

iC-SN85 BLCC SN2C

INFRARED LED



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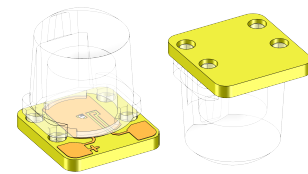
FEATURES

- ◆ Emission peak at 850 nm matched to silicon sensors
- ◆ Optimized irradiance pattern
- ◆ High temperature range -40 to 125 °C
- ◆ High optical output power
- ◆ Fast switching speed
- ◆ Isolated backside

APPLICATIONS

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

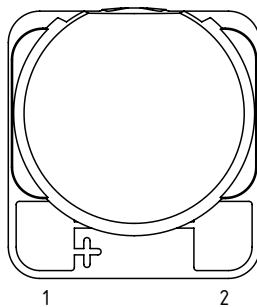
PACKAGES



BLCC SN2C

PACKAGING INFORMATION (top view)

PIN CONFIGURATION SN2C



PIN FUNCTIONS

No.	Name	Function
1	A	Anode (+)
2	C	Cathode (-)

ABSOLUTE MAXIMUM RATINGS

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

Item No.	Symbol	Parameter	Conditions	Min.		Max.		Unit
G001	IF	Forward Current (DC)				100		mA
G002	IFSM	Surge Forward Current, iC-SN85z	tp ≤ 10 μs, 5 % duty cycle			1000		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.

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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	Soldering Temperature	tpk < 5 s, manual soldering; Not suitable for reflow or vapor phase soldering.			260	°C
T04	Rthja	Thermal Resistance Junction to Ambient			300		K/W
T05	Tj	Junction Temperature		-40		125	°C

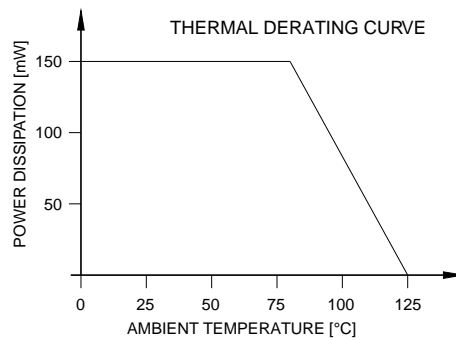


Figure 1: Maximum power dissipation with respect to temperature

ELECTRICAL CHARACTERISTICS

Tamb = 25°C, unless otherwise noted

Item No.	Symbol	Parameter	Conditions				Unit
				Min.	Typ.	Max.	
Electrical and Optical Characteristics							
001	V _F	Forward Voltage	IF = 20 mA		1.4	1.8	V
002	V _R	Reverse Voltage	IR = 5 μA	5			V
003	Φ _e	Radiant Power iC-SN85z	IF = 20 mA	3.4	8.1		mW
004	TK(Φ _e)	Temperature Coefficient of Radiant Power	IF = 20 mA, Tj = 25°C...125°C		-0.6		%/K
005	λ _p	Peak Wavelength	IF = 20 mA	840	850	860	nm
006	Δλ	Spectral Half Width	IF = 20 mA		30		nm
007	2φ	Divergence	IF = 20 mA		4		deg.
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.

RADIATION PATTERN

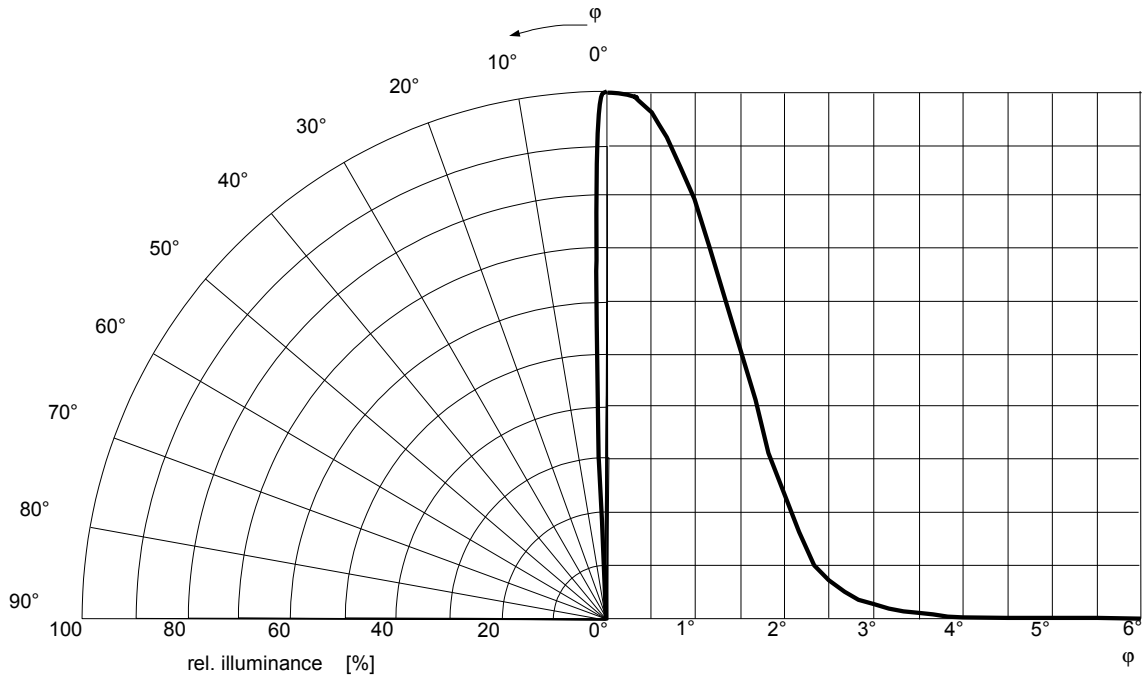


Figure 2: Rel. radiant output

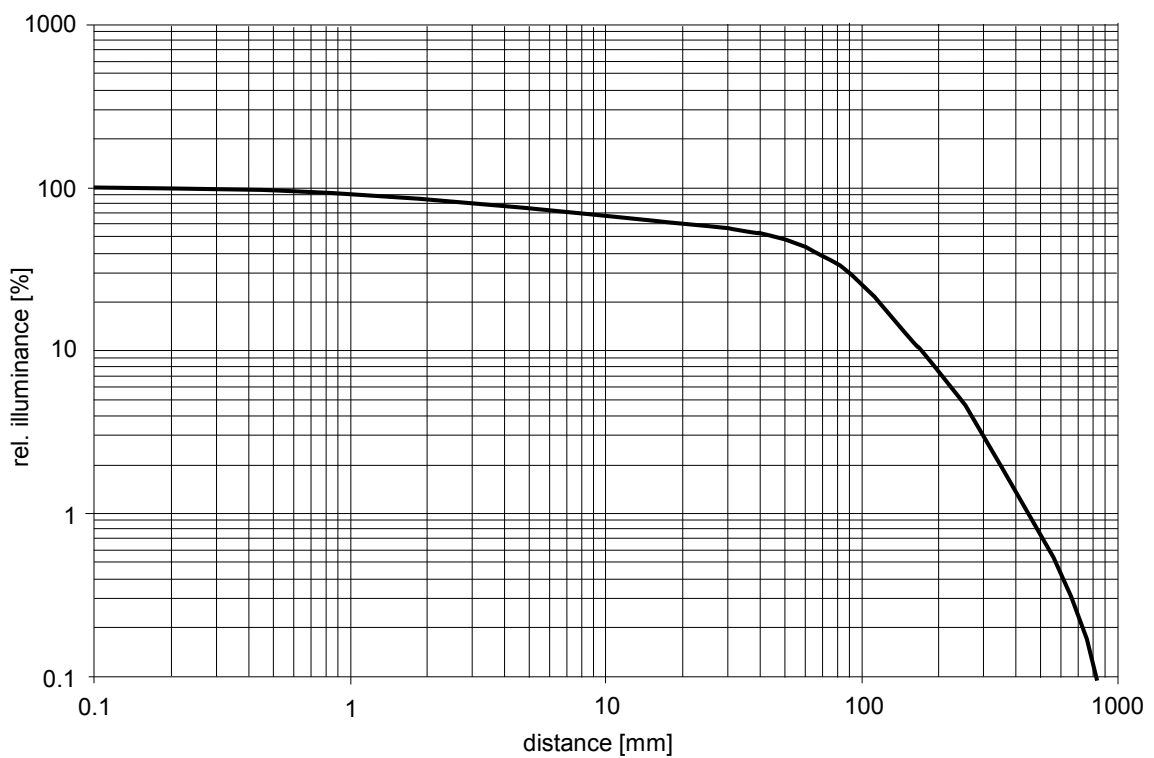
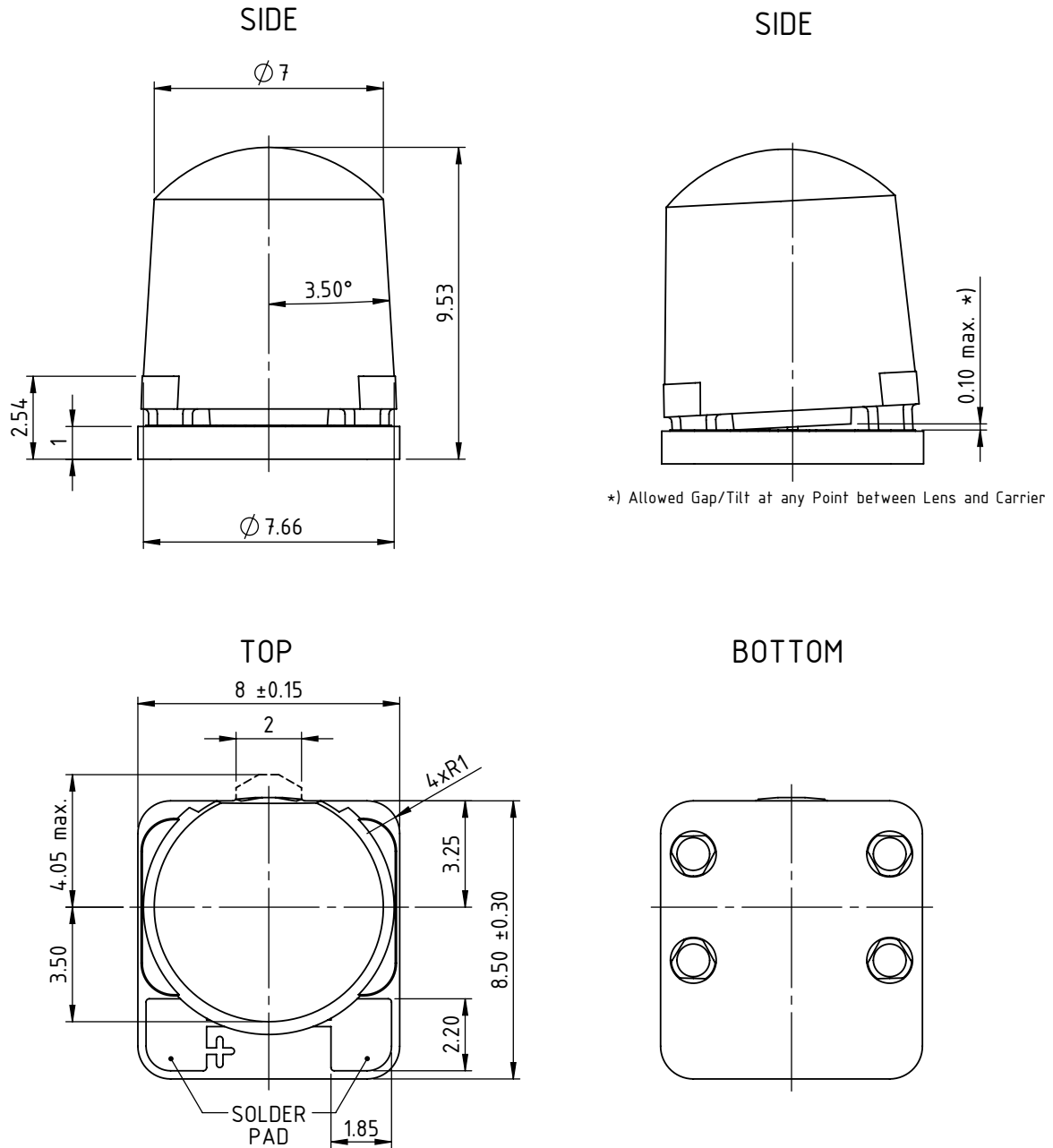


Figure 3: Rel. radiant illuminance vs. distance

PHYSICAL DIMENSIONS



drd_sn2c1_pack_1, 5:1

Figure 4: Package dimensions [mm]

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-SN85 Z			
No.	Chip Design	Function, Parameter/Code	Description and Application Hints
1	iC-SN85z	initial chip release	

Table 1: Notes on chip characteristics regarding iC-SN85 Z

REVISION HISTORY

Rel.	Rel. Date *	Chapter	Modification	Page
A1	2012-12-11		Initial	all

Rel.	Rel. Date *	Chapter	Modification	Page
A2	2013-06-06	SAFETY ADVICES		5

Rel.	Rel. Date *	Chapter	Modification	Page
A3	2013-12-15	PACKAGE DIMENSIONS	PCB outline changed	4

Rel.	Rel. Date *	Chapter	Modification	Page
B1	2021-12-15	PACKAGES	Drawing update	1
		PACKAGING INFORMATION	Drawing update	1
		PHYSICAL DIMENSIONS	New lens dimension, mold incline changed	4
		HANDLING ADVICES	new	5

* Release Date format: YYYY-MM-DD

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ORDERING INFORMATION

Type	Package	Order Designation
iC-SN85	2-Pin BLCC, 8 mm x 8.5 mm, height 9.53 mm RoHS compliant	iC-SN85 BLCC SN2C

Please send your purchase orders to our order handling team:

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

E-Mail: dispo@ichaus.com

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

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