

iC-TL46 BLCC SD1C

Blue LED



Rev A1, Page 1/7

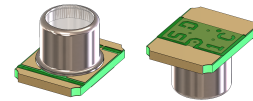
FEATURES

- ◆ Emission peak at 460 nm
- ◆ Narrow irradiance pattern
- ◆ High temperature range -40 to 100 °C
- ◆ High switching speed
- ◆ Packages suitable for SMT mounting
- ◆ RoHS conform

APPLICATIONS

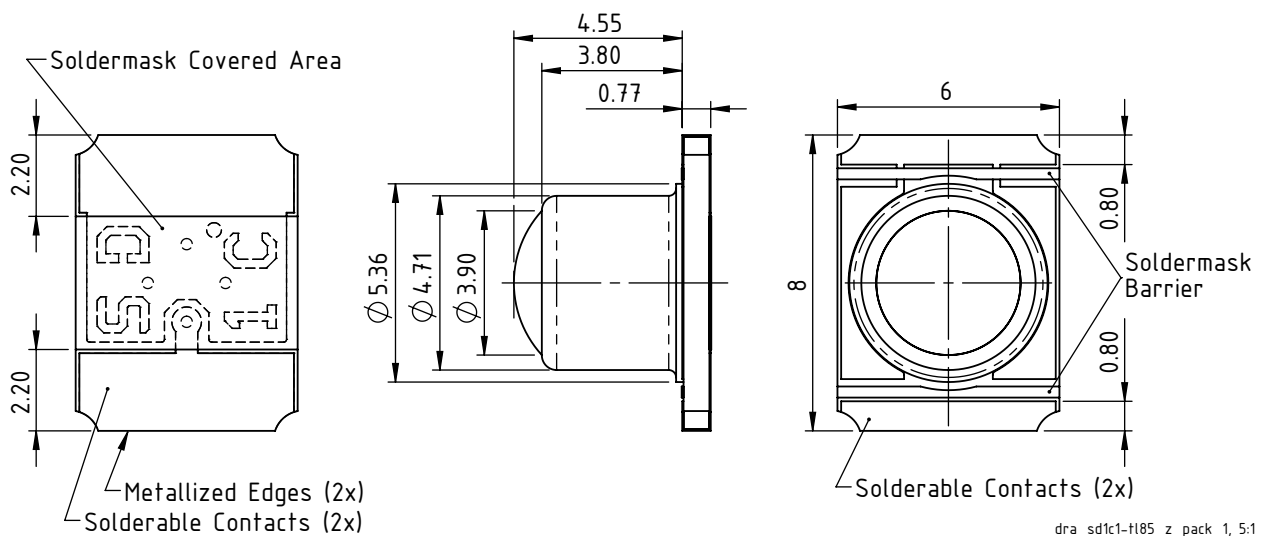
- ◆ Illumination for high resolution optical encoder
- ◆ Modulated light barriers

PACKAGE



BLCC SD1C

DIMENSIONS



iC-TL46 BLCC SD1C

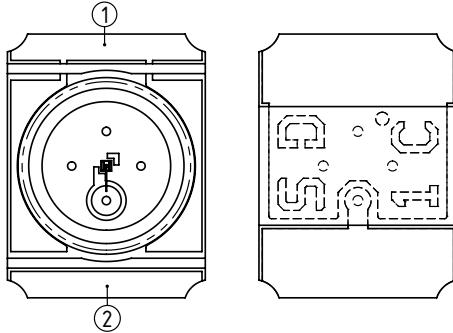
Blue LED



Rev A1, Page 2/7

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
				Min.	Max.	
G001	IF	Forward Current (DC)			50	mA
G002	IFSM	Surge Forward Current	1/10 duty cycle @ 1 kHz		100	mA
G003	VR	Reverse Voltage			5	V
G004	P	Power Dissipation	Case temperature 25°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.

iC-TL46 BLCC SD1C

Blue LED



Rev A1, Page 3/7

THERMAL DATA

Item No.	Symbol	Parameter	Conditions				Unit
				Min.	Typ.	Max.	
T01	Ta	Operating Ambient Temperature Range		-40		100	°C
T02	Ts	Storage Temperature Range		-40		100	°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.	
Electrical and Optical Characteristics							
001	V _F	Forward Voltage	IF = 20 mA		2.9	3.8	V
002	V _R	Reverse Voltage	IR = 5 μA	5			V
003	φ _e	Radiant Power	IF = 20 mA	5	6.5		mW
004	TK(φ _e)	Temperature Coefficient of Radiant Power	IF = 20 mA, T _j = 25 °C...125 °C		-0.3		%/K
005	λ _p	Peak Wavelength	IF = 20 mA	450	460	470	nm
006	Δλ	Spectral Half Width	IF = 20 mA		25		nm
007	2φ	Divergence, Far Field	IF = 20 mA, FWHM (Full Width Half Maximum)		3.5		deg.
008	tr, tf	Switching Time	Pulsed IF = 100 mA, RL = 50 Ω		20		ns

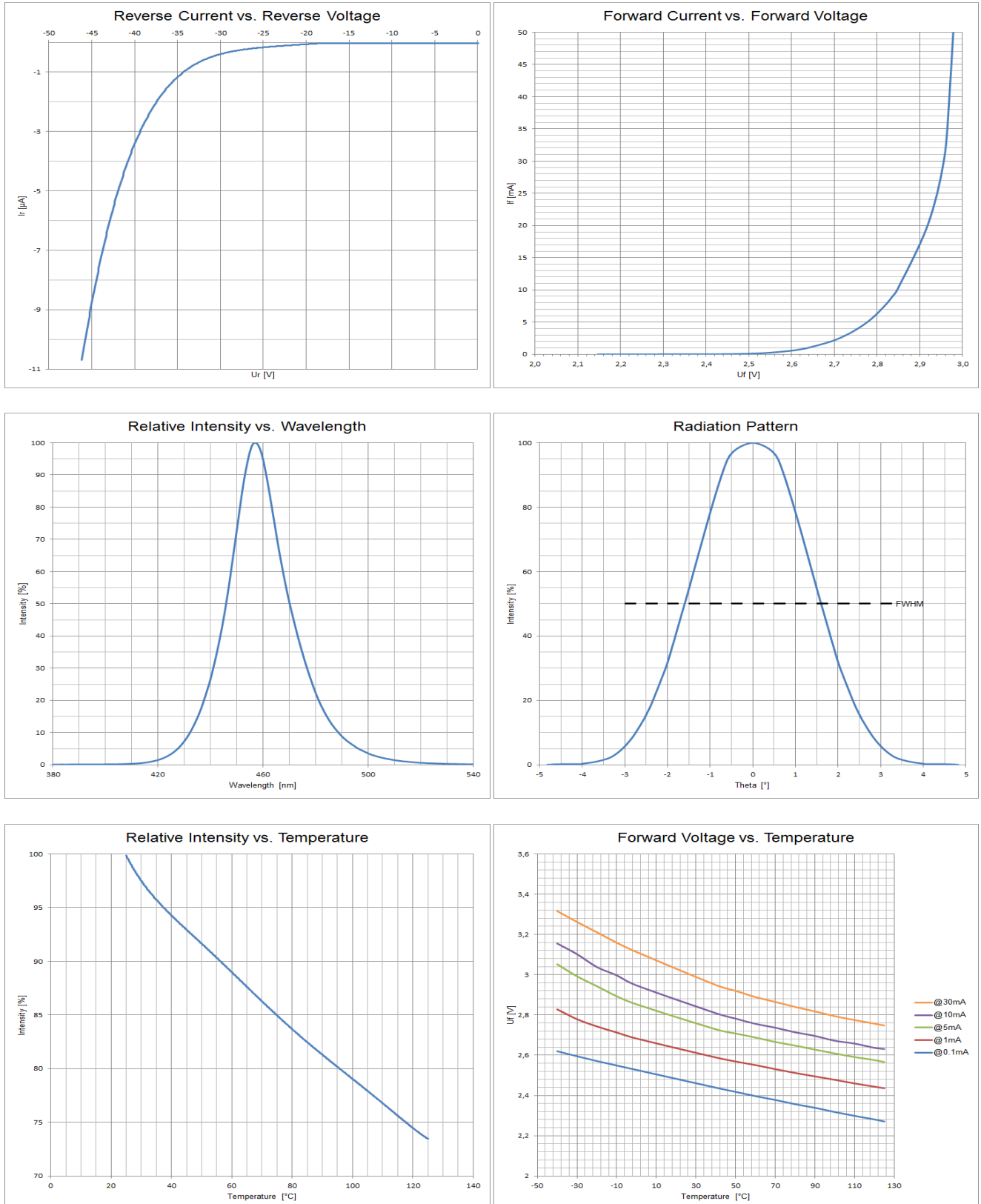
iC-TL46 BLCC SD1C

Blue LED



Rev A1, Page 4/7

DIAGRAMS



iC-TL46 BLCC SD1C

Blue LED



Rev A1, Page 5/7

SAFETY ADVICES

Depending on the mode of operation, these devices emit highly concentrated visible blue 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-TL46

No.	Chip Design	Function, Parameter/Code	Description and Application Hints
-----	-------------	--------------------------	-----------------------------------

Table 4: Notes on chip characteristics

iC-TL46 BLCC SD1C

Blue LED



Rev A1, Page 6/7

REVISION HISTORY

Rel	Rel.Date	Chapter	Modification	Page
A1		...	Initial release	all

iC-Haus expressly reserves the right to change its products and/or specifications. An info letter gives details as to any amendments and additions made to the relevant current specifications on our internet website www.ichaus.com/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 and does not assume liability for any errors or omissions in these 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 products are not designed for and must not be used in connection with any applications where the failure of such products would reasonably be expected to result in significant personal injury or death (*Safety-Critical Applications*) without iC-Haus' specific written consent. Safety-Critical Applications include, without limitation, life support devices and systems. iC-Haus products are not designed nor intended for use in military or aerospace applications or environments or in automotive applications unless specifically designated for such use by iC-Haus.

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.

iC-TL46 BLCC SD1C

Blue LED



Rev A1, Page 7/7

ORDERING INFORMATION

Type	Package	Order Designation
iC-TL46	2-Pin BLCC, 8 mm x 6 mm, height 5.3 mm RoHS compliant	iC-TL46 BLCC SD1C

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

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

Tel.: +49 (0) 61 35-9292-0
Fax: +49 (0) 61 35-9292-192
Web: <http://www.ichaus.com>
E-Mail: sales@ichaus.com

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