

iC-SG85 BLCC SG1C

Infrared LED

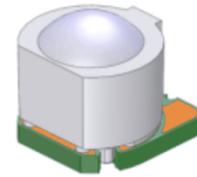
FEATURES

- ◆ 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

APPLICATIONS

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

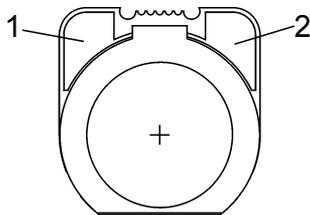
PACKAGES



SG1C

PACKAGES (top view)

PIN CONFIGURATION SG1C



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	Min.		Max.	Unit
G001	IF	Forward current (DC)				100	mA
G002	IFSM	Surge forward current	$t_p \leq 10 \mu s$, 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.

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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	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

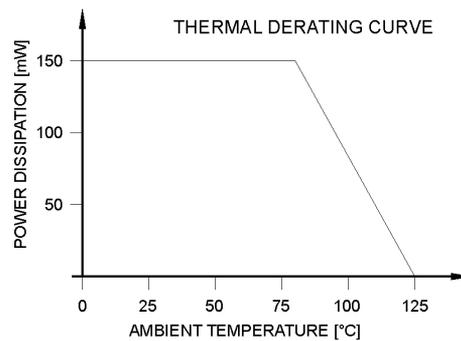


Figure 1: Maximum power dissipation with respect to temperature

ELECTRICAL CHARACTERISTICS

Tamb = 25°C, unless otherwise noted

Item No.	Symbol	Parameter	Conditions	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	IF = 20 mA		2.7		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.

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PACKAGE DIMENSIONS

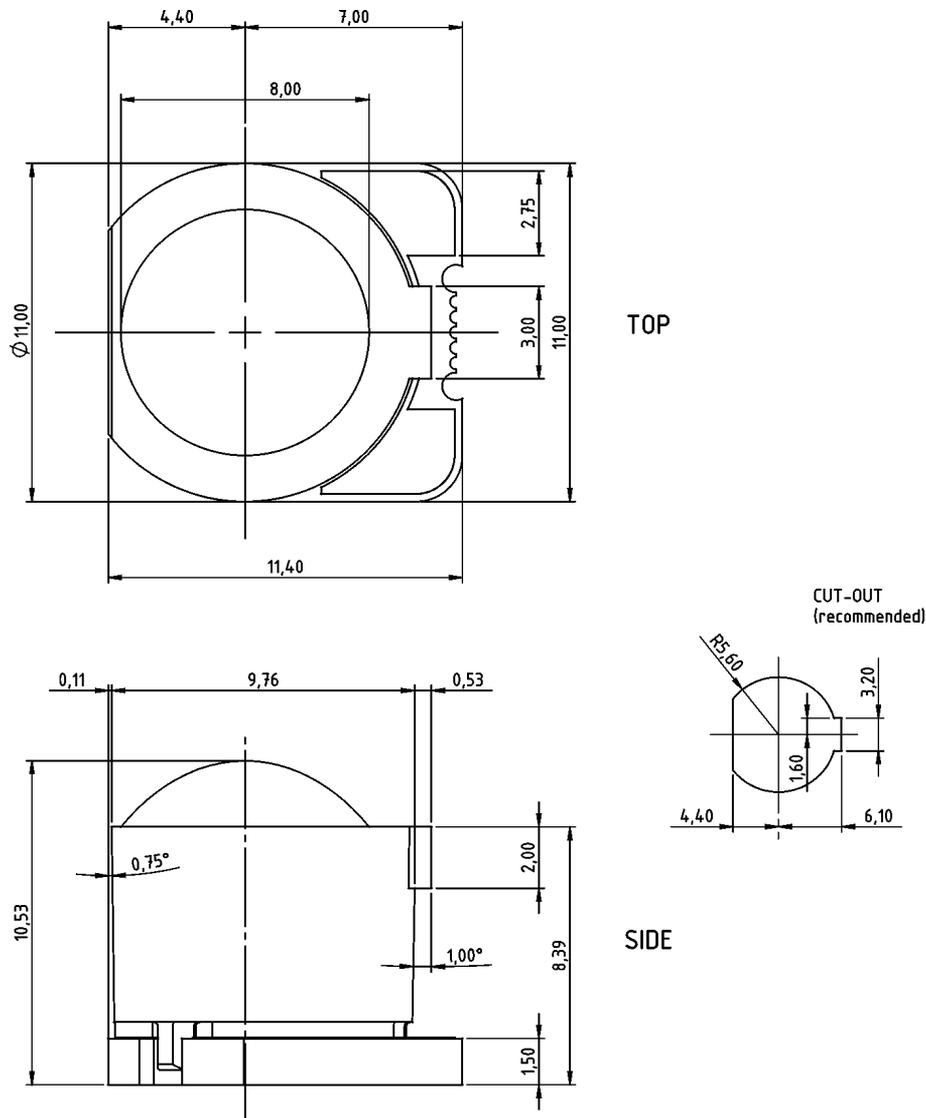


Figure 2: Package view

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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.

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preliminary



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ORDERING INFORMATION

Type	Package	Order Designation
iC-SG85	SG1C	iC-SG85 BLCC SG1C

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