

LED – Chip | 650 nm | AlInGaP/GaAs | P (anode) up ELC-650-19-XXX-X

Pat. US 8847241 B2

Features

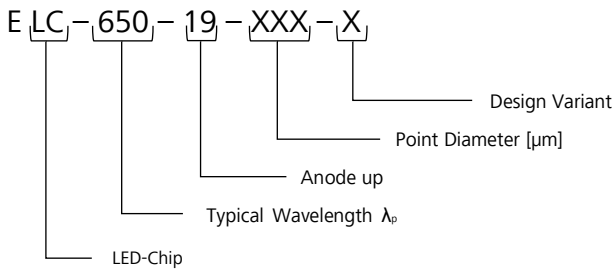
- 8 μm to 150 μm Point Source
- Radiation 650 nm (Red)

Applications

- Industrial, Scientific and Medical Systems
- Defense and Security

Lead (Pb) Free Product – RoHS Compliant

ELC-650-19-XXX-X | 650 nm | P (anode) up Parameters



Contained Products

ELC-650-19-008-2 ^{*1}
ELC-650-19-025-2 [*]
ELC-650-19-050-2 [*]
ELC-650-19-100-2
ELC-650-19-150-2

* only sold in SMD, TO packages or COB
 1 Chips in development

Measurement Conditions	XXX-X	Symbol	Value	Unit
Measurement Current	008-2 ¹	I_{Meas}	1	mA
	025-2		5	
	050-2		10	
	100-2		20	
	150-2		20	
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	XXX-X	Symbol	Value	Unit
Forward Current (DC)	008-2 ¹	I_f	1.5	mA
	025-2		5	
	050-2		10	
	100-2		20	
	150-2		30	
Junction Temperature		T_j	+125	°C
Operating Temperature Range		T_{amb}	-40 to +85	°C
Storage Temperature Range		T_{stg}	-40 to +125	°C

1 Chips in development

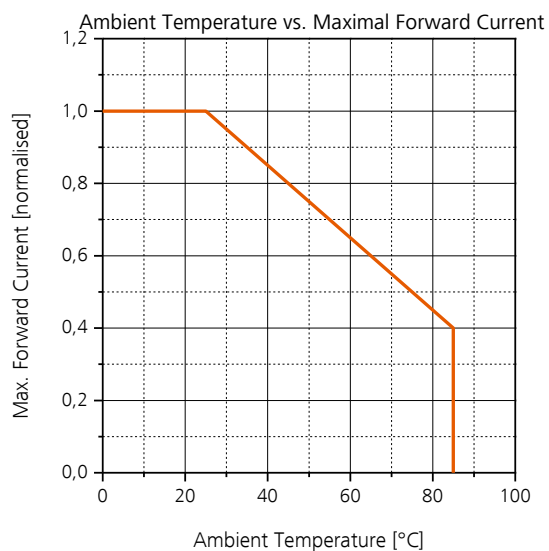
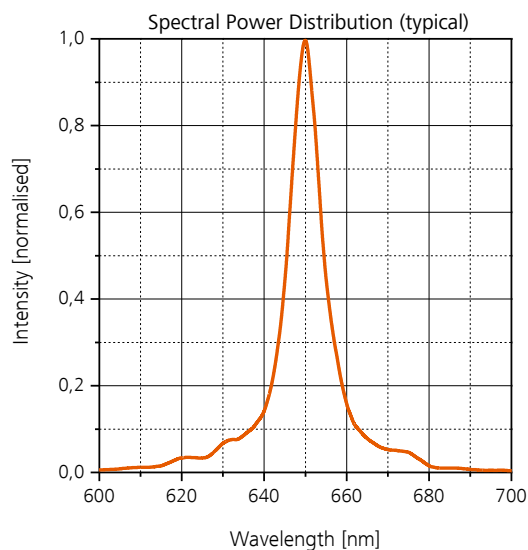
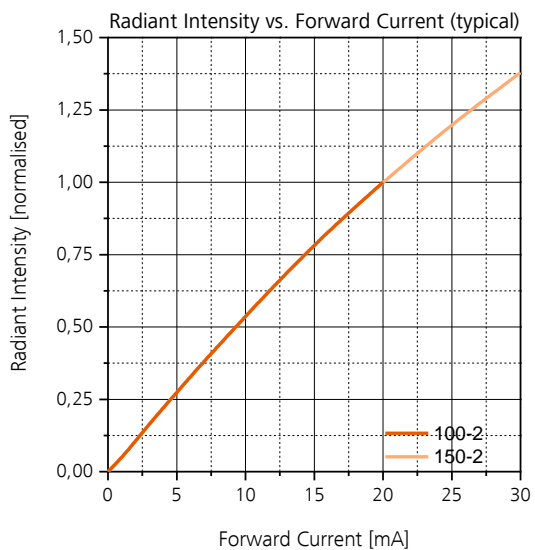
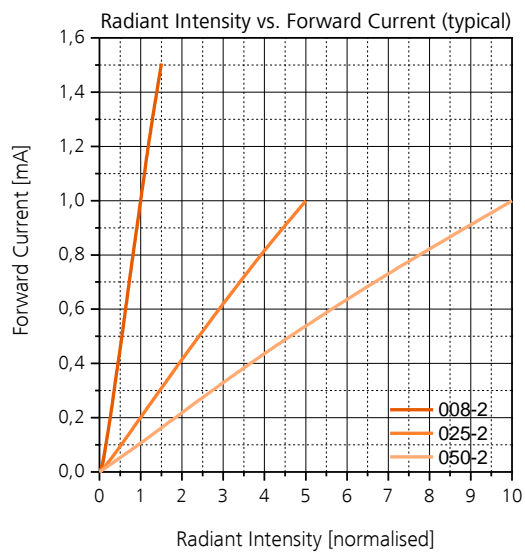
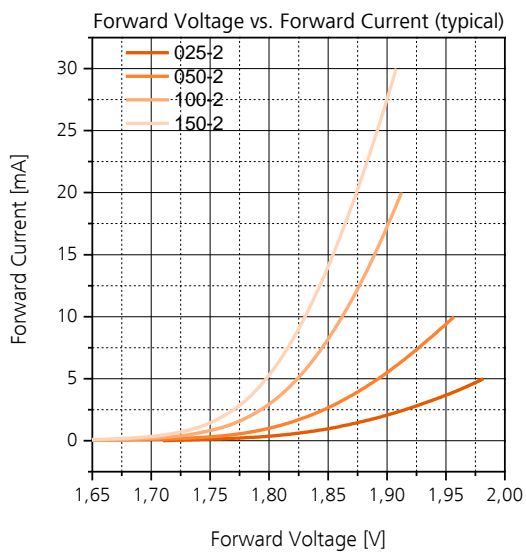


ELC-650-19-XXX-X | 650 nm | P (anode) up
Parameters

Optical / Electrical Characteristics	XXX-X	Test conditions	Symbol	Min	Typ	Max	Unit
Forward Voltage	008-2 ¹	1 mA			2.0		
	025-2	5 mA			2.0	2.5	
	050-2	I _F = 10 mA	V _F		1.95	2.5	V
	100-2	20 mA			1.9	2.5	
	150-2	20 mA			1.9	2.5	
Reverse Voltage		I _R = 10 μA	V _R	5			V
Radiant Power	008-2 ¹	1 mA			25		
	025-2	5 mA			300		
	050-2	I _F = 10 mA	φ _e		700		μW
	100-2	20 mA			1400		
	150-2	20 mA			1450		
Radiant Intensity	008-2 ¹	1 mA			8.0		
	025-2	5 mA		80	110		
	050-2	I _F = 10 mA	I _e	180	250		μW/sr
	100-2	20 mA		350	550		
	150-2	20 mA		400	600		
Luminous Intensity	008-2 ¹	1 mA			0.5		
	025-2	5 mA			10.0		
	050-2	I _F = 10 mA	I _v		20.0		mcd
	100-2	20 mA			40.0		
	150-2	20 mA			50.0		
Peak Wavelength		I _F = I _{Meas}	λ _p		650		nm
Centroid Wavelength	008-2 ¹	I _F = I _{Meas}	λ _c	635	650	660	nm
	025-2						
	050-2						
Centroid Wavelength	100-2	I _F = I _{Meas}	λ _c	640	650	660	nm
	150-2						
Spectral Bandwidth at 50%		I _F = I _{Meas}	Δλ _{0.5}		15		nm
Switching Time		I _F = I _{Meas}	t _r /t _f		10/10		ns
Emitting Point Diameter	008-2 ¹				8		
	025-2				25		
	050-2		D		50		μm
	100-2				100		
	150-2				150		

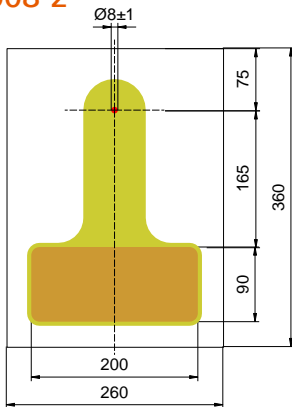
¹ Chips in development

ELC-650-19-XXX-X | 650 nm | P (anode) up
Parameters

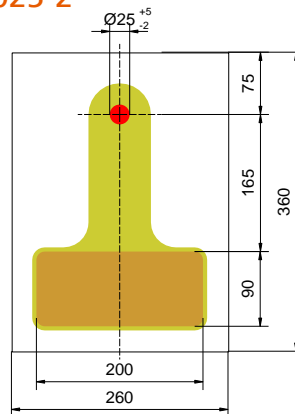


ELC-650-19-XXX-X | 650 nm | P (anode) up
 Mechanical Dimensions

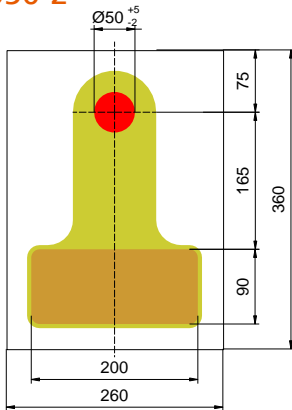
008-2



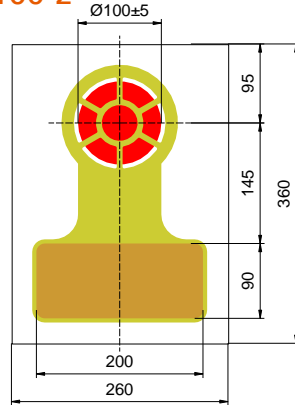
025-2



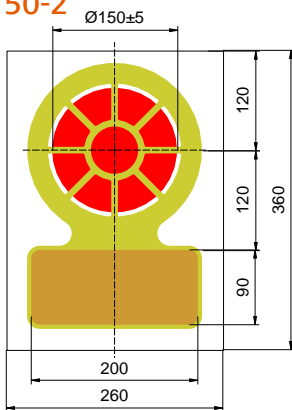
050-2



100-2



150-2



typ. thickness	260 μm
anode (wire bondable)	gold alloy, 1.5 μm
cathode	gold alloy, 0.5 μm

dimensions specified in μm

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Packing

LED Chips on adhesive film with wire-bond side on top¹

Storage on Blue Tape		Symbol	Min	Max	Unit
Storage Temperature	Air	T _{STG}	15	30	°C
Storage Relative Humidity	Air	RH _{STG}	40	75	% RH
Storage Time	Air	t _{STG}		1	year

¹ ELC-650-19-008-2, ELC-650-19-025-2 and ELC-650-19-050-2 only sold in SMD, TO packages or COB

Labeling	
Manufacturer	Jenoptik Optical Systems GmbH
Type	ELC-650-19-XXX-X
Item N°	XXXXXXXX
Lot N°	XXXXXX
Date	dd.mm.yyyy
Quantity	XXXX pcs.
Forward Voltage (typ.)	XXX V
Centroid Wavelength (typ.)	XXX nm
Radiant Intensity (typ.)	XXX mW/sr

JENOPTIK Optical Systems GmbH
Manufacturer

29.03.2019

ELC-650-19-100-2
Type

ELCP000017
Item No.

500 pcs
Quantity

6125-12
Charge

RoHS
COMPLIANT
2011/65/EU

V_F (typ.): 1.9 V @ 20 mA
λ_c (typ.): 650 nm @ 20 mA
I_e (typ.): 0.55 mW/sr @ 20 mA

Köpenicker Str. 325, Haus 201, 12555 Berlin Tel./Fax: +49 30 6576-2543 / -2545



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

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.