Surface Mount High Output Infared LEDs

SIM-040ST Datasheet

●Applications

- Light source for sensors

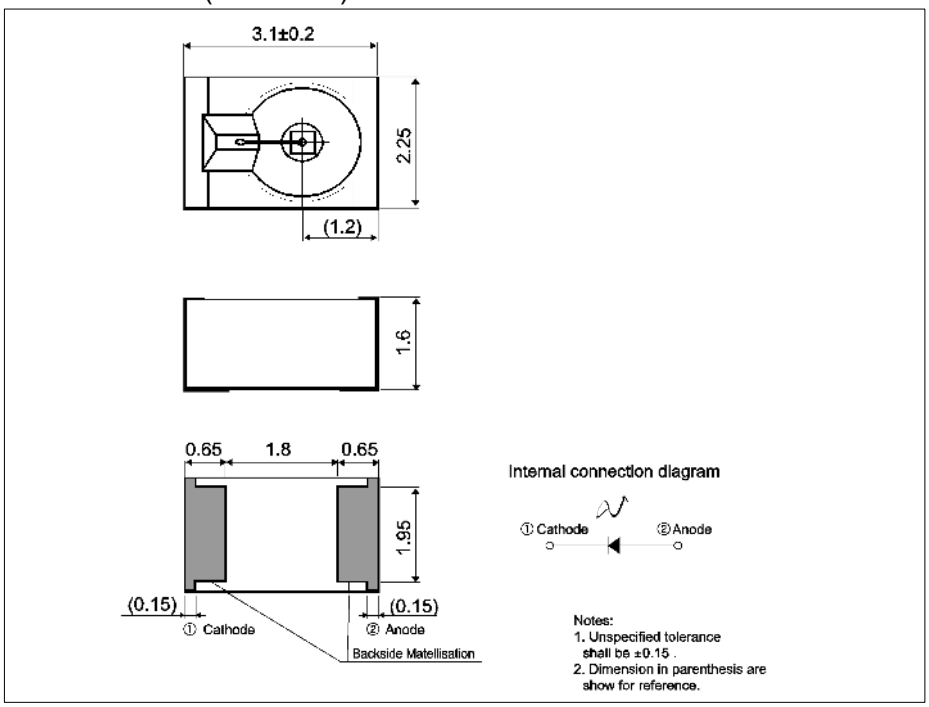
  (proximity sensors,signal transmission applications)

●Outline

●Features

1) Higt compact, low-profile
2) Higt output, over a narrow angle
3) Exellent temperature property
4) Long life,high reliability
5) Original optical tecnology is ultra-high-output surface mount infrared LEDs.

●Dimensions (Unit : mm)



●Absolute maximum ratings (T_a = 25°C)

Parameter	Symbol	Value	Unit
Forward current	I_F	100	mA
Pulse forward current*1	I_{FP}	1	A
Reverse voltage	V_R	5	V
Power dissipation	P_D	180	mW
Operating temperature	T_{opr}	−25 to +85	°C
Storage temperature	T_{stg}	−40 to +85	°C

*1 Pulse width 0.1msec,duty ratio1%

●Electrical and optical characteristics (T_a = 25°C)

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Forward voltage	V_F	I_F =100mA	-	1.7	2.5	V
Reverse current	I_R	V_R =5V	-	-	15	μA
Peak light emitting wavelength	λ_p	I_F =100mA	-	870	-	nm
Spectral line half width	$\Delta\lambda$	I_F =100mA	-	35	-	nm
View angle	θ1/2	-	-	±20	-	deg.
Radiant intensity	I_E	I_F =100mA	20	-	100	mW/sr

* This product is not designed to be protected against electromagnetic wave.

* Non-coherent infrared light emiting diode used.

●Electrical and optical characteristics curves

Fig.1 Forward Current Falloff

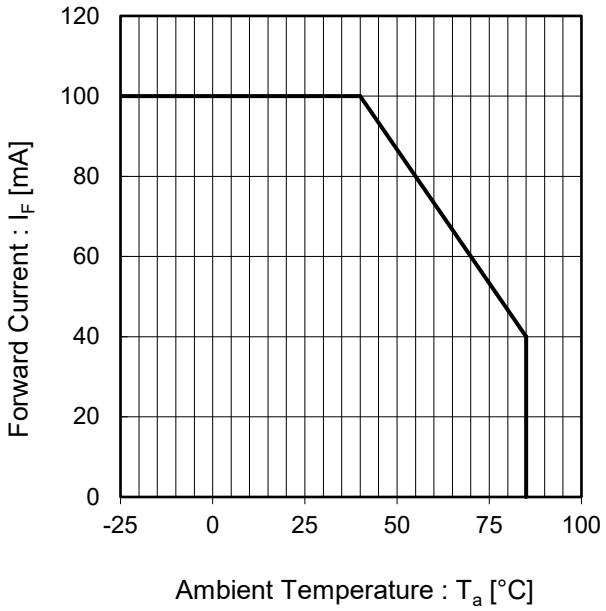


Fig.2 Forward Current vs. Forward Voltage

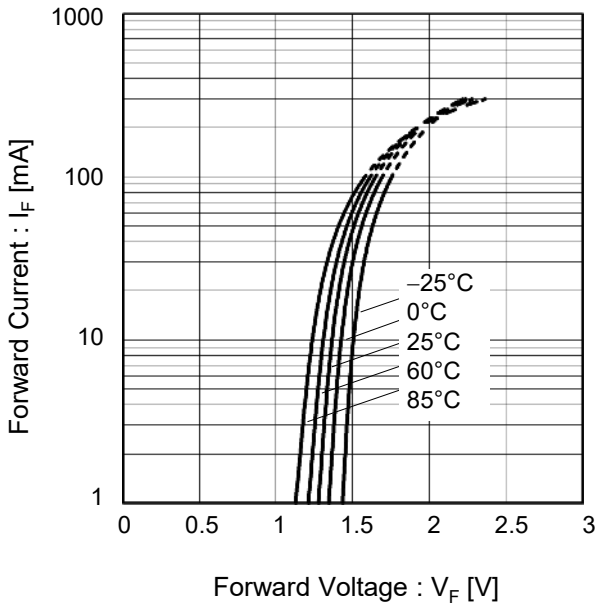


Fig.3 Radiant intensity vs. Forward current

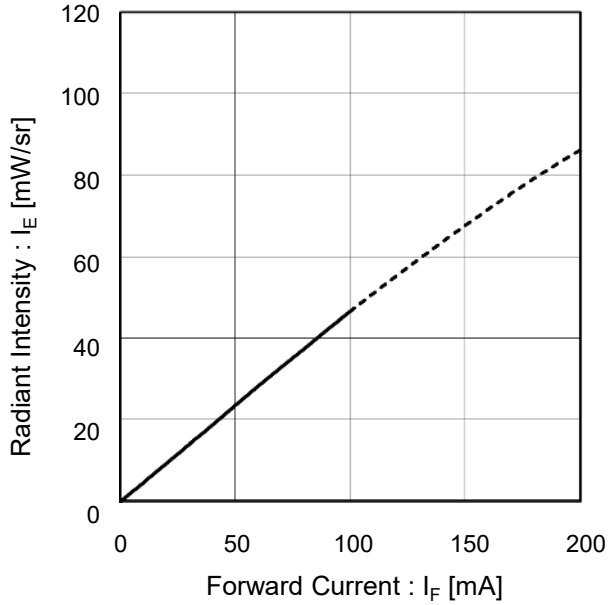
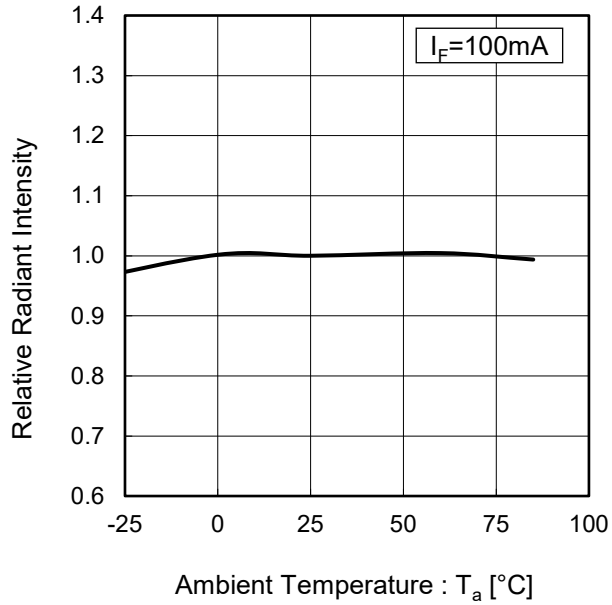


Fig.4 Relative Radiant vs. Ambient Temperature



●Electrical and optical characteristics curves

Fig.5 Spectral data

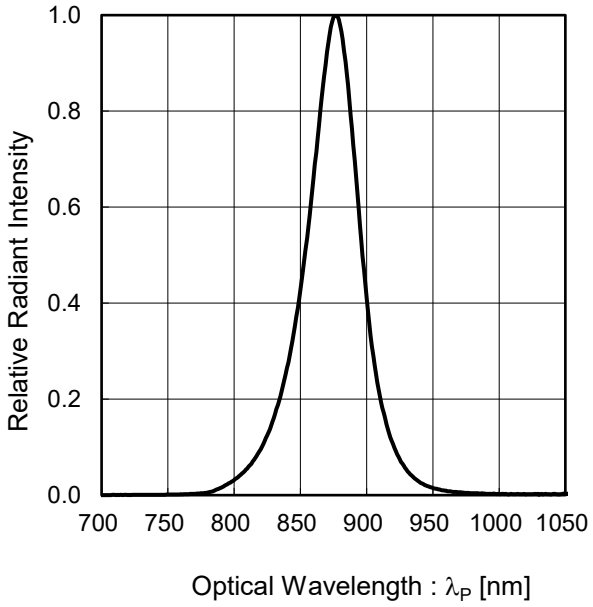


Fig.6 Radiant intensity

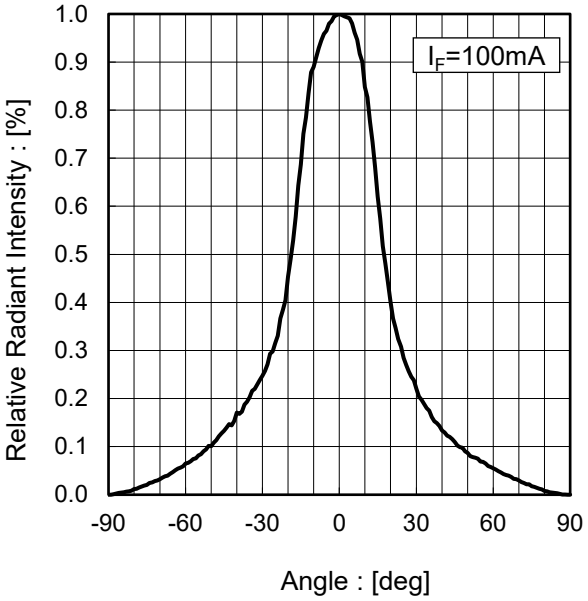
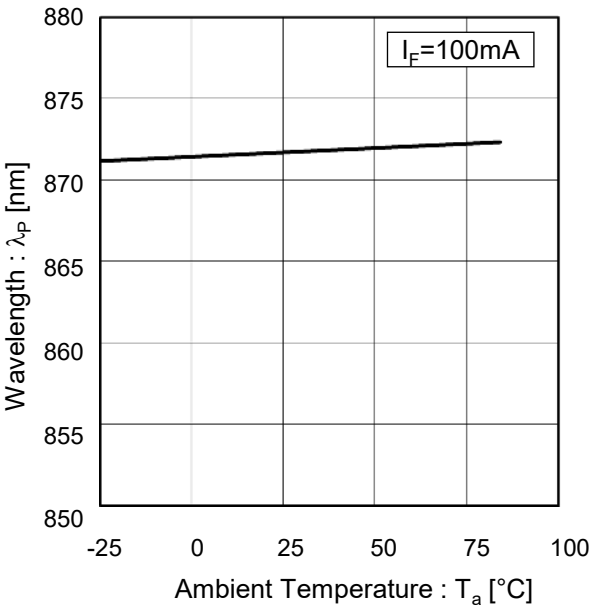


Fig.7 Wavelength vs. Ambient temperature



Notes

1) The information contained herein is subject to change without notice.

2) Before you use our Products, please contact our sales representative and verify the latest specifications.

3) Although ROHM is continuously working to improve product reliability and quality, semiconductors can break down and malfunction due to various factors.
Therefore, in order to prevent personal injury or fire arising from failure, please take safety measures such as complying with the derating characteristics, implementing redundant and fire prevention designs, and utilizing backups and fail-safe procedures. ROHM shall have no responsibility for any damages arising out of the use of our Poducts beyond the rating specified by ROHM.

4) Examples of application circuits, circuit constants and any other information contained herein are provided only to illustrate the standard usage and operations of the Products. The peripheral conditions must be taken into account when designing circuits for mass production.

5) The technical information specified herein is intended only to show the typical functions of and examples of application circuits for the Products. ROHM does not grant you, explicitly or implicitly, any license to use or exercise intellectual property or other rights held by ROHM or any other parties. ROHM shall have no responsibility whatsoever for any dispute arising out of the use of such technical information.

6) The Products are intended for use in general electronic equipment (i.e. AV/OA devices, communication, consumer systems, gaming/entertainment sets) as well as the applications indicated in this document.

7) The Products specified in this document are not designed to be radiation tolerant.

8) For use of our Products in applications requiring a high degree of reliability (as exemplified below), please contact and consult with a ROHM representative : transportation equipment (i.e. cars, ships, trains), primary communication equipment, traffic lights, fire/crime prevention, safety equipment, medical systems, servers, solar cells, and power transmission systems.

9) Do not use our Products in applications requiring extremely high reliability, such as aerospace equipment, nuclear power control systems, and submarine repeaters.

10) ROHM shall have no responsibility for any damages or injury arising from non-compliance with the recommended usage conditions and specifications contained herein.

11) ROHM has used reasonable care to ensure the accuracy of the information contained in this document. However, ROHM does not warrants that such information is error-free, and ROHM shall have no responsibility for any damages arising from any inaccuracy or misprint of such information.

12) Please use the Products in accordance with any applicable environmental laws and regulations, such as the RoHS Directive. For more details, including RoHS compatibility, please contact a ROHM sales office. ROHM shall have no responsibility for any damages or losses resulting non-compliance with any applicable laws or regulations.

13) When providing our Products and technologies contained in this document to other countries, you must abide by the procedures and provisions stipulated in all applicable export laws and regulations, including without limitation the US Export Administration Regulations and the Foreign Exchange and Foreign Trade Act.

14) This document, in part or in whole, may not be reprinted or reproduced without prior consent of ROHM.

ROHM SEMICONDUCTOR

Thank you for your accessing to ROHM product informations.
More detail product informations and catalogs are available, please contact us.

ROHM Customer Support System

http://www.rohm.com/contact/

General Precaution

1. Before you use our Products, you are requested to carefully read this document and fully understand its contents. ROHM shall not be in any way responsible or liable for failure, malfunction or accident arising from the use of any ROHM's Products against warning, caution or note contained in this document.

2. All information contained in this document is current as of the issuing date and subject to change without any prior notice. Before purchasing or using ROHM's Products, please confirm the latest information with a ROHM sales representative.

3. The information contained in this document is provided on an "as is" basis and ROHM does not warrant that all information contained in this document is accurate and/or error-free. ROHM shall not be in any way responsible or liable for any damages, expenses or losses incurred by you or third parties resulting from inaccuracy or errors of or concerning such information.