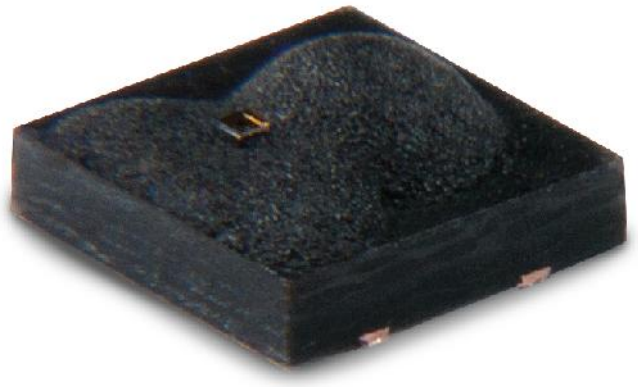
DATASHEET
Solid State Lighting

SharpDot™ Point Source LED



Overview

At Excelitas, we focus on supplying the very best Point Source LEDs for our customers' red dot applications. Excelitas's RCLED technology is optimized for energy efficiency so you can extend your battery life beyond typical RCLEDs. The emission pattern from our RCLED is very narrow, minimizing stray light and allowing for a well-defined and uniform red dot. The SharpDot Point Source LED can operate at very low currents, ideal for night vision applications. Our special black encapsulation also helps minimize unwanted reflections.

While all Point Source LED designs need to be robust, durable and energy-efficient, we recognize that every red dot application is different and each customer has unique requirements. Whether your goal is reducing power consumption, reducing stray light, meeting night vision low current operation, special colors, adhering to extreme elements— or all of the above—we specialize in customer specific designs for your most demanding applications.

Excelitas' SharpDot Point Source LEDs are available in a variety of readily available dot sizes. Please talk with our Application Engineers for any special requirements or sizes you may have.

Key Features

- RCLED technology
- High optical efficiency for long battery life
- Matte black for minimal reflections
- 10 µm, 20µm, 30µm, 40µm & 80µm Point Source sizes standard
- ROHS compliant
- Many options available
  - Custom dot sizes
  - Reticle patterns
  - Assembly on Flex PCB

Ideal for

- Red Dot sights
- Reflex sights

Example Specifications Red*

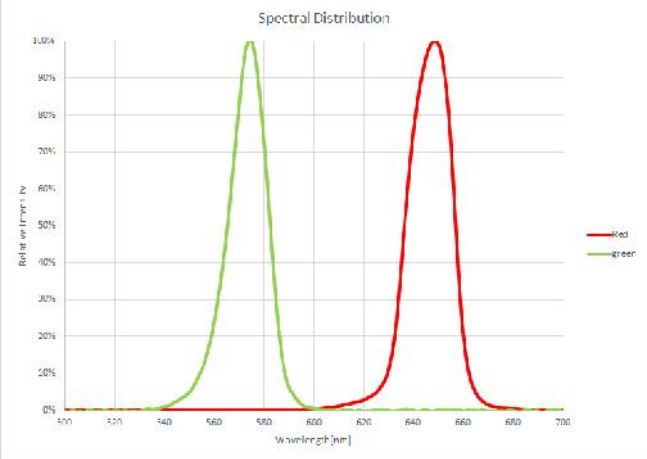
Parameter	Symbol	Unit	Condition	Min	Typ					Max
					Ø 10µm	Ø 20µm	Ø 30µm	Ø 40µm	Ø 80µm	
Radiant Flux	Φe	µW	If=0.5mA	-	15	40	55	60	70	-
			If=1.0mA		25	70	100	120	140	
Luminous Intensity	Iv	mcd	If=0.5mA	-	0,5	1,2	1,5	2,0	2,5	-
			If=1.0mA		1,0	2,0	3,0	3,5	5,0	
Peak wavelength	λp	nm	If=0,5mA	640	650					665
Min. Forward current	If min	µA	-	-	0.015					-
Typ. Forward current	If typ				500					
Max. Forward current	If max				1000	2000	2000	4000	5000	

Example Specifications Green 25µm*

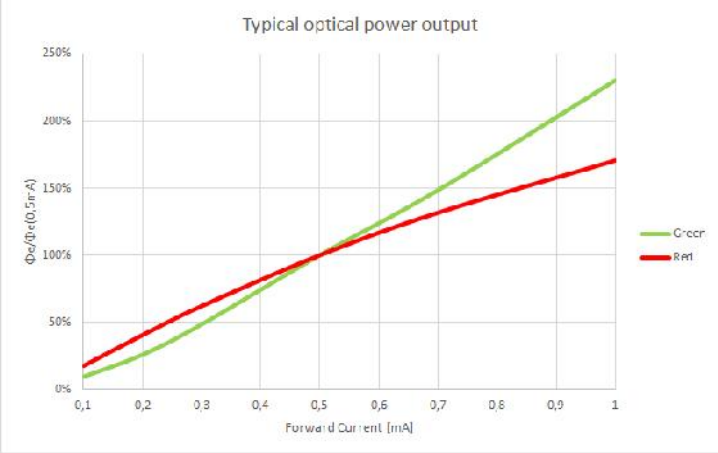
Parameter	Symbol	Unit	Condition	Min	Typ	Max
Radiant flux	Φ_ε	mW	If=5mA		0.10	
Luminous Intensity	I_V	mcd	If=5mA		6.5	
Peak. Wavelength	λ_p	nm	If=5mA	568	575	578
Forward voltage	V_f	V_f	If=5mA		2.3	2.6
Forward current	I_f	mA		0,1	5	5

*Please contact Applications Engineering to discuss your requirements

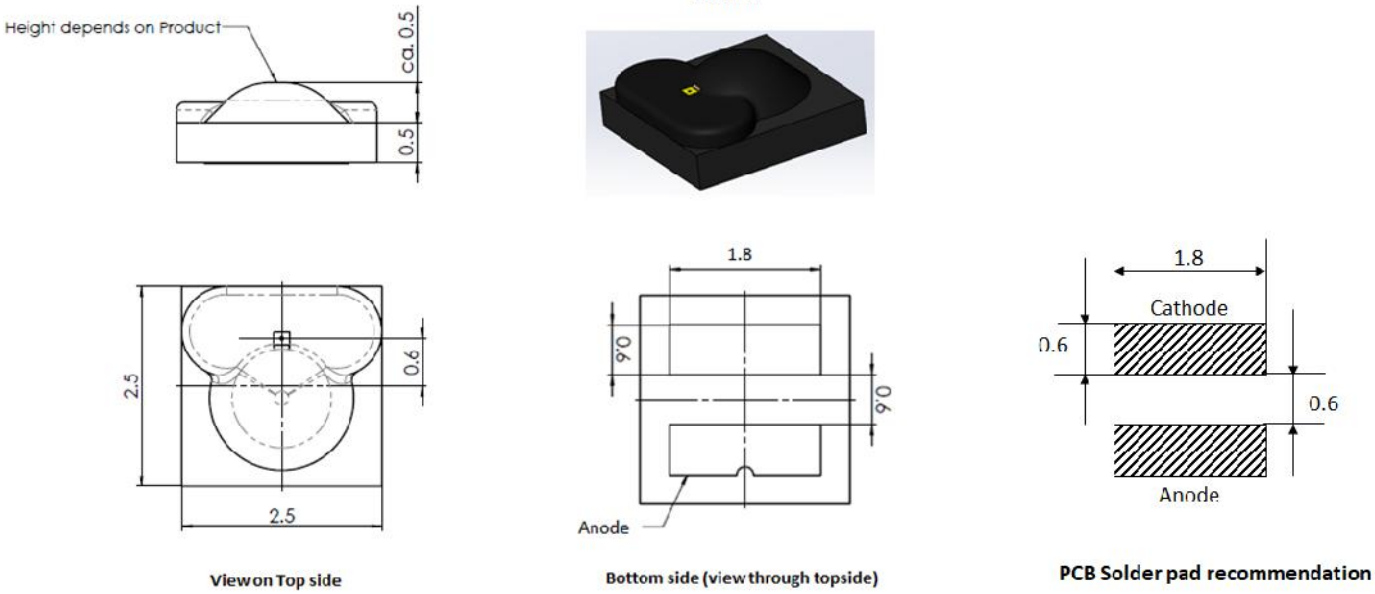
Example spectrum



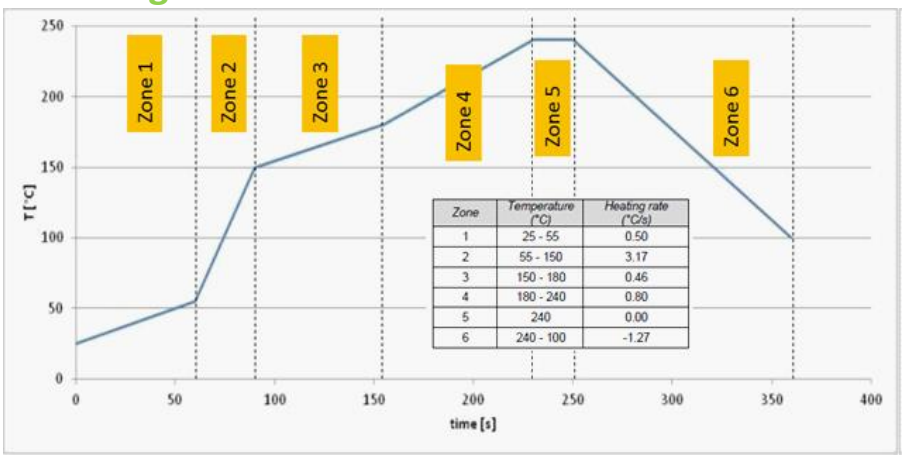
Radiant flux versus current



Mechanical Outline

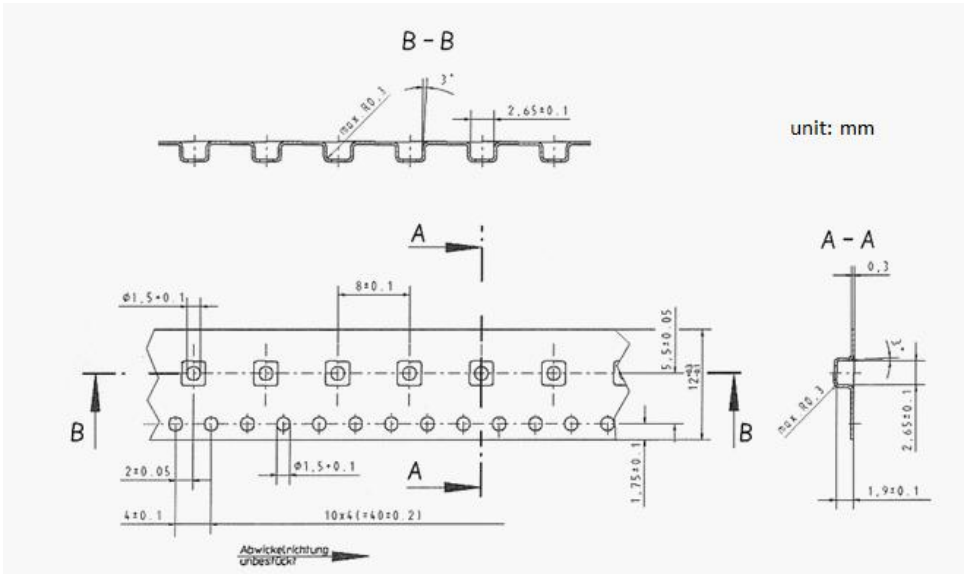


Soldering



Zone	Temperature (°C)	Heating rate (°C/s)
1	25 - 55	0.50
2	55 - 150	3.17
3	150 - 180	0.46
4	180 - 240	0.80
5	240	0.00
6	240 - 100	-1.27

Packaging



About Excelitas Technologies

Excelitas Technologies® Corp. is a photonics technology leader focused on delivering innovative, high-performance, market-driven solutions to meet the lighting, optronics, detection and optical technology needs of our OEM customers.

Serving a vast array of applications across biomedical, scientific, safety, security, consumer products, semiconductor, industrial manufacturing, defense and aerospace sectors, Excelitas stands committed to enabling our customers' success in their end-markets. Our photonics team consists of 7,000 professionals working across North America, Europe and Asia, to serve customers worldwide.

For a complete listing of our global offices, visit www.excelitas.com/locations

EXCELITAS TECHNOLOGIES

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