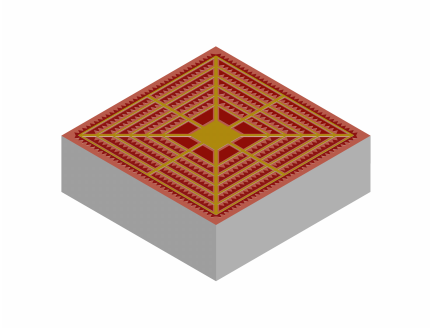
InGaAlP-High Brightness-Lumineszenzdiode (617nm, High Current and Flux)
InGaAlP High Brightness LED (617nm, High Current and Flux)

F 2000D



Vorläufige Daten / Preliminary Data

Wesentliche Merkmale

- Optimierte Lichtauskopplung durch Oberflächenstrukturierung und Stromverteilung
- Chipgröße 700 x 700 µm^2
- Wellenlänge (typ.) : 617 nm
- Technologie:InGaAlP
- Typ. Lichtfluß: 20 lm @ 400 mA (gepulst, im Golden Dragon® Gehäuse).

Feature

- Optimized light extraction due to surface structuring and current distribution
- Chip size 700 x 700 µm^2
- Wavelength (typ.): 617 nm
- Technology: InGaAlP
- Typ. luminous flux: 20 lm @ 400 mA (pulsed, in Golden Dragon® package)

Anwendungen

- Ampeln
- Hinterleuchtung (LCD, Handy, Schalter, Tasten, Displays, Werbebeleuchtung, Allgemeinbeleuchtung)
- Beleuchtung im Automobilbereich (z.B. Instrumentenbeleuchtung, Bremslichter und Blinklichter)
- Ersatz von Kleinst-Glühlampen
- Tragbare Beleuchtung
- Fassadenbeleuchtung im Innen- und Außenbereich

Applications

- Traffic lights
- Backlighting (LCD, cellular phones, switches, keys, displays, illuminated advertising,general lighting)
- Automotive lighting (e.g. dashboard backlighting, brake lights, turn signal lamps, etc.)
- Substitution of micro incandescent lamps
- Portable light source
- Indoor and outdoor commercial and residential architectural lighting

Typ Type	Bestellnummer Ordering Code	Beschreibung Description
F 2000D	Q65110A0981	Rot emittierender Chip mit optimierter Lichtauskopplung durch Oberflächenstrukturierung, Oberseite Anodenanschluss Red emitting chip with optimized light extraction due to surface structuring, top side anode connection

Elektrische Werte (T_A = 25 °C)
Electrical values[1] (T_A = 25 °C)

Bezeichnung **Parameter**	**Symbol** **Symbol**	**Wert** **Value**[2]			**Einheit** **Unit**
		min.	**typ.**	**max.**	
Dominantwellenlänge Dominant wavelength I_F = 400 mA, t_p = 1.8 ms	λ_{dom}	613		623	nm
Sperrspannung Reverse voltage I_R = 1µA	V_R	12			V
Durchlaβspannung Forward voltage I_F = 400 mA, t_p = 1.8 ms	V_F			2.6	V
Lichtstrom Luminous Flux[3] I_F = 400 mA, t_p = 1.8 ms	Φ_V	8000			mlm

[1] *Measurement limits describe actual settings and do not include measurement uncertainties. Each wafer and fragment of a wafer is subject to final testing. The wafer or its pieces are individually attached on foils (rings). Sample chips are picked from each foil and placed on a special carrier for measurement purposes.*
Sample-test: Sampling density/samples per cm² (grid): 1,6/cm².
If a sample fails, the distance area to the next non-failure samples is manually removed by a vacuum tool.
All el. values are referenced to the vendor's measurement system (correlation to customer product(s) is required)

[2] *Typical (refered to as typ.) data are defined as long-term production mean values and are only given for information. This is not a specified value*

[3] *Luminous flux is measured in integrating sphere*

Mechanische Werte
Mechanical values

Bezeichnung **Parameter**	**Symbol** **Symbol**	**Wert** **Value**[1]			**Einheit** **Unit**
		min.	**typ.**	**max.**	
Chipkantenlänge (x-Richtung) Length of chip edge (x-direction)	L_x	0.68	0.7	0.72	mm
Chipkantenlänge (y-Richtung) Length of chip edge (y-direction)	L_y	0.68	0.7	0.72	mm
Durchmesser des Wafers Diameter of the wafer	D		100		mm
Chiphöhe Die height	H	200	220	240	µm
Bondpaddurchmesser Diameter of bondpad	d	110	120	130	µm

Weitere Informationen
Additional information[2]

Vorderseitenmetallisierung Metallization frontside	Aluminium Aluminum
Rückseitenmetallisierung Metallization backside	Goldlegierung Gold alloy
Trennverfahren Dicing	Sägen Sawing
Verbindung Chip - Träger Die bonding	Kleben Epoxy bonding

[1] *Typical (refered to as typ.) data are defined as long-term production mean values and are only given for information. This is not a specified value*

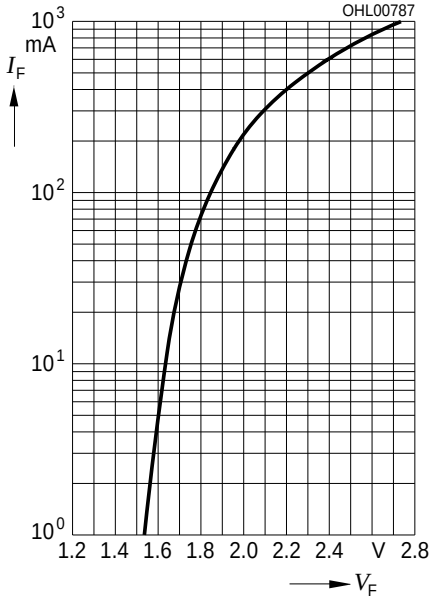
[2] *All chips are checked according to the following procedure and the OSRAM OS specification of the visual inspection A63501-Q0013-N001-*-76G3:*
The visual inspection shall be made in accordance to the "specification of the visual inspection" as referenced.The visual inspection of chip backside is performed with stereo microscope with incident light with 40x-80x magnification. Areas > ¼ cm² which have an amount of more than 3% failed dies will be removed. The visual inspection of chip frontside is performed by a stereo microscope with incident light with 40x-80x magnification for 100% of the area of each wafer. Areas > 1 cm² which have an amount of more than 50% failed dies and areas > 2 cm² which have an amount of more than 25% failed dies will be removed. In areas with failure density higher than 1% each failure die is inked individually. On request the visual inspection of chip frontside can be performed by an automated visual inspection combined with automated inking additionally. The quality inspection (final visual inspection) is performed by production. An additional visual inspection step as special release procedure by QM after the final visual inspection is not installed.

Grenzwerte[1)]
Maximum Ratings

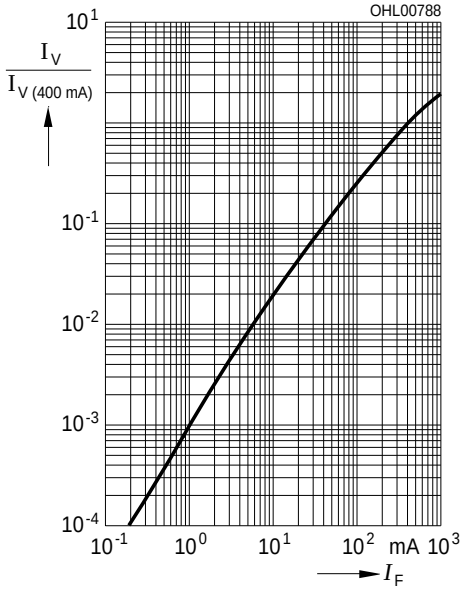
Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Maximaler Betriebstemperaturbereich Maximum Operating temperature range	T_{op}	-40...+100	°C
Maximaler Lagertemperaturbereich Maximum storage temperature range	T_{stg}	-40...+100	°C
Maximaler Durchlaßstrom (T_A = 25°C) Maximum forward current (T_A = 25°C)	I_F	400	mA
Maximaler Pulsstrom (T_A = 25°C) Maximum surge Current (T_A = 25°C) t_p = 10 µs, D = 0.05	I_{peak}	0.4	A
Maximale Sperrschichttemperatur Maximum junction temperature	T_j	125	°C

[1)] *Maximum ratings are strongly package dependent and may differ between different packages. The values given represent the chip in an OSRAM Opto Semiconductor's* Golden Dragon® *package.*

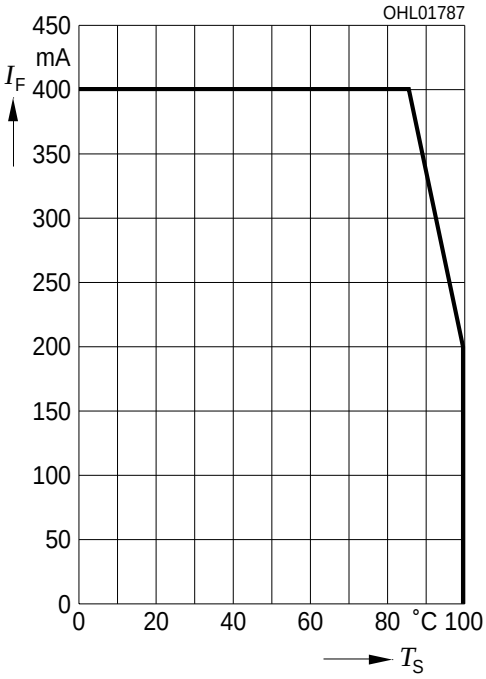
Durchlassstrom[1] $I_F = f(V_F)$
Forward Current
T_A = 25 °C



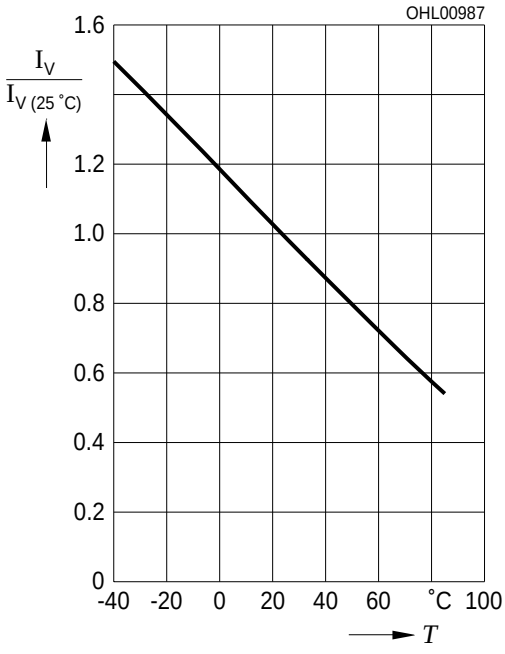
Relative Lichtstärke[1] $I_V/I_V(400mA) = f(I_F)$
Relative Luminous Intensity
T_A = 25 °C



Maximal zulässiger Durchlaßstrom[1] $I_F = f(T_S)$
Maximum Permissible Forward Current

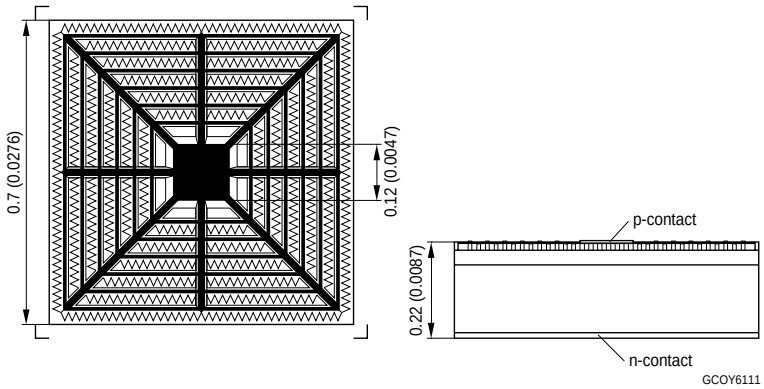


Relative Lichtstärke[1] $I_V/I_V(25°C) = f(T_S)$
Relative Luminous Intensity
I_F = 400 mA



1) *Based on typ.(see page 2, footnote 2 for explanation) data measured in OSRAM Opto Semiconductor's Golden Dragon® package.*

Maßzeichnung
Chip Outlines



Maße werden als typische[1)] Werte wie folgt angegeben: mm (inch) / Dimensions are specified as typical[1)] values as follows: mm (inch).

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Attention please!

The information generally describes the type of component and shall not be considered as assured characteristics or detailed specification.
Terms of delivery and rights to change design reserved. Due to technical requirements components may contain dangerous substances. For information on the types in question please contact our sales organization.

Handling and Storage Conditions:

The hermetically sealed shipment lot shall be opened under temperature and moisture controlled cleanroom environment only. Customer has to follow the according rules for disposition of material that can be hazardous for humans and environment.

Packing

Chips are placed on a blue foil, which is fixed in a yellow frame of 5” diameter.

For shipment the wafers of a shipment lot are arranged to stacks. The stacks are hermetically sealed in plastic bags to achieve protection against environmental influence (humidity & contamination).

Please use the recycling operators known to you. We can also help you – get in touch with your nearest sales office. By agreement we will take packing material back, if it is sorted. You will have to bear the costs of transport. For packing material that is returned to us unsorted or which we are not obliged to accept, we shall have to invoice you for any costs incurred.

Further Conditions:

If not otherwise arranged, the “General Conditions for the supply of products and services of the electrical and electronics industry” apply for any shipment, just as the Supplier Addendum " Chip business" to the “General Conditions for the supply of products and services of the electrical and electronics industry”. If these documents are not familiar to you, please request them at our nearest sales office.

Components used in life-support devices or systems must be expressly authorized by us for such purpose!

Critical components[2)], may only be used in life-support devices or systems[3)] with the express written approval of OSRAM OS.

[1)] Typical (refered to as typ.) data are defined as long-term production mean values and are only given for information. This is not a specified value.

[2)]A critical component is a component used in a life-support device or system whose failure can reasonably be expected to cause the failure of that life-support device or system, or to affect its safety or effectiveness of that device or system.

[3)]Life support devices or systems are intended (a) to be implanted in the human body, or (b) to support and/or maintain and sustain human life. If they fail, it is reasonable to assume that the health of the user may be endangered.