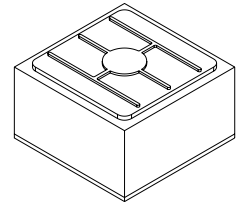


ODY1212TF.A2

OS-CORE® ThinGaAlP



Features:

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

Ordering Information

Type
ODY1212TF.A2-MM-MM-1-C

Ordering Code
Q65111A9360

Maximum Ratings

Parameter	Symbol		Values
Operating Temperature	T_{op}	min.	-40 °C
		max.	110 °C
Storage Temperature ¹⁾	T_{stg}	min.	-40 °C
		max.	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 $T_j = 25\text{ °C}$	I_F	min.	3 mA
		max.	70 mA
Forward Current Pulsed $t \leq 10\text{ }\mu\text{s}$; $D = 0.005$; $T_j = 25\text{ °C}$	$I_{F\ pulse}$	max.	100 mA
Reverse voltage ²⁾ $T_j = 25\text{ °C}$	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 $T_j = 150\text{ °C}$ is 100h.

Characteristics

$I_F = 50\text{ mA}$; $T_j = 25\text{ °C}$

Parameter	Symbol		Values
Dominant Wavelength ³⁾ $I_F = 50\text{ mA}$	λ_{dom}	min.	584.5 nm
		max.	595.5 nm
Forward Voltage ⁴⁾ $I_F = 50\text{ mA}$	V_F	min.	2.05 V
		typ.	2.15 V
		max.	2.55 V

Additional Information

Die bonding	Metalization frontside	Metalization backside
Adhesive bonding	Gold	Gold

Binning Table ⁵⁾³⁾

$I_F = 50 \text{ mA}$

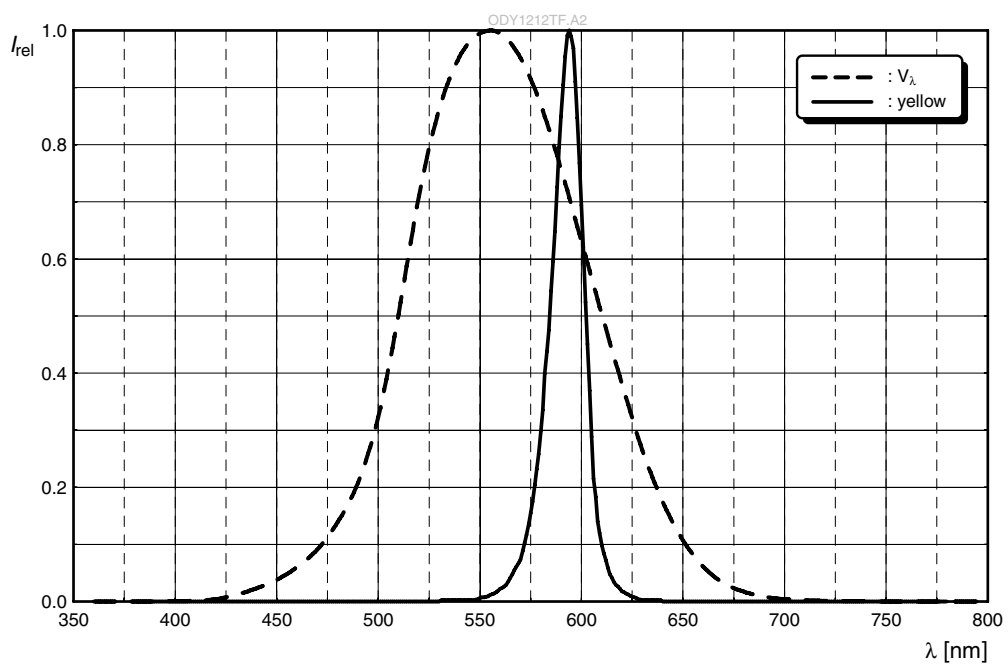
Luminous Intensity I_v a. u.	Dominant Wavelength λ_{dom} nm			
	584.5 - 587.0	587.0 - 590.0	590.0 - 593.0	593.0 - 595.5
720 - 800	A10	B10	C10	D10
800 - 900	A13	B13	C13	D13
900 - 1000	A16	B16	C16	D16
1000 - 1140	A19	B19	C19	D19
1140 - 1280	A22	B22	C22	D22
1280 - 1440	A25	B25	C25	D25
1440 - 1600	A28	B28	C28	D28
1600 - 1800	A31	B31	C31	D31
1800 - 2000	A34	B34	C34	D34
2000 - 2250	A37	B37	C37	D37
2250 - 2500	A40	B40	C40	D40
2500 - 2850	A43	B43	C43	D43
2850 - 3200	A46	B46	C46	D46

Correlation factor ⁶⁾

Unit	Value	Condition
CF (mcd / a.u.)	0.89	chip to air
CF (mlm / a.u.)	4.56	chip with silicone lens

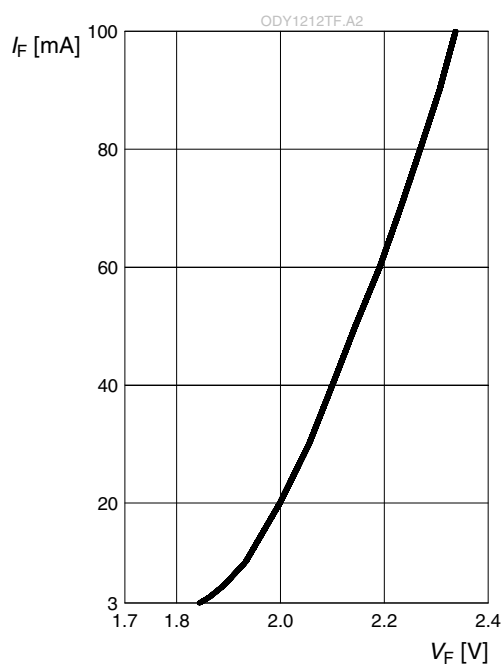
Relative Spectral Emission ⁷⁾

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



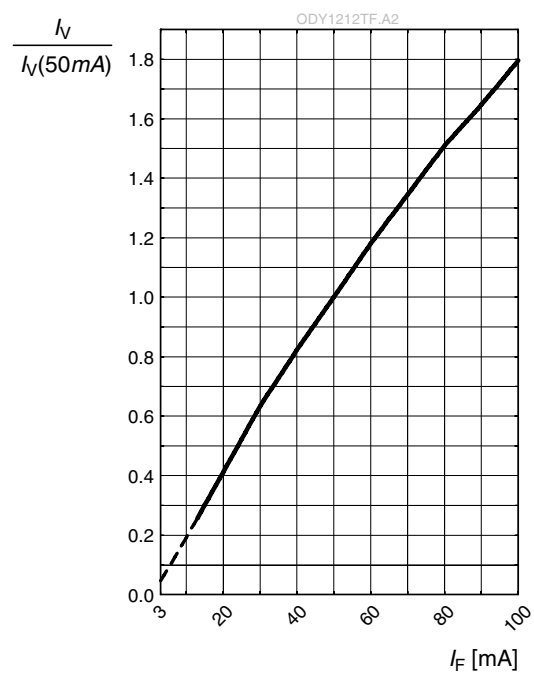
Forward current ^{7), 8)}

$$I_F = f(V_F); T_S = 25\text{ °C}$$



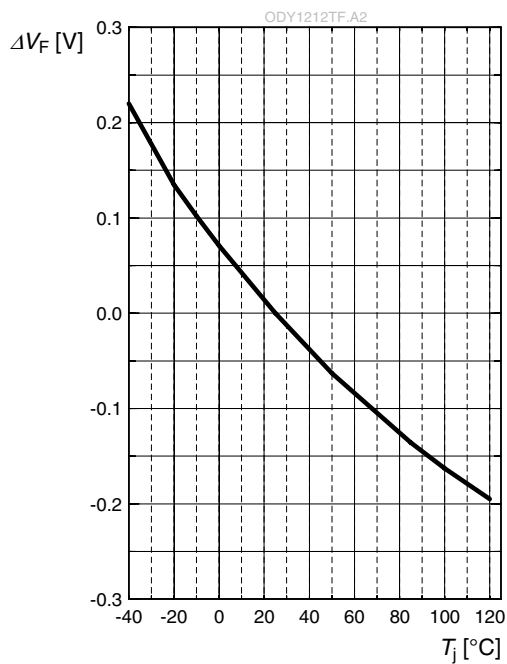
Relative Luminous Intensity ^{7), 8)}

$$I_V/I_V(50\text{ mA}) = f(I_F); T_S = 25\text{ °C}$$



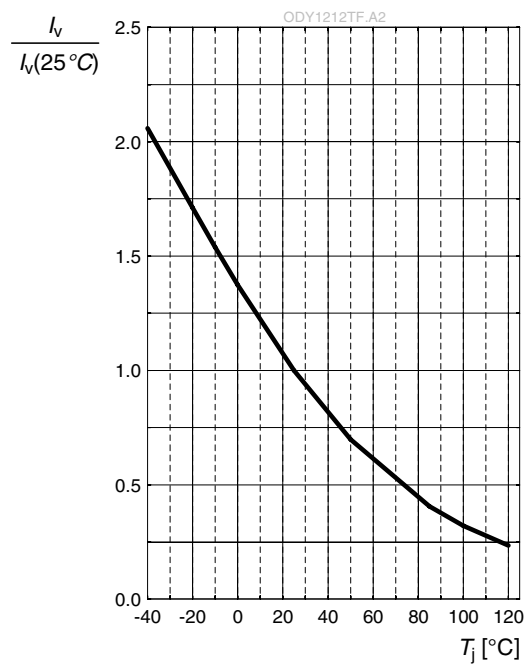
Forward Voltage ⁷⁾

$$\Delta V_F = V_F - V_F(25^\circ\text{C}) = f(T_j); I_F = 50\text{ mA}$$



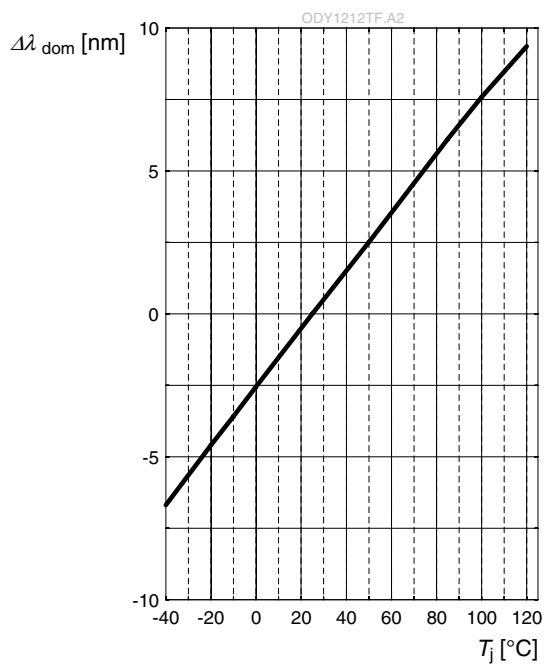
Relative Luminous Intensity ⁷⁾

$$I_V/I_V(25^\circ\text{C}) = f(T_j); I_F = 50\text{ mA}$$

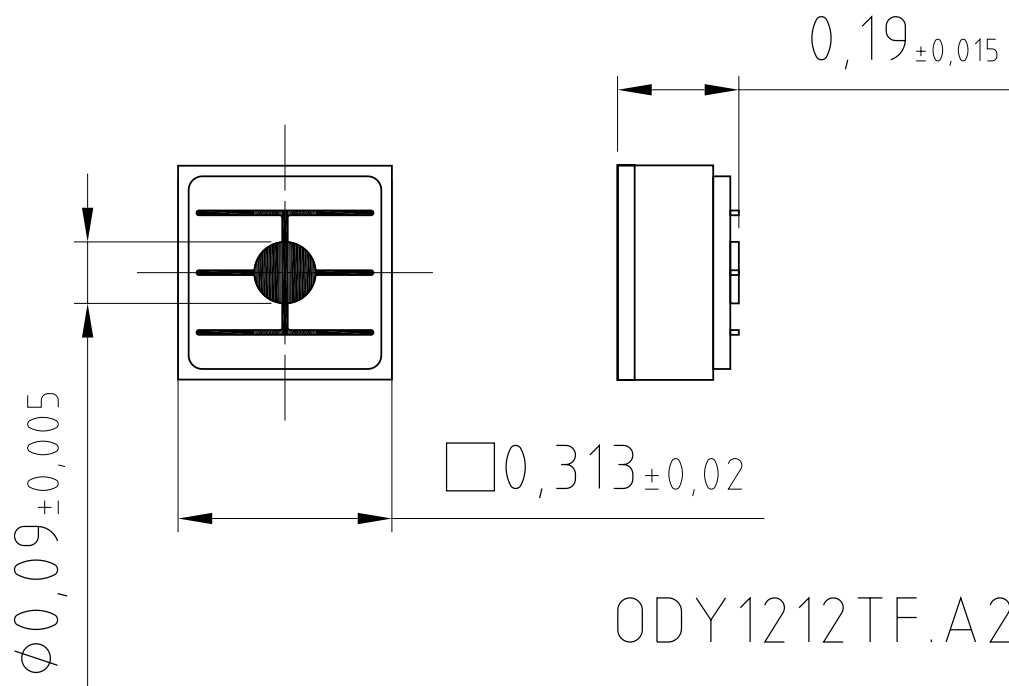


Dominant Wavelength ⁷⁾

$$\Delta \lambda_{\text{dom}} = \lambda_{\text{dom}} - \lambda_{\text{dom}}(25^\circ\text{C}) = f(T_j); I_F = 50\text{ mA}$$



Dimensional Drawing ⁹⁾



Disclaimer

Disclaimer

Language english will prevail in case of any discrepancies or deviations between the two language wordings.

Attention please!

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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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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: $CF = I/\Phi(\text{package}) / I(\text{chip})$. 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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