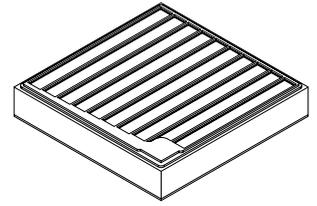


ODI3939TF.A1-850

OS-CORE® AlGaAs



Features:

- Polarity: n-side up
- Chip technology: IR Thinfilm
- Color: • infrared (850 nm)
- Chipsize: 39 mil x 39 mil

Ordering Information

Type
ODI3939TF.A1-850-MM-MM-1-C

Ordering Code
Q65112A8387

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Maximum Ratings

Parameter	Symbol		Values
Operating Temperature	T_{op}	min.	-40 °C
		max.	125 °C
Storage Temperature ¹⁾	T_{stg}	min.	-40 °C
		max.	125 °C
Recommended Die Storage Temperature ≤ 60% RH	$T_{stg\ die}$	max.	30 °C
Junction Temperature	T_j	max.	145 °C
Forward Current $T_j = 25\text{ °C}$	I_F	max.	1000 mA
Forward Current Pulsed $t \leq 10\ \mu s$; $D = 0.005$; $T_j = 25\text{ °C}$	$I_{F\ pulse}$	max.	2000 mA
Reverse voltage ²⁾ $T_j = 25\text{ °C}$	V_R	max.	5 V

Characteristics

$I_F = 1000\text{ mA}$; $T_j = 25\text{ °C}$

Parameter	Symbol		Values
Centroid Wavelength ³⁾ $I_F = 1000\text{ mA}$	$\lambda_{centroid}$	min.	840 nm
		max.	860 nm
Forward Voltage ⁴⁾ $I_F = 1000\text{ mA}$	V_F	min.	1.35 V
		typ.	1.65 V
		max.	1.95 V

Additional Information

Die bonding	Metalization frontside	Metalization backside
Paste solder bonding SAC reflow soldering Adhesive bonding	Gold	Gold

Brightness and Wavelength Groups ⁵⁾³⁾

$I_F = 1000 \text{ mA}$

Radiant Intensity

I_e
a. u.

Centroid Wavelength

$\lambda_{\text{centroid}}$
nm
840 - 860

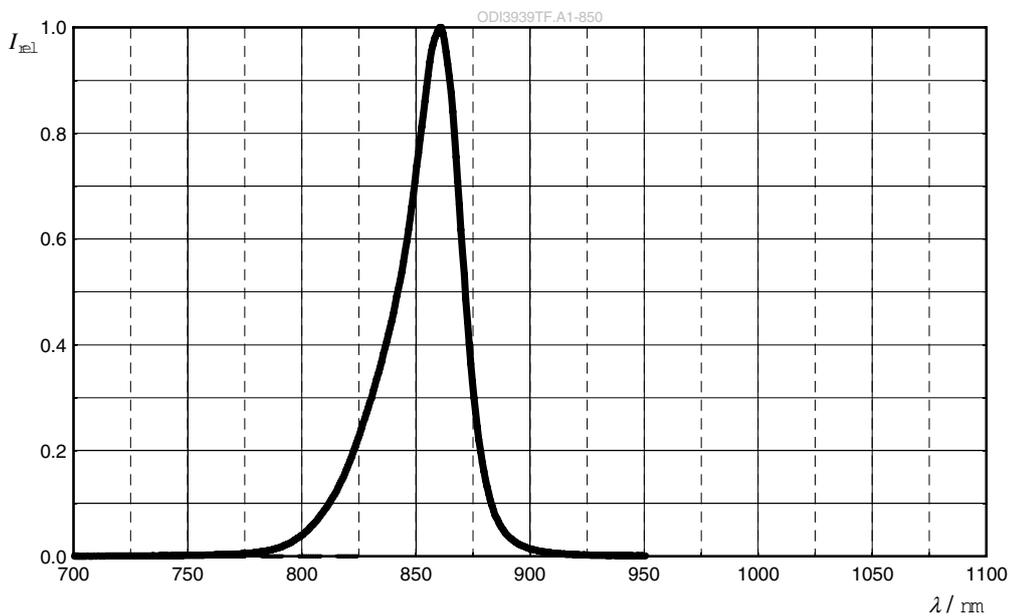
1500 - 2600

J40

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Relative Spectral Emission ⁶⁾

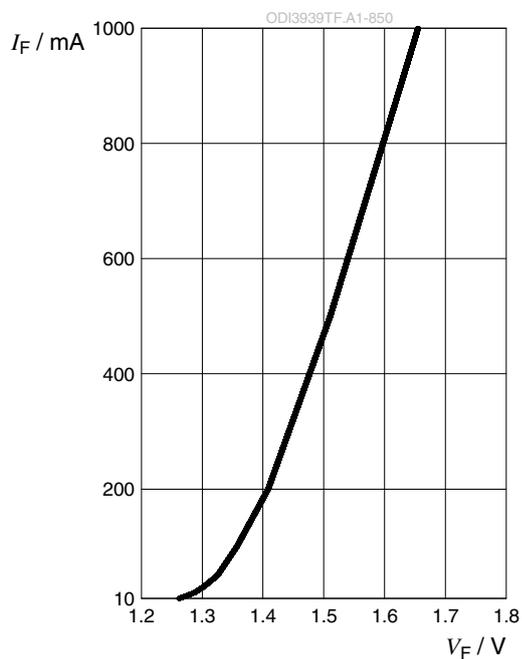
$I_{rel} = f(\lambda)$; $I_F = 1000 \text{ mA}$; $T_S = 25 \text{ °C}$



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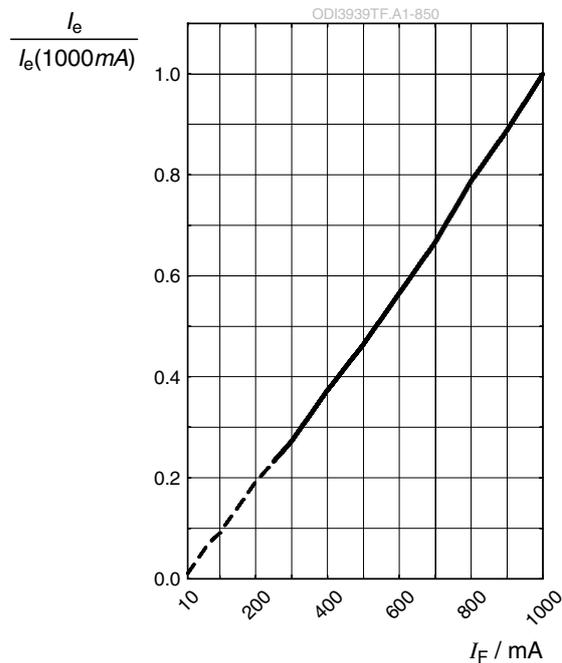
Forward current ⁶⁾

$I_F = f(V_F); T_S = 25\text{ °C}$



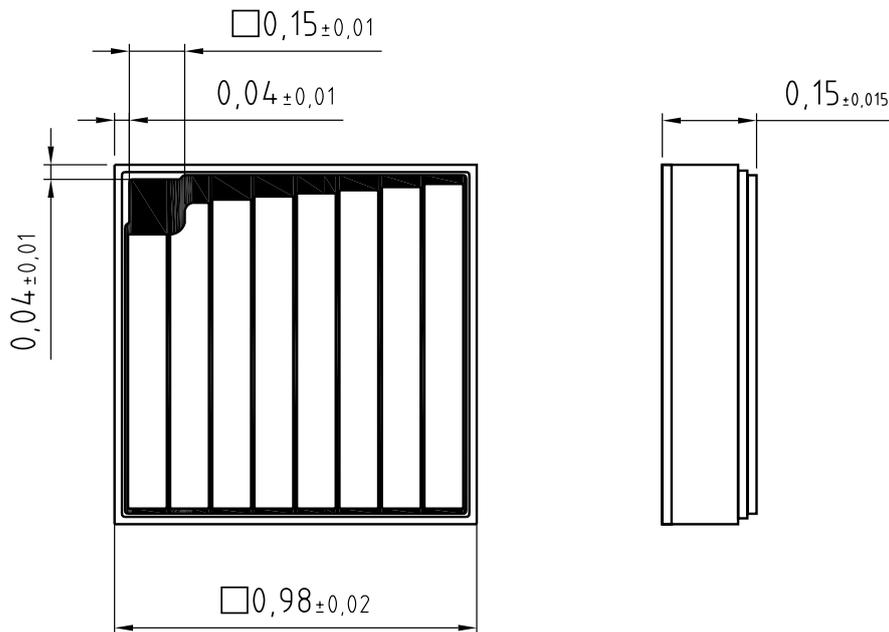
Relative Radiant Intensity ^{6), 7)}

$I_E/I_E(1000\text{ mA}) = f(I_F); T_S = 25\text{ °C}$



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Dimensional Drawing ⁸⁾



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Please use the recycling operators known to you. We can also help you – get in touch with your nearest sales office.

By agreement we will take packing material back, if it is sorted. You must bear the costs of transport. For packing material that is returned to us unsorted or which we are not obliged to accept, we shall have to invoice you for any costs incurred.

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In case Buyer – or Customer supplied by Buyer– considers using OSRAM OS components in product safety devices/applications or medical devices/applications, Buyer and/or Customer has to inform the local sales partner of OSRAM OS immediately and OSRAM OS and Buyer and /or Customer will analyze and coordinate the customer-specific request between OSRAM OS and Buyer and/or Customer.

Glossary

- 1) **Shelf life:** Temperature refer solely to storage of finished LED product (Not valid for chip on die sheet).
- 2) **Reverse Operation:** Reverse Operation of 10 hours is permissible in total. Continuous reverse operation is not allowed.
- 3) **Wavelength:** The wavelength is measured at a current pulse of typically 10 ms and with an internal reproducibility of ± 1 nm (with a coverage factor of $k = 3$).
- 4) **Forward Voltage:** The forward voltage is measured during a current pulse of typically 5 ms and with an internal reproducibility of ± 0.1 V (with a coverage factor of $k = 3$).
- 5) **Brightness:** Brightness values are measured during a current pulse of typically 10 ms and with an internal reproducibility of ± 8 % (with a coverage factor of $k = 3$).
- 6) **Typical Values:** Due to the special conditions of the manufacturing processes of semiconductor devices, the typical data or calculated correlations of technical parameters can only reflect statistical figures. These do not necessarily correspond to the actual parameters of each single product, which could differ from the typical data and calculated correlations or the typical characteristic line. If requested, e.g. because of technical improvements, these typ. data will be changed without any further notice.
- 7) **Characteristic curve:** In the range where the line of the graph is broken, you must expect higher differences between single devices within one packing unit.
- 8) **Tolerance of Measure:** Unless otherwise noted in drawing, tolerances are specified with ± 0.1 and dimensions are specified in mm.

