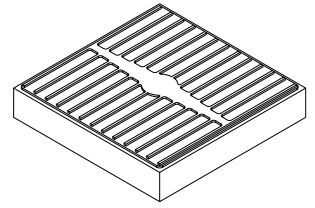


ODI3939TF.S1-940

OS-CORE® AlGaAs



Features:

- Polarity: n-side up
- Chip technology: IR Thinfilm
- Color: • infrared (940 nm)
- Chipsize: 39 mil x 39 mil

Ordering Information

Type
ODI3939TF.S1-940-MM-MM-1-C

Ordering Code
Q65112A8551

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 $t \leq 10\text{ }\mu\text{s}$; $D = 0.005$; $T_j = 25\text{ °C}$ | $I_{F\ pulse}$ | max. | 5000 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⁾ $I_F = 1000\text{ mA}$ | $\lambda_{\text{centroid}}$ | min. | 935 nm |
| | | max. | 955 nm |
| Forward Voltage ⁴⁾ $I_F = 1000\text{ mA}$ | V_F | min. | 2.50 V |
| | | typ. | 2.75 V |
| | | max. | 3.00 V |
| Temperature coefficient of brightness | TC_I | typ. | -0.3 % / K |
| Temperature coefficient of voltage | TC_V | typ. | -2 mV / K |
| Temperature coefficient of wavelength | TC_λ | typ. | 0.3 nm / K |

Additional Information

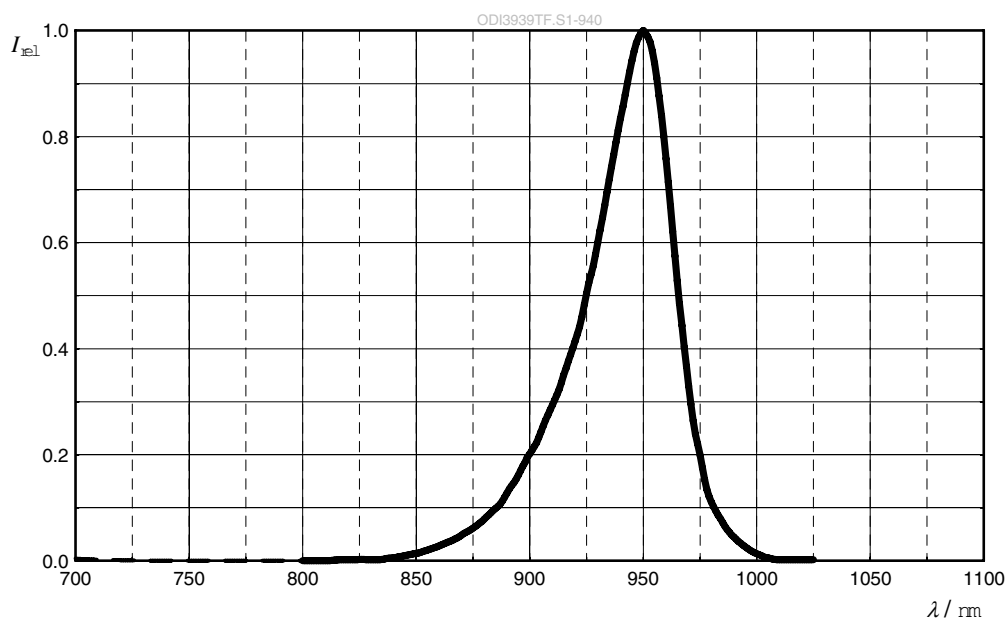
| | | |
|------------------|------------------------|-----------------------|
| Die bonding | Metalization frontside | Metalization backside |
| Adhesive bonding | Gold | Gold |

Brightness and Wavelength Groups ⁵⁾³⁾

$I_F = 1000\text{ mA}$

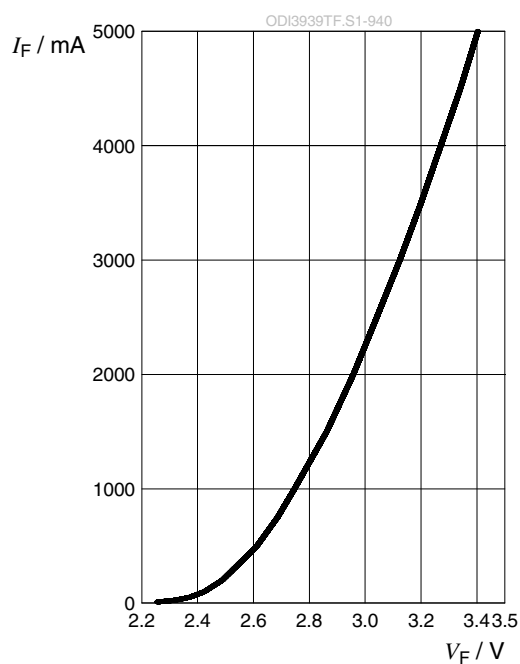
| Radiant Intensity | Centroid Wavelength |
|-------------------|-----------------------------|
| I_e | $\lambda_{\text{centroid}}$ |
| a. u. | nm |
| | 935 - 955 |
| 2200 - 3500 | J40 |

DRAFT – For reference only. Subject to change without notice.

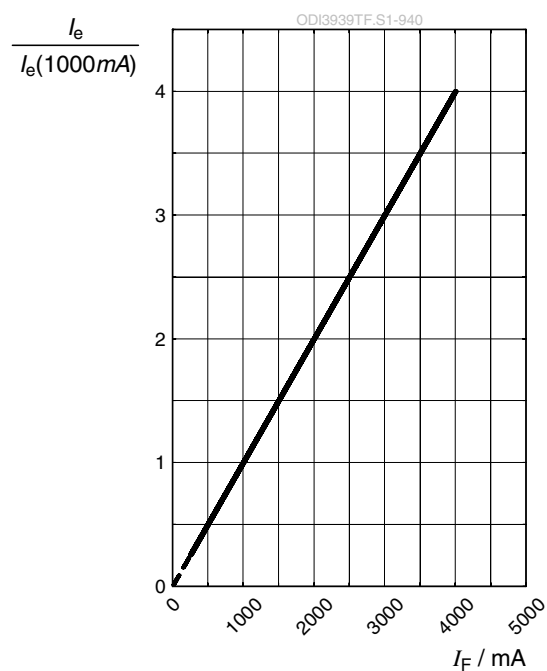
Relative Spectral Emission ⁶⁾ $I_{\text{rel}} = f(\lambda); I_F = 1000 \text{ mA}; T_S = 25^\circ\text{C}$ 

Forward current ⁶⁾

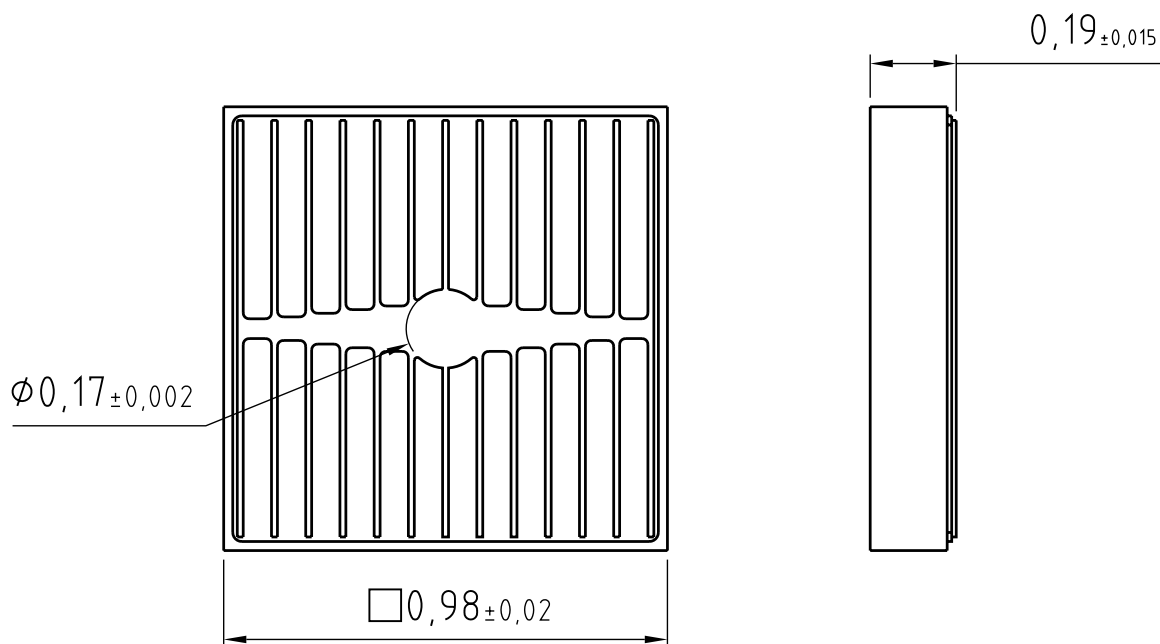
$$I_F = f(V_F); T_S = 25\text{ °C}$$

**Relative Radiant Intensity** ^{6), 7)}

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



Dimensional Drawing ⁸⁾



C63062-A6000-A163 -01

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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.

