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 energyefficient, 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.

Example Specifications Red^{*}

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

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

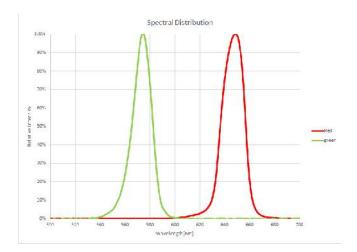
- Red Dot sights
- Reflex sights

Example Specifications Green 25µm*

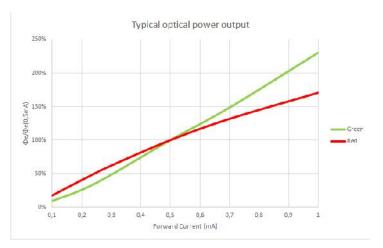
Parameter	Symbol	Unit	Condition	Min	Тур	Max
Radiant flux	Φ_{ϵ}	mW	lf=5mA		0.10	
Luminous Intensity	l _v	mcd	lf=5mA		6.5	
Peak. Wavelength	λ_p	nm	lf=5mA	568	575	578
Forward voltage	V _f	V _f	lf=5mA		2.3	2.6
Forward current	lf	mA		0,1	5	5

*Please contact Applications Engineering to discuss your requirements

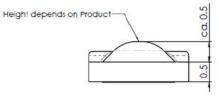
Example spectrum

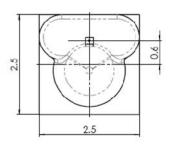


Radiant flux versus current



Mechanical Outline

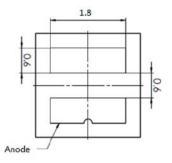




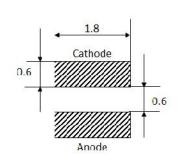
Viewon Top side

Unit: mm



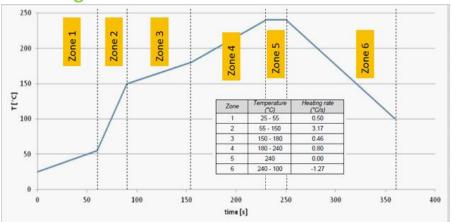


Bottom side (view through topside)

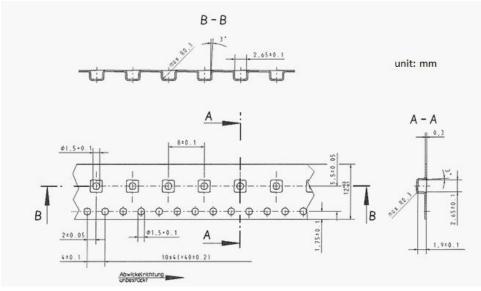


PCB Solder pad recommendation

Soldering



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

©2020 Excelitas Technologies Corp. All rights reserved. The Excelitas logo and design and product trademarks are registered trademarks of Excelitas Technologies Corp. Excelitas reserves the right to change this document at any time without notice and disclaims liability for editorial, pictorial or typographical errors.