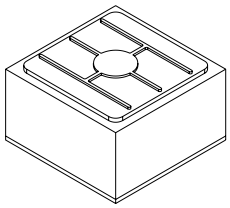
ODH1212TF.A1

OS-CORE® ThinGaAlP



Features:

- Polarity: n-side up
- Chip technology: Thinfilm
- Color: ● hyper red
- Chipsize: 12 mil x 12 mil
- ESD: 2 kV acc. to ANSI/ESDA/JEDEC JS-001 (HBM, Class 2)

Ordering Information

Type	Ordering Code
ODH1212TF.A1-MM-MM-1-C	Q65112A1969

Maximum Ratings

Parameter	Symbol		Values
Operating Temperature	T_{op}	min. max.	-40 °C 110 °C
Storage Temperature [1]	T_{stg}	min. max.	-40 °C 110 °C
Recommended Die Storage Temperature ≤ 60% RH	$T_{stg\ die}$	max.	30 °C
Junction Temperature	T_j	max.	125 °C
Junction temperature for short time applications*	T_j	max.	150 °C
Forward Current T_J = 25 °C	I_F	min. max.	3 mA 100 mA
Forward Current Pulsed t ≤ 10 µs; D = 0.005 ; T_J = 25 °C	$I_{F\ pulse}$	max.	100 mA
Reverse voltage [2] T_J = 25 °C	V_R	max.	12 V
ESD withstand voltage acc. to ANSI/ESDA/JEDEC JS-001 (HBM, Class 2)	V_{ESD}		2 kV

*The median lifetime (L70/B50) for Tj =150°C is 100h.

Characteristics

I_F = 50 mA; T_J = 25 °C

Parameter	Symbol		Values
Centroid Wavelength [3] I_F = 50 mA	$\lambda_{centroid}$	min. max.	652 nm 663 nm
Forward Voltage [4] I_F = 50 mA	V_F	min. typ. max.	1.90 V 2.30 V 2.40 V

Additional Information

Die bonding	Metalization frontside	Metalization backside
Adhesive bonding	Gold	Gold

Binning Table [5)3)]

I_F = 50 mA

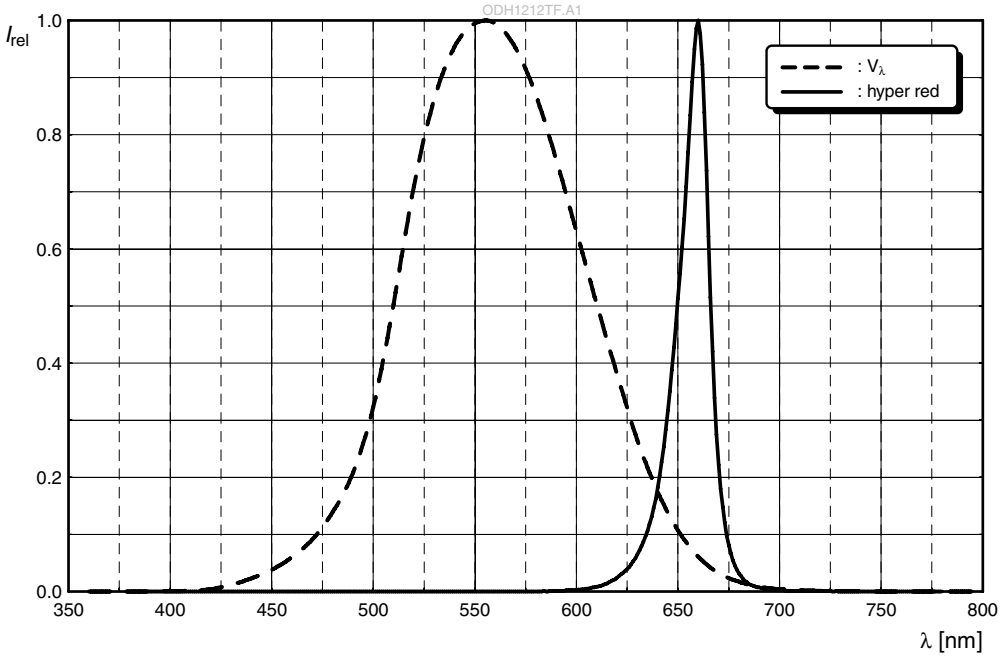
Radiant Intensity I_e a. u.	Centroid Wavelength $\lambda_{centroid}$ nm			
	652 - 655	655 - 658	658 - 659	659 - 663
8.0 - 10.5	A10	B10	C10	D10
10.5 - 15.0	A13	B13	C13	D13

Correlation factor [6)]

Unit	Value	Condition
CF (mW/sr / a.u.)	1.06	chip to air
CF (mW / a.u.)	4.8	chip with silicone lens

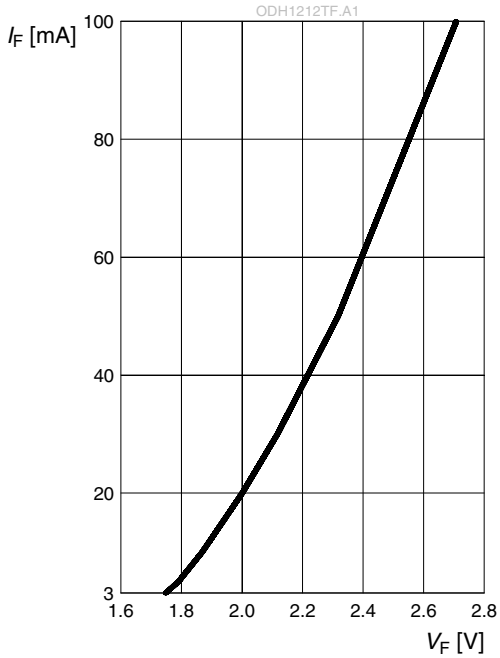
Relative Spectral Emission [7)]

$I_{rel} = f(\lambda)$; $I_F = 50$ mA; $T_S = 25$ °C



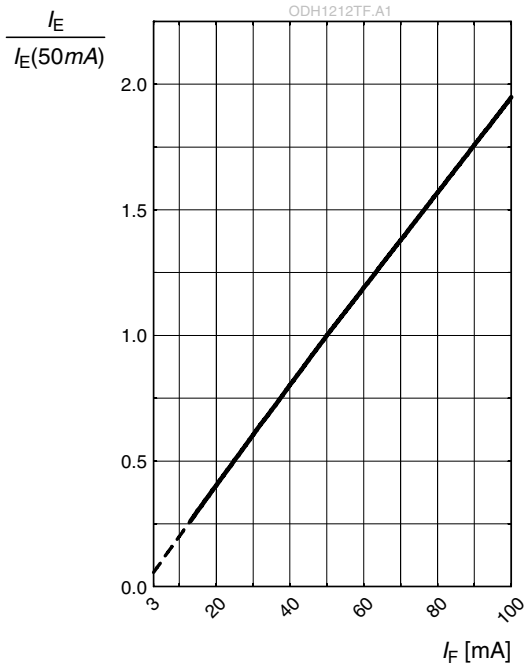
Forward current [7), 8)]

$I_F = f(V_F)$; T_S = 25 °C



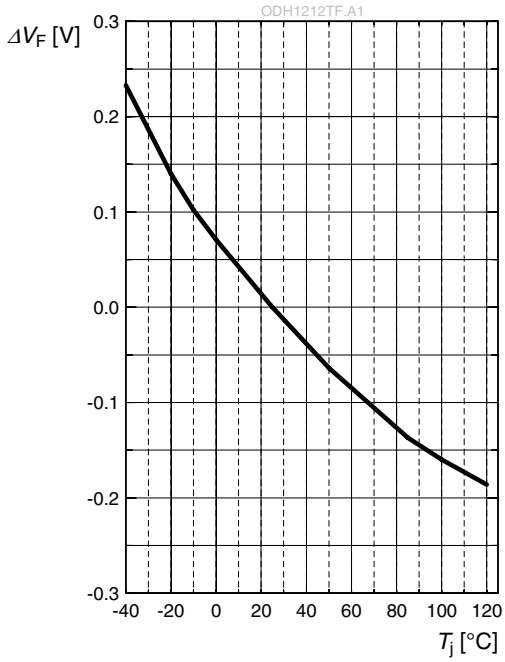
Relative Radiant Intensity [7), 8)]

$I_E/I_E(50\ mA) = f(I_F)$; T_S = 25 °C



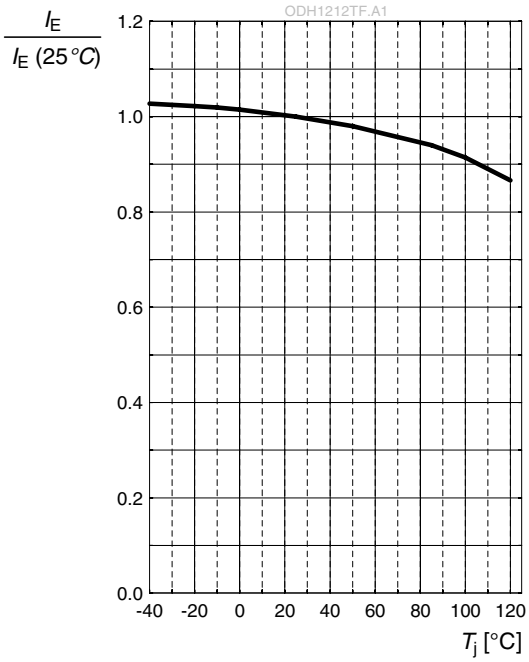
Forward Voltage [7)]

$\Delta V_F = V_F - V_F(25\ °C) = f(T_j);\ I_F = 50\ mA$



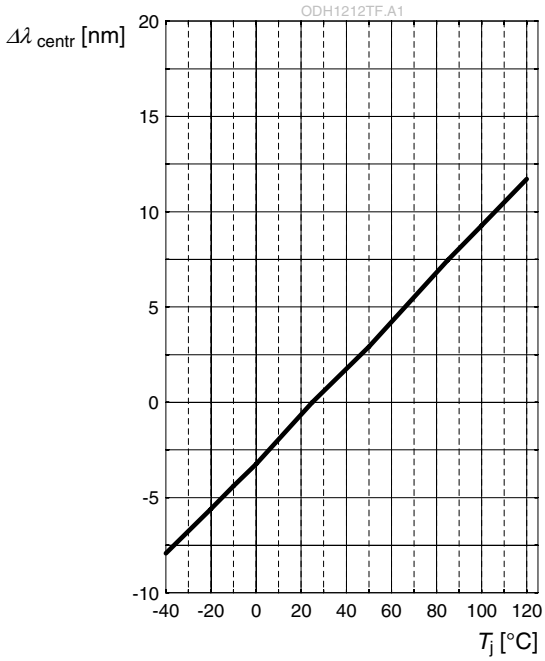
Relative Radiant Intensity [7)]

$I_E/I_E(25\ °C) = f(T_j);\ I_F = 50\ mA$



Centroid Wavelength [7)]

$\Delta\lambda_{centr} = \lambda_{centr} - \lambda_{centr}(25\ °C) = f(T_j);\ I_F = 50\ mA$



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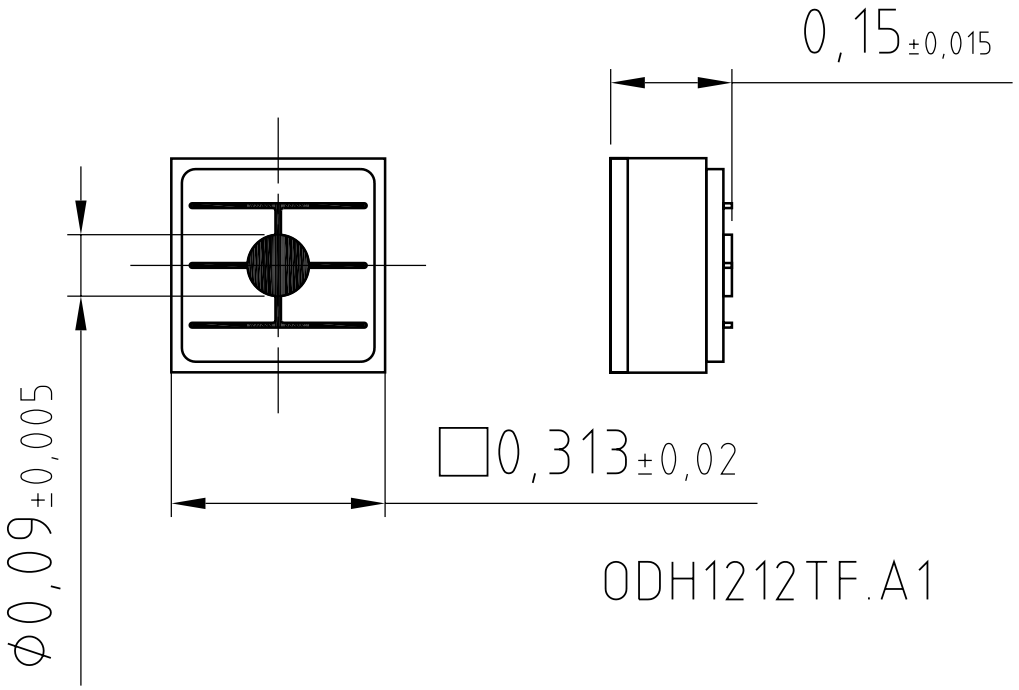
Dimensional Drawing [9)]



Disclaimer

Disclaimer
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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) **Correlation Factor:** The exemplary correlation factor (CF) was estimated by sample build of the chip in a reference package and describes the exemplary correlation between the chip brightness measured in arbitrary units (a.u.) and the brightness in a reference package: CF = I/Φ(package) / I(chip). This factor is purely given as an indication of possible package brightness values. It may vary for different packages due to influences of geometries, reflectivity/refractive index of package materials or other material properties.

7) **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.

8) **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.

9) **Tolerance of Measure:** Unless otherwise noted in drawing, tolerances are specified with ±0.1 and dimensions are specified in mm.

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