

# iC-SD85 BLCC SD1C

Infrared LED



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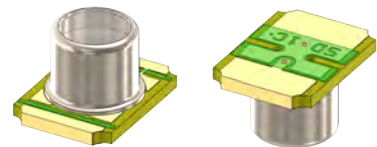
## FEATURES

- ◆ Emission peak at 850 nm matched to silicon detectors and opto ICs
- ◆ Narrow irradiance pattern
- ◆ High temperature range -40 to 125 °C
- ◆ High switching speed
- ◆ Packages suitable for SMT mounting

## APPLICATIONS

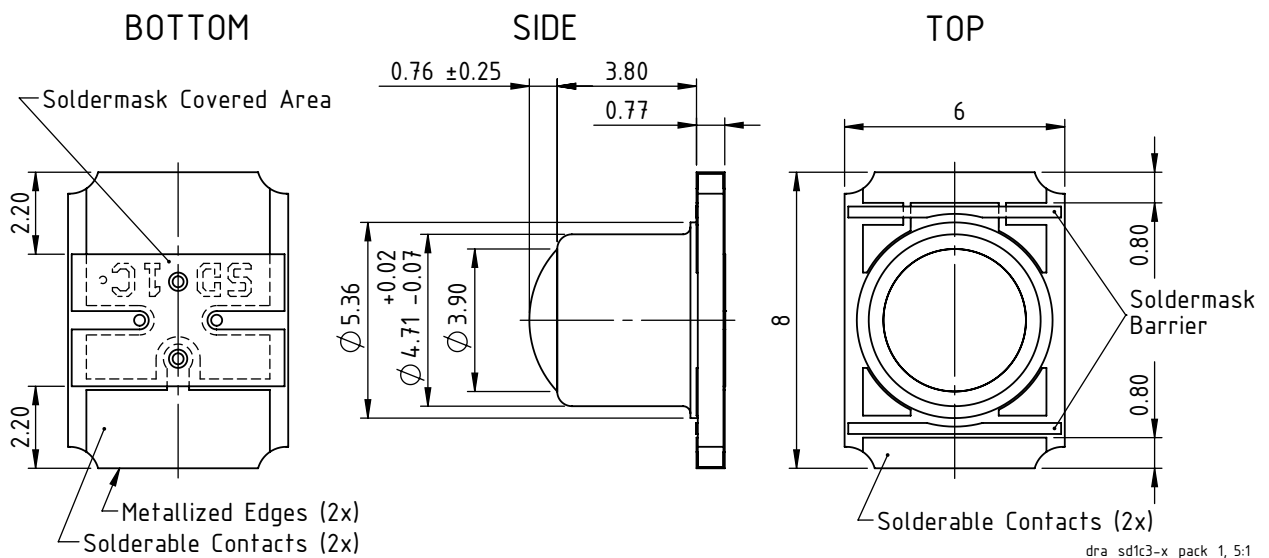
- ◆ Illumination for high resolution optical encoder
- ◆ Modulated light barriers

## PACKAGE



BLCC SD1C

## DIMENSIONS



# iC-SD85 BLCC SD1C

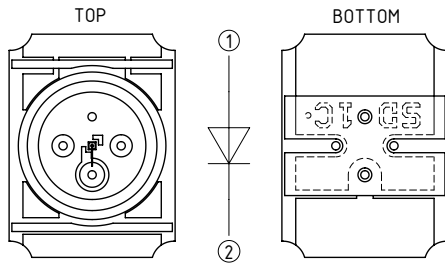
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### PACKAGING INFORMATION

#### PIN CONFIGURATION SD1C



#### PIN FUNCTIONS

No. Name Function

1 A Anode  
2 C Cathode

### ABSOLUTE MAXIMUM RATINGS

Beyond these values damage may occur ( $T_a = 25^\circ\text{C}$ , unless otherwise noted)

Item No.	Symbol	Parameter	Conditions	Min.		Max.		Unit
G001	IF	Forward current (DC)				50		mA
G002	IFSM	Surge forward current	$t_p \leq 10\mu\text{s}$			1000		mA
G003	VR	Reverse voltage				5		V
G004	P	Power dissipation	Case temperature $25^\circ\text{C}$			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.

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### THERMAL DATA

Item No.	Symbol	Parameter	Conditions				Unit
				Min.	Typ.	Max.	
T01	Ta	Operating Ambient Temperature Range		-40		125	°C
T02	Ts	Storage Temperature Range		-40		125	°C
T03	Tpk	Reflow Soldering Peak Temperature	Convection reflow: tpk < 20 s, MSL 1 (unlimited floor live at 30 °C and 60 % RH); Please refer to customer information file No. 7 for details. Not suitable for vapor phase soldering.			260	°C
T04	Rthja	Thermal Resistance Junction to Ambient			270		K/W

### ELECTRICAL CHARACTERISTICS

Ta = 25 °C, unless otherwise noted

Item No.	Symbol	Parameter	Conditions				Unit
				Min.	Typ.	Max.	
<b>Electrical and Optical Characteristics</b>							
001	V <sub>F</sub>	Forward Voltage	IF = 20 mA		1.4	1.8	V
002	V <sub>R</sub>	Reverse Voltage	IR = 5 μA	5			V
003	φ <sub>e</sub>	Radiant Power	IF = 20 mA	1.4	2.7		mW
004	TK(φ <sub>e</sub> )	Temperature Coefficient of Radiant Power	IF = 20 mA, T <sub>j</sub> = 25 °C...125 °C		-0.6		%/K
005	λ <sub>p</sub>	Peak Wavelength	IF = 20 mA	830	850	870	nm
006	Δλ	Spectral Half Width	IF = 20 mA		30		nm
007	2φ	Divergence	IF = 20 mA		8		deg.
008	tr, tf	Switching Time	IF = 50 mA, RL = 50 Ω		12		ns

## SAFETY ADVICES

Depending on the mode of operation, these devices emit highly concentrated non visible infrared light which can be hazardous to the human eye.

Products which incorporate these devices have to follow the safety precautions given in IEC 60825-1 and IEC 62471.

## HANDLING ADVICES

Because of the specific housing materials and geometries used, these LED devices are sensitive to rough handling or assembly and can thus be easily damaged

or may fail in regard to their electro-optical operation. Excessive mechanical stress or load on the lens surface or to the glued cap must be avoided.

## DESIGN REVIEW: Notes on chip characteristics

iC-SD85 / iC-SD85 Z			
No.	Chip Design	Function, Parameter/Code	Description and Application Hints
1	iC-SD85	initial chip release	see datasheet revision A1
2	iC-SD85 Z	Electrical Characteristics item 001 item 002 item 004	refined measurement condition changed min. / typ. values increased to 1.4 / 2.7 mW

Table 4: Notes on chip functions regarding iC-SD85 / iC-SD85 Z

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### REVISION HISTORY

Rel.	Rel. Date*	Chapter	Modification	Page
A1	11-02-25	...		

Rel.	Rel. Date*	Chapter	Modification	Page
B1	12-10-16	ELECTRICAL CHARACTERISTICS	Item 003 adapted	3

Rel.	Rel. Date*	Chapter	Modification	Page
B2	13-05-29	SAFETY ADVICES	Chapter supplemented	4

Rel.	Rel. Date*	Chapter	Modification	Page
B3	13-11-13	HANDLING ADVICES	Chapter supplemented	4

Rel.	Rel. Date*	Chapter	Modification	Page
B4	14-07-16	PACKAGE	BLCC package drawing	1
		PACKAGING INFORMATION	BLCC package drawing	2
		THERMAL DATA	Item T03 adapted	3
		REVISION HISTORY	Chapter supplemented	5
		ORDERING INFORMATION	Package information supplemented	6

Rel.	Rel. Date*	Chapter	Modification	Page
B5	21-01-21	PACKAGE	BLCC package drawing	1
		DIMENSIONS	BLCC package drawing	1
		PACKAGING INFORMATION	BLCC package drawing	2

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\* Release Date format: YYYY-MM-DD

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## ORDERING INFORMATION

Type	Package	Order Designation
iC-SD85	2-Pin BLCC, 8 mm x 6 mm, height 5.3 mm  RoHS compliant	iC-SD85 BLCC SD1C

Please send your purchase orders to our order handling team:

**Fax: +49 (0) 61 35 - 92 92 - 692**

**E-Mail: [dispo@ichaus.com](mailto:dispo@ichaus.com)**

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

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