

iC-SG85 BLCC SG4C

Infrared LED

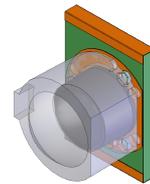
FEATURES

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

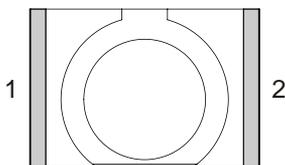
PACKAGES



SG4C

PACKAGES (top view)

PIN CONFIGURATION SG4C



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	Limits		Unit
				Min.	Max.	
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.

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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

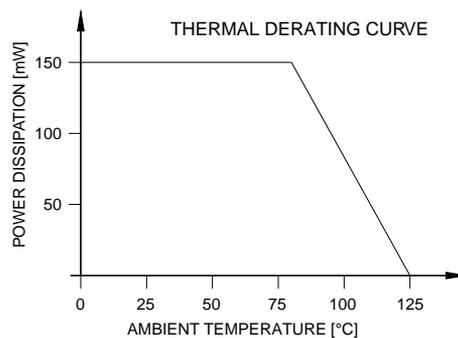


Figure 1: Maximum power dissipation with respect to temperature

ELECTRICAL CHARACTERISTICS

Tamb = 25°C, unless otherwise noted

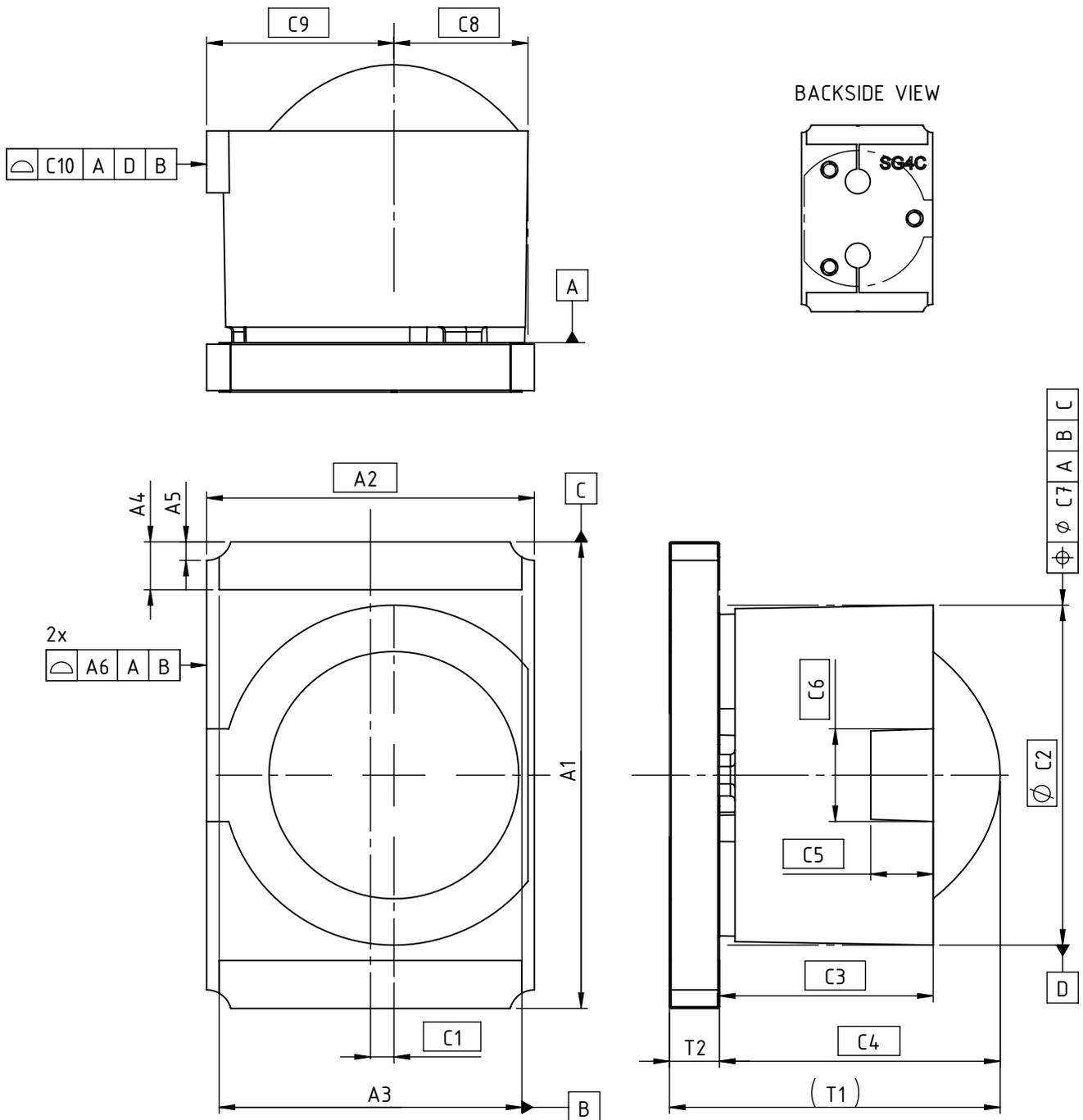
Item No.	Symbol	Parameter	Conditions				Unit
				Min.	Typ.	Max.	
Electrical and Optical Characteristics							
001	VF	Forward voltage	IF = 20 mA		1.4	1.8	V
002	VR	Reverse voltage	IR = 5 μA	5			V
003	Φe	Radiant power	IF = 20 mA		2.7		mW
004	TK(Φe)	Temperature coefficient of radiant power	IF = 20 mA, Tamb = 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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PHYSICAL DIMENSIONS



$\frac{\text{C11}}{\text{A}} \frac{\text{D}}{\text{B}}$: ALL LENS SURFACES UNLESS OTHERWISE SPECIFIED

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DIMENSION TABLE

Item	Parameter	Comment	Value			Unit
			Min	Typ	Max	
	Substrate					
A1	Outline Y			15.00		mm
A2	Outline X			10.50		mm
A3	Lead Dimension			9.70	±0.05	mm
A4	Lead Width			1.50	±0.15	mm
A5	Notch				0.80	mm
A6	Outline Profile Tolerance	2x, with respect to Leads			0.50	mm
	Lens					
C1	Position Lens vs. Center			0.75		mm
C2	Lens Body Diameter			11.00		mm
C3	Lens Body Height	Base to Shoulder		6.85		mm
C4	Lens Body Height	Base to Tip		9.00		mm
C5	Lug Length			2.00		mm
C6	Lug Width			3.00		mm
C7	Positional Tolerance Lens	vs. Leads			0.15	mm
C8	Lens Flat	vs. Center of Lens		4.30		mm
C9	Lug Extension	vs. Center of Lens		6.00		mm
C10	Lug Profile Tolerance				0.20	mm
C11	Lens Profile Tolerance	all Surfaces			0.05	mm
	Thickness Specifications					
T1	Overall Thickness		10.40		10.90	mm
T2	Substrate Thickness		1.45		1.85	mm

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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	SG4C	iC-SG85 BLCC SG4C

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

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