

iC-SD85 oLGA SD2C-2

Infrared LED



Rev A2, Page 1/5

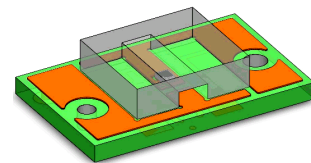
FEATURES

- Emission peak at 850 nm matched to silicon sensors
- Broad irradiance pattern (Lambertian profile)
- High temperature range -40 to 125 °C
- High optical output power
- Fast switching speed
- Packages suitable for SMT mounting

APPLICATIONS

- Illumination for high resolution optical encoder
- Modulated light barriers

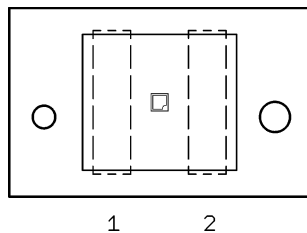
PACKAGES



8.0 mm x 5.0 mm
RoHS compliant

PACKAGES (top view)

PIN CONFIGURATION SD2C



PIN FUNCTIONS

No.	Name	Function
1	C	Cathode
2	A	Anode

ABSOLUTE MAXIMUM RATINGS

Beyond these values damage may occur (Ta = 25°C, unless otherwise noted)

Item No.	Symbol	Parameter	Conditions			Unit
				Min.	Max.	
G001	IF	Forward current (DC)			100	mA
G002	IFSM	Surge forward current	tp ≤ 10 μs, 5 % duty cycle		1500	mA
G003	VR	Reverse voltage			5	V
G004	P	Power dissipation	temperature dependence see fig. 1		150	mW

All voltages are referenced to ground unless otherwise stated.

All currents flowing into the device pins are positive; all currents flowing out of the device pins are negative.

iC-SD85 oLGA SD2C-2

Infrared LED



Rev A2, Page 2/5

THERMAL DATA

Item No.	Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
T01	Ta	Operating Ambient Temperature Range		-40		125	°C
T02	Ts	Storage Temperature Range		-40		125	°C
T03	Tpk	Reflow Soldering Peak Temperature for SD2C Package	tpk < 20 s, convection reflow tpk < 20 s, vapour phase TOL (time on label) 8h: please refer to customer information file No. 7 for details.			245 230	°C °C
T04	Rthja	Thermal resistance junction to ambient			600		K/W
T05	Tj	Junction Temperature		-40		125	°C

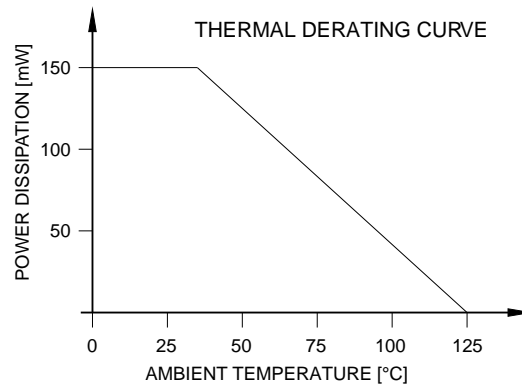


Figure 1: Maximum power dissipation with respect to temperature

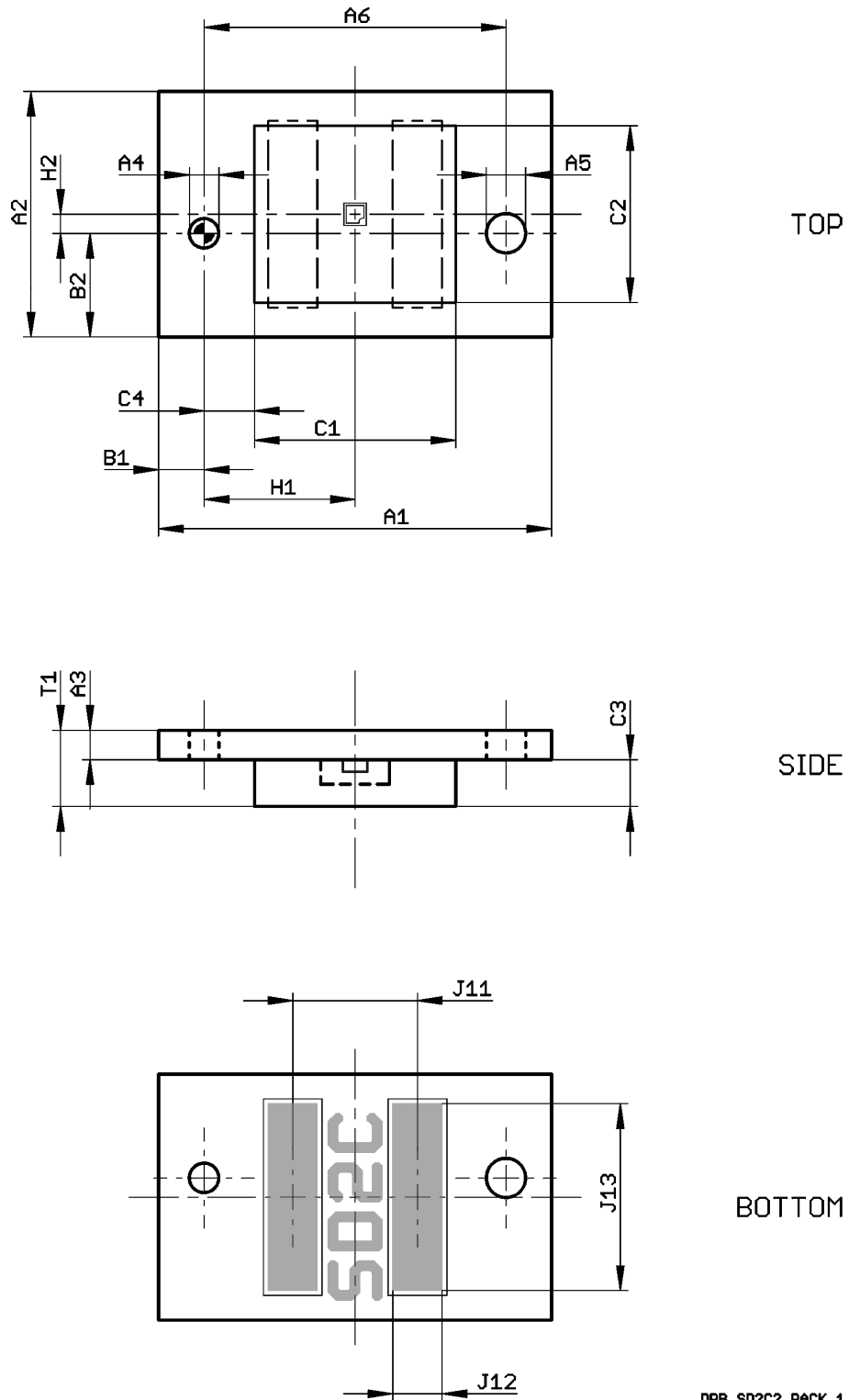
ELECTRICAL CHARACTERISTICS

Tamb = 25°C, unless otherwise noted

Item No.	Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
Electrical and Optical Characteristics							
001	VF	Forward voltage	IF = 20 mA		1.4	1.8	V
002	VR	Reverse voltage	IR = 5 µA	5			V
003	Φe	Radiant power, SD2C package	IF = 20 mA; only radiation emitted from surface C1*C2 is evaluated	2.4	4		mW
004	TK(Φe)	Temperature coefficient of radiant power	IF = 20 mA, Tamb = 25°C...125°C		-0.6		%/K
005	λp	Peak wavelength	IF = 20 mA	840	850	860	nm
006	Δλ	Spectral half width	IF = 10 mA		30		nm
008	tr, tf	Switching time	IF = 100 mA, RL = 50 Ω		12		ns

Remarks: Measured optical characteristics may depend on conditions and equipment and thus differ in its given typical values.

PACKAGE DIMENSIONS



DRB_SD2C2_PACK_1

Figure 2: Package view

iC-SD85 oLGA SD2C-2

Infrared LED



Rev A2, Page 4/5

Item	Parameter	Comments					Unit
			Min.	Typ.	Max.	Tolerance	
Substrate and Alignment Holes							
A1	Outline X			8.0		±0.1	mm
A2	Outline Y			5.0		±0.1	mm
A4	Hole Diameter			0.6		+0.05	mm
A5	Hole Diameter 2			0.8		+0.05	mm
A6	Hole Distance			6.15		±0.05	mm
Reference							
B1	Outline vs. Reference X			0.925		±0.15	mm
B2	Outline vs. Reference Y			2.11		±0.15	mm
Cover Size and Shape							
C1	Cover Size X				4.2		mm
C2	Cover Size Y				3.7		mm
C3	Cover Thickness	metal-top to cover-surface	0.6		1.15		mm
C4	Distance Hole vs. Glass Edge		0.825				mm
Chip Placement							
H1	Chip Position vs. Reference X			3.075		±0.125	mm
H2	Chip Position vs. Reference Y			0.39		±0.125	mm
Bottom Metal Pattern							
J11	Lead Pitch X			2.54		±0.03	mm
J12	Lead Size X			1.0		±0.03	mm
J13	Lead Size Y			3.8		±0.03	mm
Thickness Specifications							
T1	Overall Thickness		1.15		1.85		mm
A3	Substrate Thickness	bottom package to metal-top (snap-fit area)	0.55		0.7		mm

iC-Haus expressly reserves the right to change its products and/or specifications. An Infoletter gives details as to any amendments and additions made to the relevant current specifications on our internet website www.ichaus.de/infoletter; this letter is generated automatically and shall be sent to registered users by email.

Copying – even as an excerpt – is only permitted with iC-Haus approval in writing and precise reference to source.

iC-Haus does not warrant the accuracy, completeness or timeliness of the specification on this site and does not assume liability for any errors or omissions in the materials. The data specified is intended solely for the purpose of product description. No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information/specification or the products to which information refers and no guarantee with respect to compliance to the intended use is given. In particular, this also applies to the stated possible applications or areas of applications of the product.

iC-Haus conveys no patent, copyright, mask work right or other trade mark right to this product. iC-Haus assumes no liability for any patent and/or other trade mark rights of a third party resulting from processing or handling of the product and/or any other use of the product.

As a general rule our developments, IPs, principle circuitry and range of Integrated Circuits are suitable and specifically designed for appropriate use in technical applications, such as in devices, systems and any kind of technical equipment, in so far as they do not infringe existing patent rights. In principle the range of use is limitless in a technical sense and refers to the products listed in the inventory of goods compiled for the 2008 and following export trade statistics issued annually by the Bureau of Statistics in Wiesbaden, for example, or to any product in the product catalogue published for the 2007 and following exhibitions in Hanover (Hannover-Messe).

We understand suitable application of our published designs to be state-of-the-art technology which can no longer be classed as inventive under the stipulations of patent law. Our explicit application notes are to be treated only as mere examples of the many possible and extremely advantageous uses our products can be put to.

iC-SD85 oLGA SD2C-2

Infrared LED



Rev A2, Page 5/5

ORDERING INFORMATION

Type	Package	Order Designation
iC-SD85	SD2C-2	iC-SD85 oLGA SD2C-2

For technical support, information about prices and terms of delivery please contact:

iC-Haus GmbH
Am Kuemmerling 18
D-55294 Bodenheim
GERMANY

Tel.: +49 (61 35) 92 92-0
Fax: +49 (61 35) 92 92-192
Web: <http://www.ichaus.com>
E-Mail: sales@ichaus.com

Appointed local distributors: http://www.ichaus.com/sales_partners