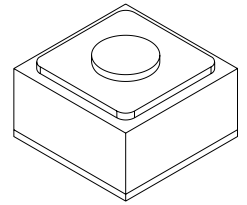


ODB0808TG.A1

OS-CORE® ThinGaN



Features:

- Polarity: n-side up
- Chip technology: ThinGaN
- Color: ● blue
- Chipsize: 8 mil x 8 mil
- ESD: 2 kV acc. to ANSI/ESDA/JEDEC JS-001 (HBM, Class 2)

Ordering Information

Type
ODB0808TG.A1-MM-MM-1-C

Ordering Code
Q65112A6342

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.	125 °C
Junction temperature for short time applications*	T_j	max.	150 °C
Forward Current $T_j = 25\text{ °C}$	I_F	min.	1 mA
		max.	50 mA
Forward Current Pulsed $t \leq 10\text{ }\mu\text{s}$; $D = 0.005$; $T_j = 25\text{ °C}$	$I_{F\ pulse}$	max.	300 mA
Reverse voltage ²⁾ $T_j = 25\text{ °C}$	V_R	max.	5 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

$I_F = 10\text{ mA}$; $T_j = 25\text{ °C}$

Parameter	Symbol		Values
Dominant Wavelength ³⁾ $I_F = 10\text{ mA}$	λ_{dom}	min.	455.0 nm
		max.	475.0 nm
Forward Voltage ⁴⁾ $I_F = 10\text{ mA}$	V_F	min.	2.70 V
		typ.	2.90 V
		max.	3.20 V

Additional Information

Die bonding	Metalization frontside	Metalization backside
Adhesive bonding	Gold	Gold

Binning Table ⁵⁾³⁾

$I_F = 10 \text{ mA}$

Radiant Intensity I_e a. u.	Dominant Wavelength			
	λ_{dom} nm			
	455.0 - 457.5	457.5 - 460.0	460.0 - 462.5	462.5 - 465.0
1.4 - 1.7	A10	B10	C10	D10
1.7 - 2.0	A13	B13	C13	D13
2.0 - 2.2	A16	B16	C16	D16
2.2 - 2.5	A19	B19	C19	D19
2.5 - 2.8	A22	B22	C22	D22
2.8 - 3.1	A25	B25	C25	D25
3.1 - 4.0	A28	B28	C28	D28

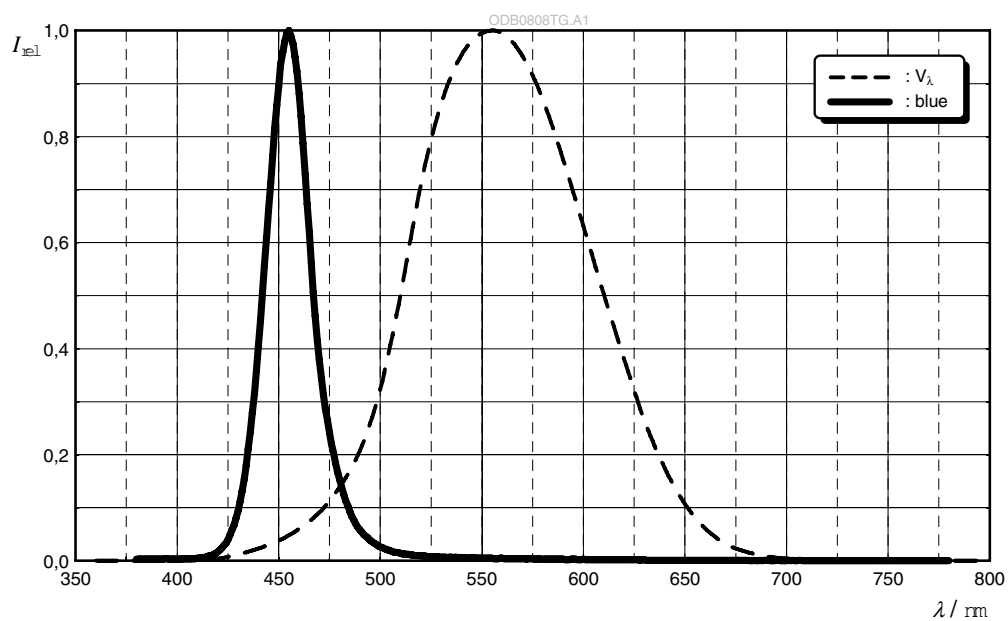
Binning Table ⁵⁾³⁾

$I_F = 10 \text{ mA}$

Luminous Intensity I_v a. u.	Dominant Wavelength λ_{dom} nm			
	465.0 - 467.5	467.5 - 470.0	470.0 - 472.5	472.5 - 475.0
90 - 100	E10	F10	G10	H10
100 - 110	E13	F13	G13	H13
110 - 120	E16	F16	G16	H16
120 - 130	E19	F19	G19	H19
130 - 145	E22	F22	G22	H22
145 - 160	E25	F25	G25	H25
160 - 200	E28	F28	G28	H28

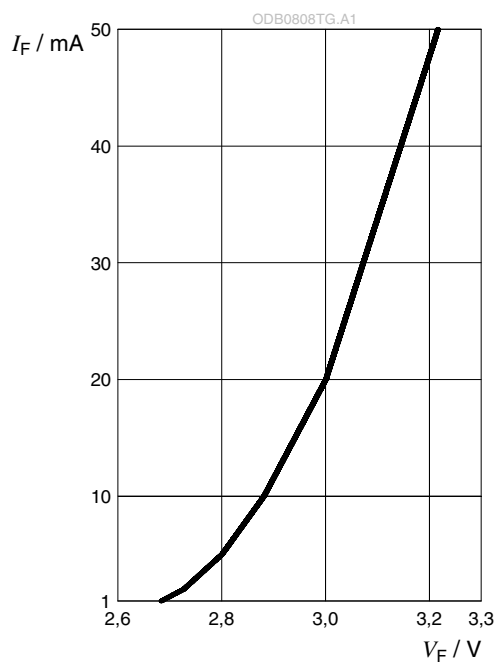
Relative Spectral Emission ⁶⁾

$I_{\text{rel}} = f(\lambda)$; $I_F = 10 \text{ mA}$; $T_S = 25 \text{ °C}$



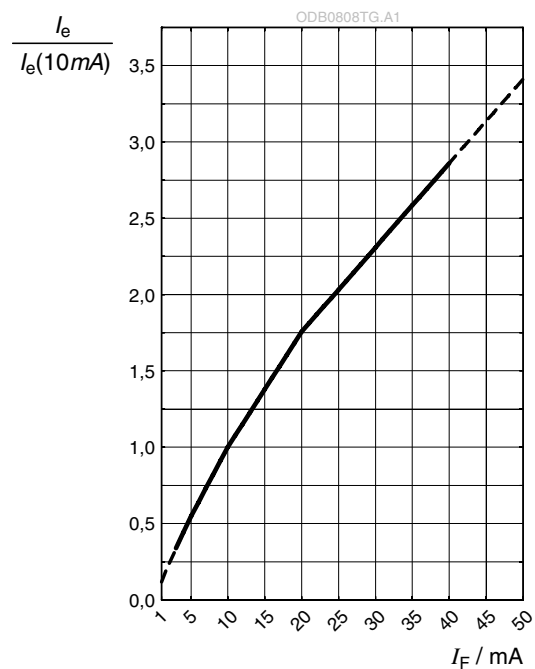
Forward current ^{6), 7)}

$$I_F = f(V_F); T_S = 25\text{ °C}$$



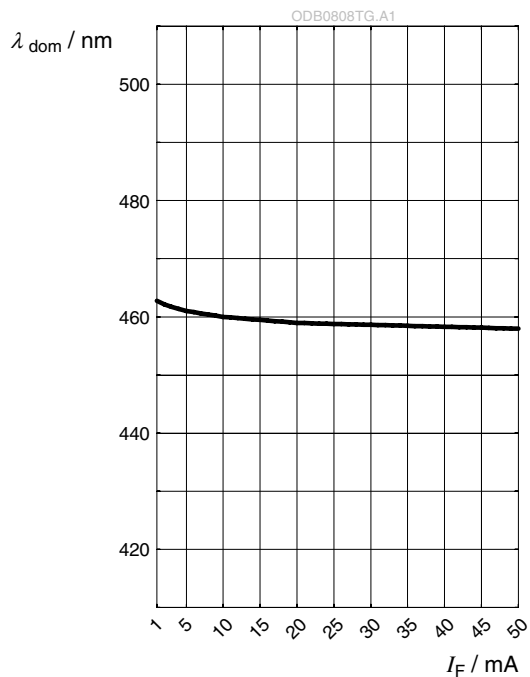
Relative Radiant Intensity ^{6), 7)}

$$I_E/I_E(10\text{ mA}) = f(I_F); T_S = 25\text{ °C}$$



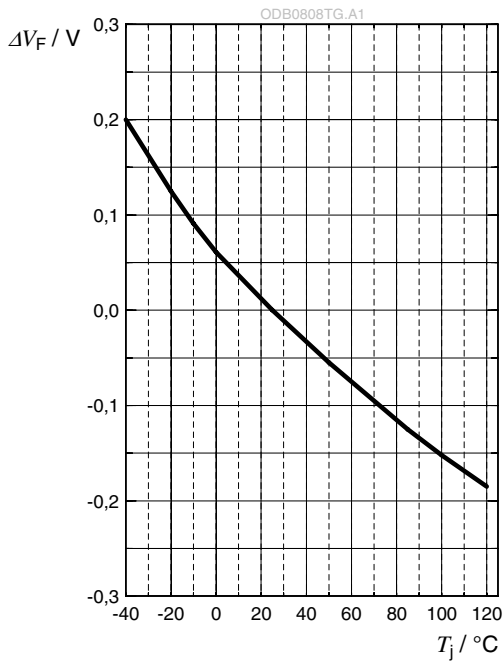
Dominant Wavelength ⁶⁾

$$\lambda_{\text{dom}} = f(I_F); T_S = 25\text{ °C}$$



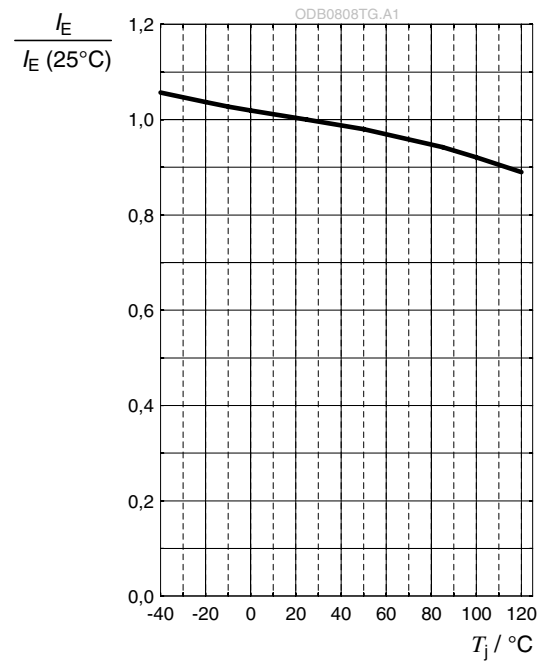
Forward Voltage ⁶⁾

$$\Delta V_F = V_F - V_F(25^\circ\text{C}) = f(T_j); I_F = 10\text{ mA}$$



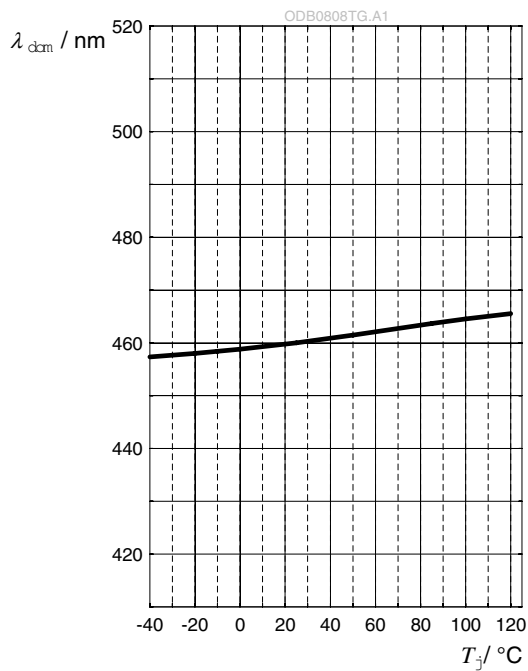
Relative Radiant Intensity ⁶⁾

$$I_E / I_E(25^\circ\text{C}) = f(T_j); I_F = 10\text{ mA}$$

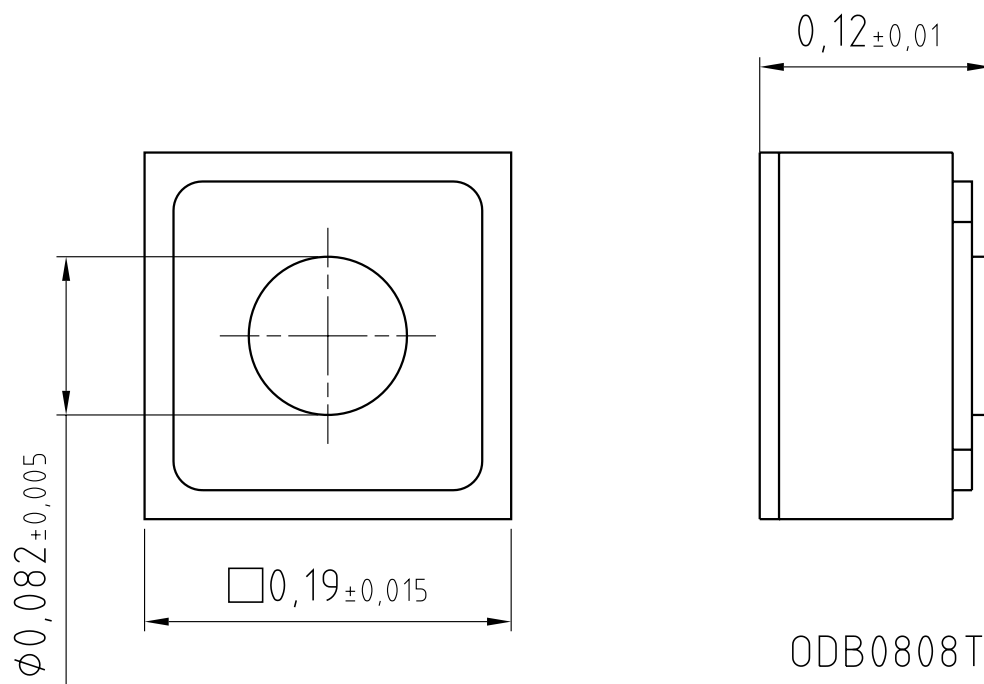


Dominant Wavelength ⁶⁾

$$\lambda_{\text{dom}} = f(T_j); I_F = 10\text{ mA}$$



Dimensional Drawing ⁸⁾



ODB0808TG.A1

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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.

