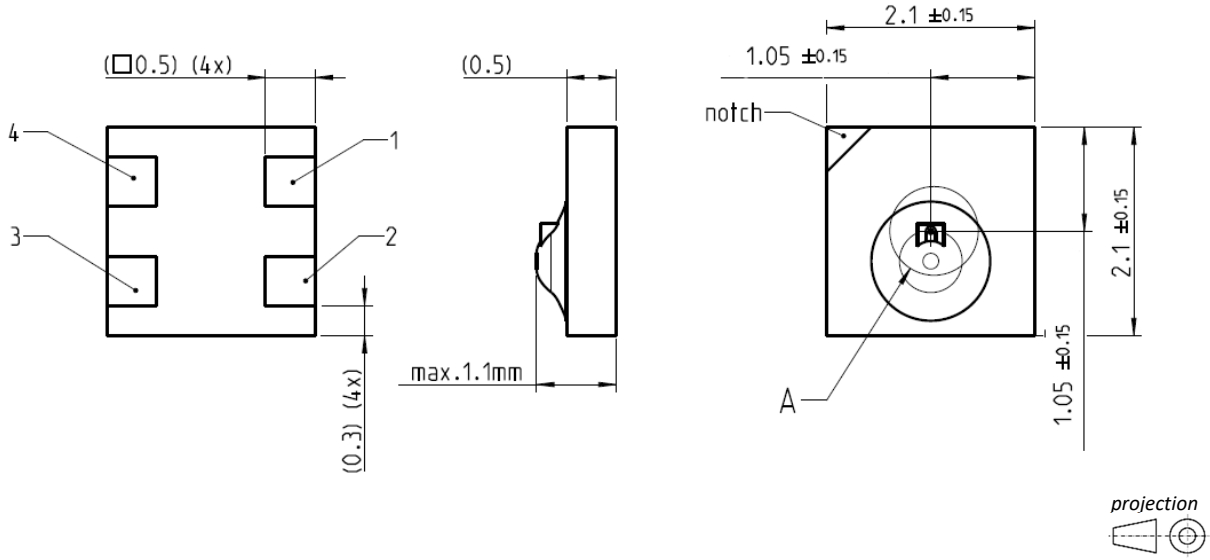
Mechanical Dimensions

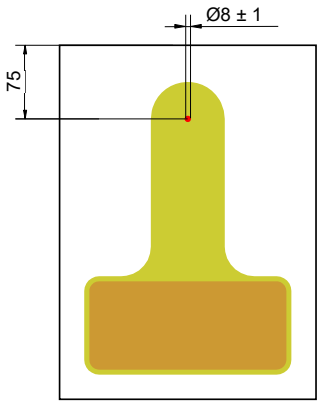
Component



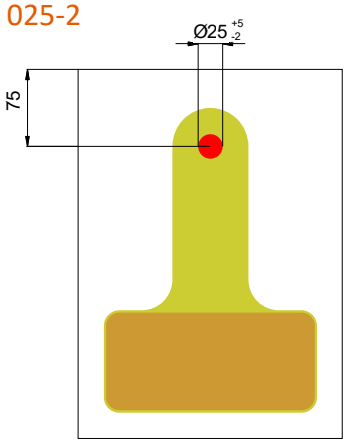
Pad	Electrode
1	not connected
2	cathode
3	anode
4	not connected

Emitting Area

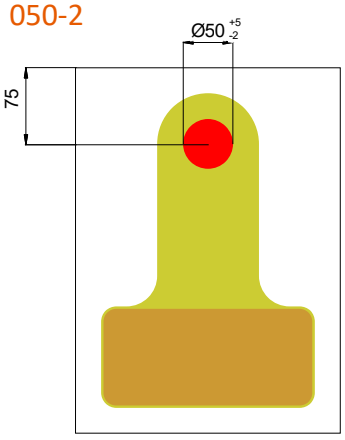
008-2



025-2



050-2



dimensions specified in µm

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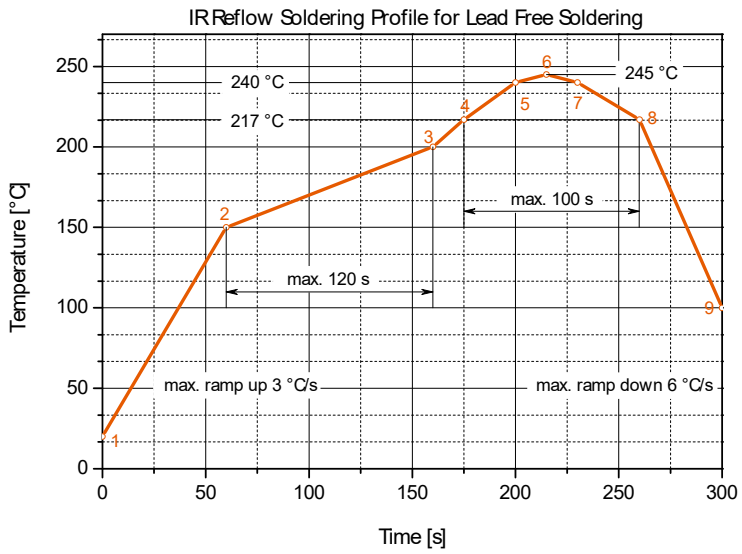
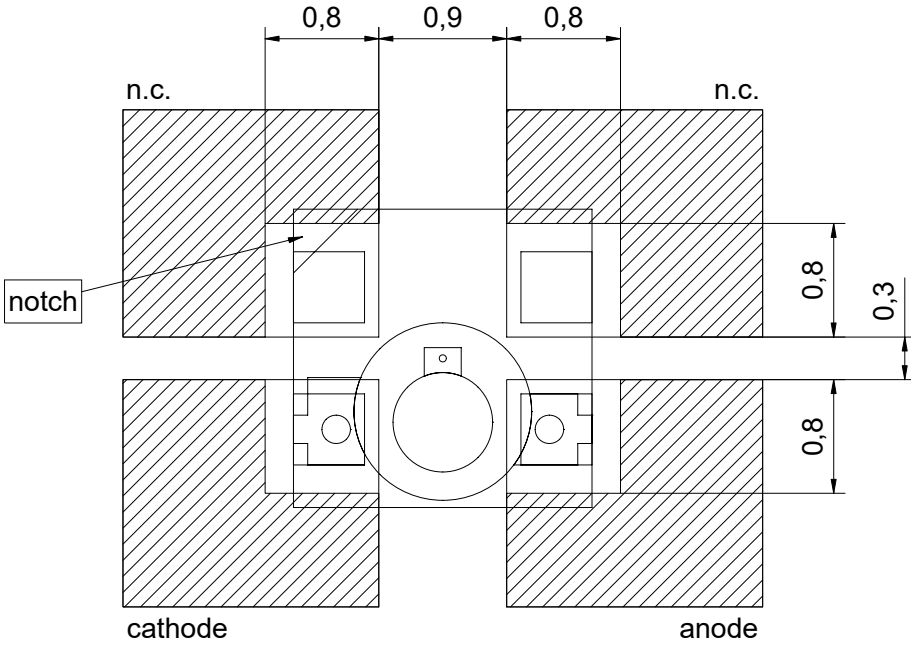
Soldering Conditions



according to JEDEC J-STD-020D

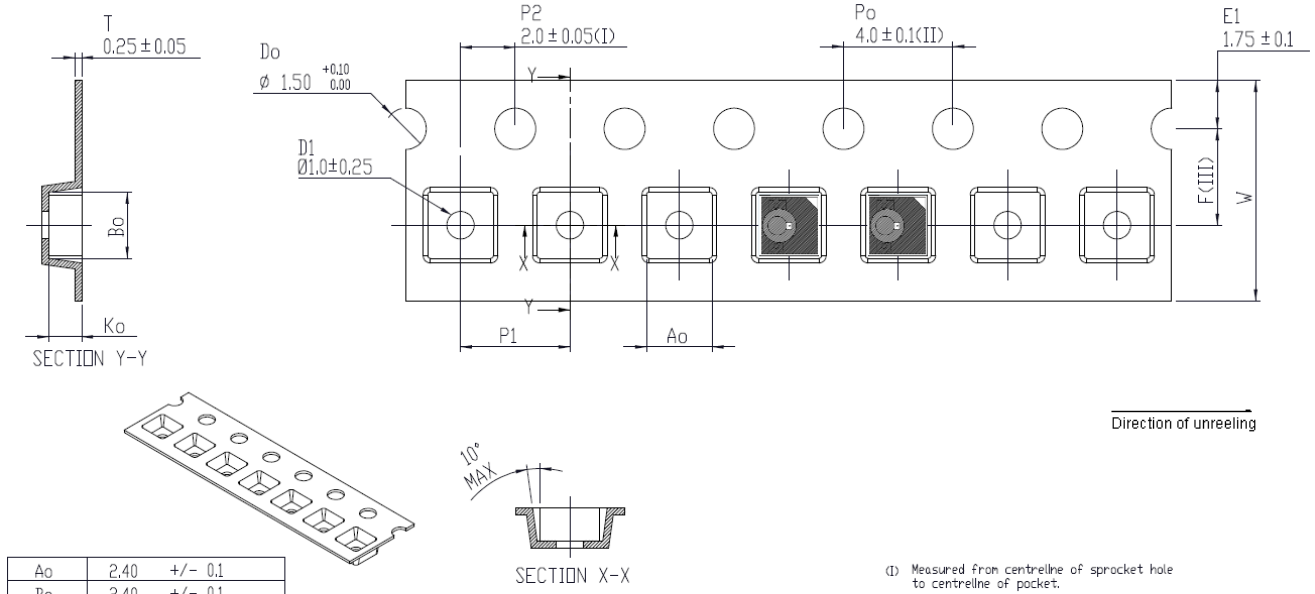
Recommended Solder Pad



dimensions specified in mm

Packing

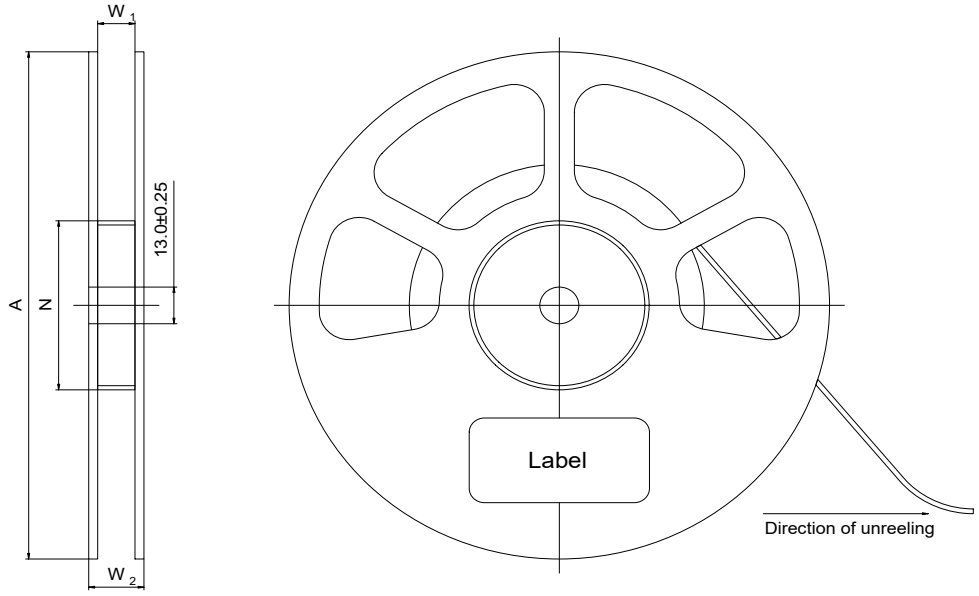
Dimensions conform to IEC 60286-3, EIA 481



Ao	2.40	+/- 0.1
Bo	2.40	+/- 0.1
Ko	1.20	+/- 0.1
F	3.50	+/- 0.05
P 1	4.00	+/- 0.1
W	8.00	+0.3/-0.1

(I) Measured from centreline of sprocket hole to centreline of pocket.
(II) Cumulative tolerance of 10 sprocket holes is ± 0.20 .
(III) Measured from centreline of sprocket hole to centreline of pocket.

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.



A	180
N	60
W_1	8.4
W_2	14.4

Leader: min.400
Trailer: min.160

All dimensions in mm unless otherwise stated

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Packing

Devices packaged according to IPC/JEDEC J-STD-033 with moisture classification level 3

Storage on Carrier Tape		Symbol	Min	Max	Unit
Storage Temperature	Air	T_{STG}	15	40	°C
Storage Relative Humidity	Air	RH_{STG}		70	% RH
Storage Time	Air	t_{STG}		1	year

Labeling	
Manufacturer	Jenoptik Optical Systems GmbH
Type	ELP-650-992-0XX-2
Item N°	XXXXXXX
Lot N°	XXXXXX
Date	dd.mm.yyyy
Quantity	XXXX pcs.

Attention

Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer.
For further information, please contact our sales department.

Handling

Emission area of the chip is not protected against dust.
Please handle module in clean environment only.
LEDs have to be handled ESD sensitive.

Safety Advice*

The evaluation of eye safety occurs according to the standard CIE/IEC 62471:2006 (“Photobiological Safety of Lamps and Lamp Systems”). Within the risk grouping system of this CIE standard the LED in this data sheet is assigned into the **Group 1 – Low Risk**.

*Note: Safety classification of an optical component mainly depends on the intended application and the way the component is being used. Furthermore, all statements made to classification are based on calculations and are only valid for this LED "as it is", and at continuous operation, assuming direct view and maximum forward current. Using pulsed current or altering the light beam with additional optics may lead to different safety classifications. Therefore these remarks should be taken as recommendation and guideline only.

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