iC-SG85 BLCC SG1C

Infrared LED

preliminary

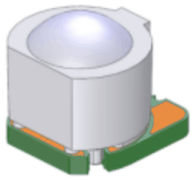
FEATURES

- 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

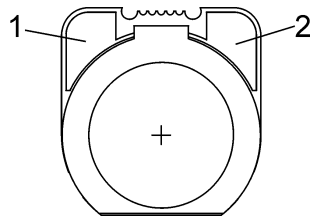
PACKAGES



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	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.

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

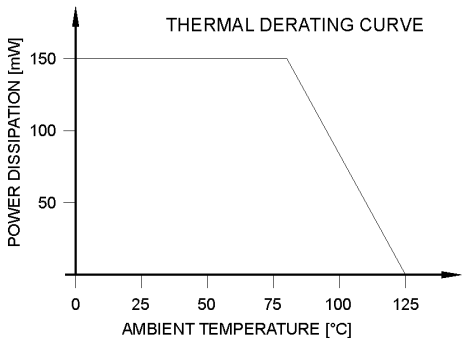


Figure 1: Maximum power dissipation with respect to temperature

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	Φ_e	Radiant power	IF = 20 mA		2.7		mW
004	TK(Φ_e)	Temperature coefficient of radiant power	IF = 20 mA, Tamb = 25°C...125°C		-0.6		%/K
005	λ_p	Peak wavelength	IF = 20 mA	840	850	860	nm
006	$\Delta\lambda$	Spectral half width	IF = 10 mA		30		nm
008	tr, tf	Switching time	IF = 100 mA, RL = 50 Ω		12		ns

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

PACKAGE DIMENSIONS

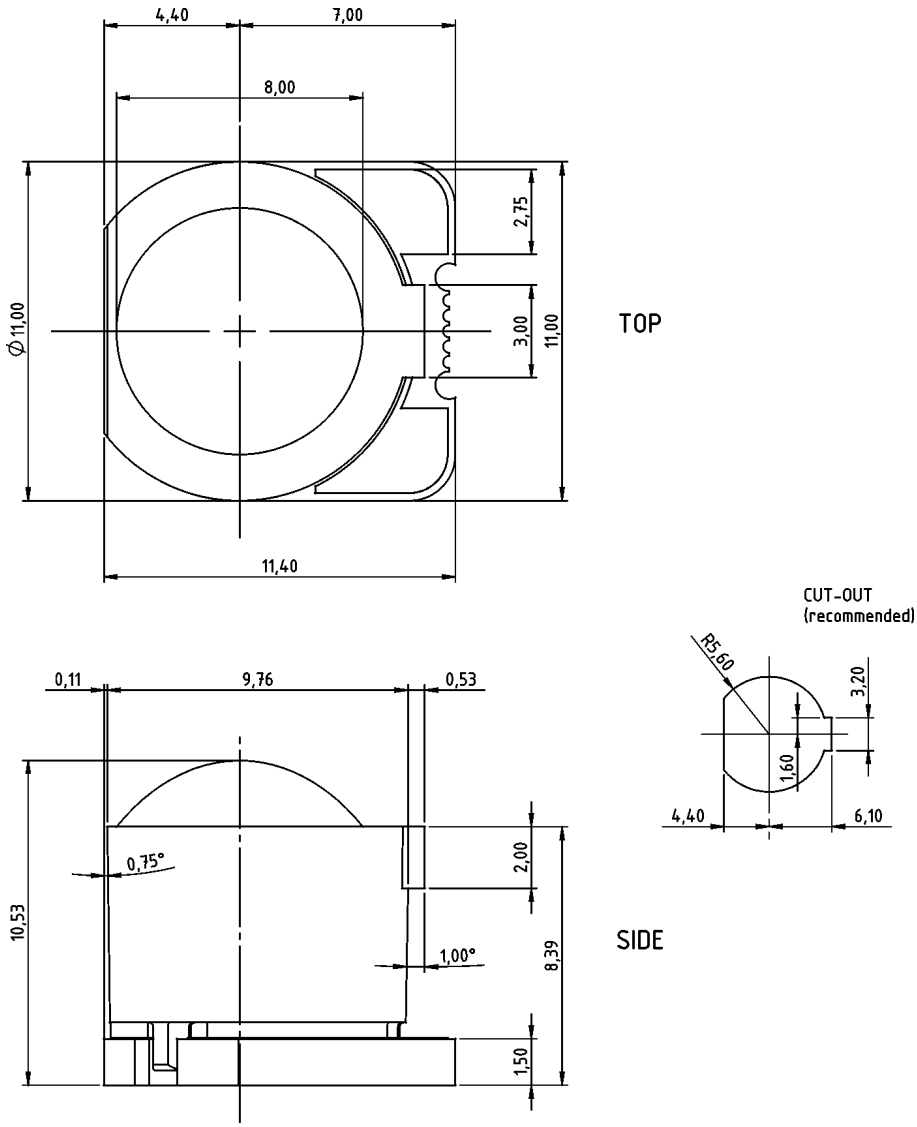


Figure 2: Package view

ORDERING INFORMATION

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

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

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