iC-SD85 oLGA SD2C-2

Infrared LED

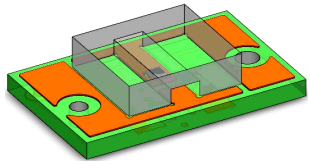
FEATURES

- Emission peak at 850 nm matched to silicon sensors
- Broad irradiance pattern (lambertian profile)
- High temperature range -40 to 125 °C
- High optical output power
- Fast switching speed
- Packages suitable for SMT mounting

APPLICATIONS

- Illumination for high resolution optical encoder
- Modulated light barriers

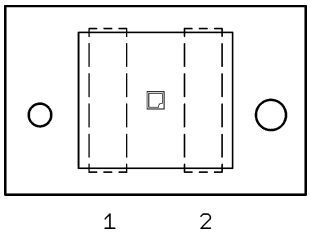
PACKAGES



8.0 mm x 5.0 mm
RoHS compliant

PACKAGES (top view)

PIN CONFIGURATION SD2C



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	Reflow Soldering Peak Temperature for SD2C Package	tpk < 20 s, convection reflow tpk < 20 s, vapour phase TOL (time on label) 8h: please refer to customer information file No. 7 for details.			245 230	°C °C
T04	Rthja	Thermal resistance junction to ambient			600		K/W
T05	Tj	Junction Temperature		-40		125	°C

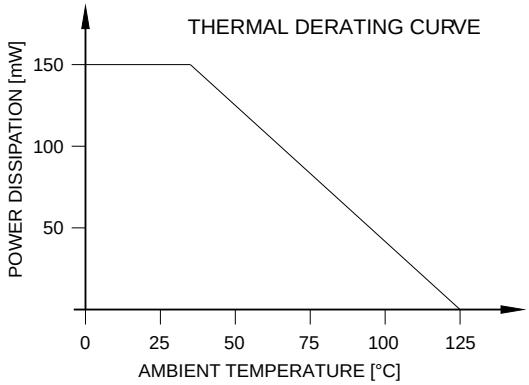


Figure 1: Maximum power dissipation with respect to temperature

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, SD2C package	IF = 20 mA; only radiation emitted from surface C1*C2 is evaluated	2.4	4		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

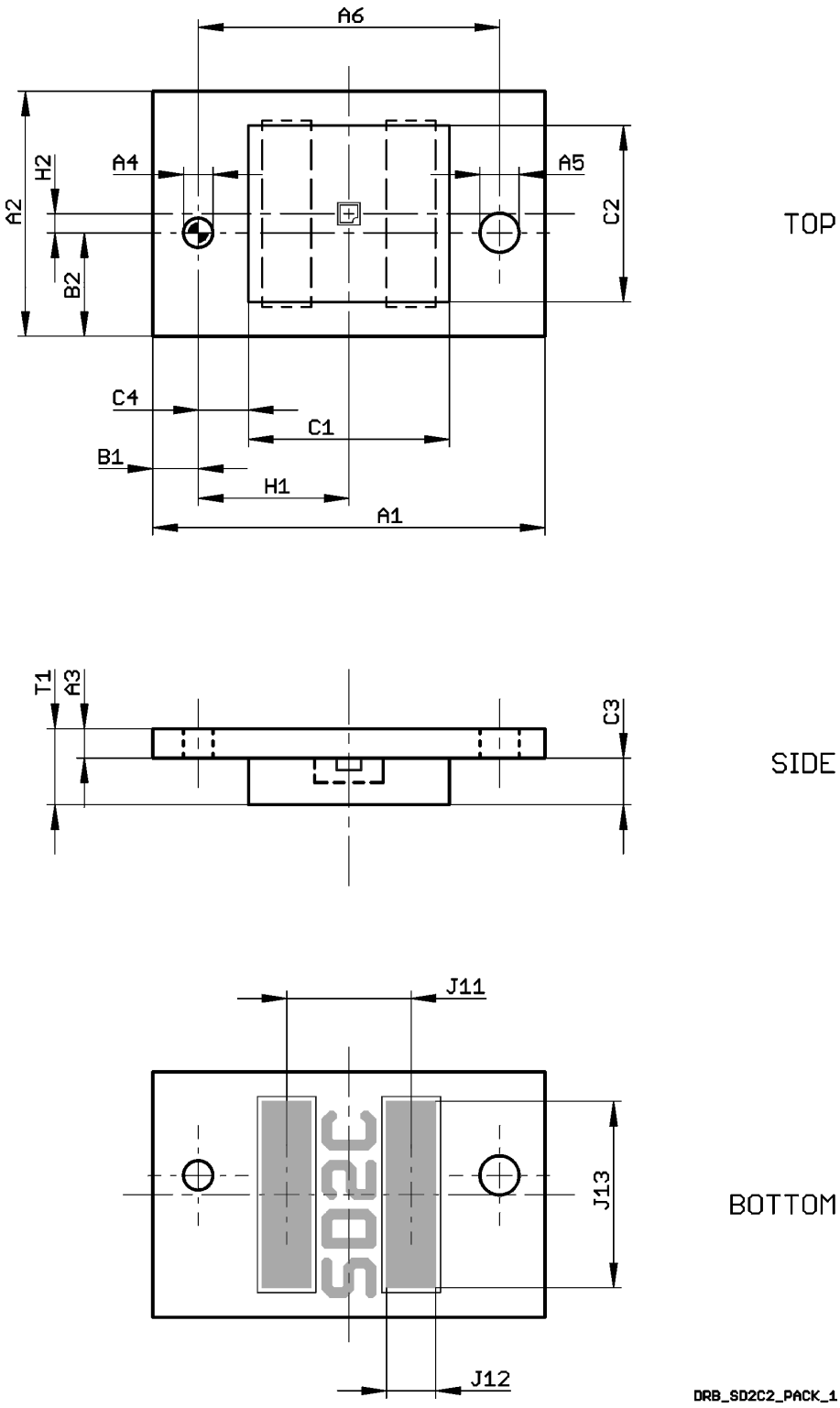


Figure 2: Package view

Item	Parameter	Comments	Min.	Typ.	Max.	Tolerance	Unit
	Substrate and Alignment Holes						
A1	Outline X			8.0		±0.1	mm
A2	Outline Y			5.0		±0.1	mm
A4	Hole Diameter			0.6		+0.05	mm
A5	Hole Diameter 2			0.8		+0.05	mm
A6	Hole Distance			6.15		±0.05	mm
	Reference						
B1	Outline vs. Reference X			0.925		±0.15	mm
B2	Outline vs. Reference Y			2.11		±0.15	mm
	Cover Size and Shape						
C1	Cover Size X				4.2		mm
C2	Cover Size Y				3.7		mm
C3	Cover Thickness	metal-top to cover-surface	0.6		1.15		mm
C4	Distance Hole vs. Glass Edge		0.825				mm
	Chip Placement						
H1	Chip Position vs. Reference X			3.075		±0.125	mm
H2	Chip Position vs. Reference Y			0.39		±0.125	mm
	Bottom Metal Pattern						
J11	Lead Pitch X			2.54		±0.03	mm
J12	Lead Size X			1.0		±0.03	mm
J13	Lead Size Y			3.8		±0.03	mm
	Thickness Specifications						
T1	Overall Thickness		1.15		1.85		mm
A3	Substrate Thickness	bottom package to metal-top (snap-fit area)	0.55		0.7		mm

ORDERING INFORMATION

Type	Package	Order Designation
iC-SD85	SD2C-2	iC-SD85 oLGA SD2C-2

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

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