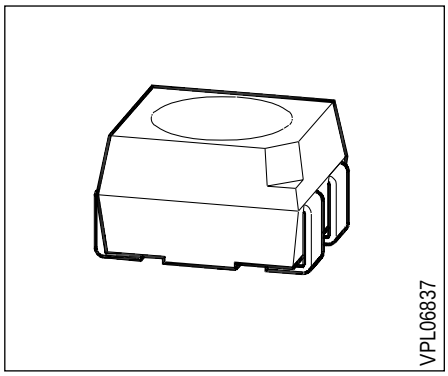
SIEMENS

Multi TOPLED®

LSG T670, LSP T670, LSY T670
LOP T670, LOG T670



Besondere Merkmale

- Gehäusebauform: P-LCC-4
- Gehäusefarbe: weiß
- als optischer Indikator einsetzbar
- zur Hinterleuchtung, Lichtleiter- und Linseneinkopplung
- beide Leuchtdiodenchips getrennt ansteuerbar
- hohe Signalwirkung durch Farbwechsel der LED möglich
- bei geeigneter Ansteuerung, Farbwechsel von grün über gelb und orange bis super-rot möglich
- für alle SMT-Bestück- und Löttechniken geeignet
- gegurtet (8-mm-Filmgurt)
- Störimpulsfest nach DIN 40839

Features

- P-LCC-4 package
- color of package: white
- for use as optical indicator
- for backlighting, optical coupling into light pipes and lenses
- both chips can be controlled separately
- high signal efficiency possible by color change of the LED
- with appropriate controlling it is possible to change color from green to yellow and orange to super-red
- suitable for all SMT assembly and soldering methods
- available taped on reel (8 mm tape)
- load dump resistant acc. to DIN 40839

Typ Type	Emissions-farbe Color of Emission	Farbe der Lichtaustritts-fläche Color of the Light Emitting Area	Lichtstärke Luminous Intensity I_F = 10 mA I_V(mcd)	Lichtstrom Luminous Flux I_F = 10 mA Φ_V (mlm)	Bestellnummer Ordering Code
LSY T670-HK	super-red / yellow	colorless clear	2.5 ... 12.5	-	Q62703-Q3912
LSY T670-J			4.0 ... 8.0	18 (typ.)	Q62703-Q2984
LSY T670-K			6.3 ... 12.5	30 (typ.)	Q62703-Q2985
LSY T670-JL			4.0 ... 20.0	-	Q62703-Q3913
LSG T670-HK	super-red / green	colorless clear	2.5 ... 12.5	-	Q62703-Q2531
LSG T670-J			4.0 ... 8.0	18 (typ.)	Q62703-Q2656
LSG T670-K			6.3 ... 12.5	30 (typ.)	Q62703-Q2657
LSG T670-JL			4.0 ... 20.0	-	Q62703-Q2658
LSP T670-FJ	super-red / pure green	colorless clear	1.0 ... 8.0	-	Q62703-Q2659
LSP T670-G			1.6 ... 3.2	8 (typ.)	Q62703-Q2660
LSP T670-H			2.5 ... 5.0	12 (typ.)	Q62703-Q2661
LSP T670-J			4.0 ... 8.0	18 (typ.)	Q62703-Q2777
LSP T670-GK			1.6 ... 12.5	-	Q62703-Q2532
LOG T670-HK	orange/ green	colorless clear	2.5 ... 12.5	-	Q62703-Q2708
LOG T670-J			4.0 ... 8.0	18 (typ.)	Q62703-Q2767
LOG T670-K			6.3 ... 12.5	30 (typ.)	Q62703-Q2768
LOG T670-JL			4.0 ... 20.0	-	Q62703-Q2867
LOP T670-FJ	orange/ pure green	colorless clear	1.0 ... 8.0	-	Q62703-Q2677
LOP T670-G			1.6 ... 3.2	8 (typ.)	Q62703-Q2678
LOP T670-H			2.5 ... 5.0	12 (typ.)	Q62703-Q2679
LOP T670-GK			1.6 ... 12.5	-	Q62703-Q2566

Streuung der Lichtstärke in einer Verpackungseinheit $I_{V\,max}$ / $I_{V\,min}$ ≤ 2.0.[1)]
Streuung der Lichtstärke in einer LED $I_{V\,max}$ / $I_{V\,min}$ ≤ 3.0 (LSG T670, LOG T670, LSY T670), ≤ 4.0 (LSP T670, LOP T670).

1) Bei MULTILED® bestimmt die Helligkeit des jeweils dunkleren Chips in einem Gehäuse die Helligkeitsgruppe der LED.

Luminous intensity ratio in one packaging unit $I_{V\,max}$ / $I_{V\,min}$ ≤ 2.0.[1)]
Luminous intensity ratio in one LED $I_{V\,max}$ / $I_{V\,min}$ ≤ 3.0 (LSG T670, LOG T670, LSY T670), ≤ 4.0 (LSP T670, LOP T670).

1) In case of MULTILED®, the brightness of the darker chip in one package determines the brightness group of the LED.

Grenzwerte
Maximum Ratings

Bezeichnung **Parameter**	**Symbol** **Symbol**	**Wert** **Value**	**Einheit** **Unit**
Betriebstemperatur Operating temperature range	T_{op}	– 55 ... + 100	°C
Lagertemperatur Storage temperature range	T_{stg}	– 55 ... + 100	°C
Sperrschichttemperatur Junction temperature	T_j	+ 100	°C
Durchlaßstrom Forward current	I_F	30	mA
Stoßstrom Surge current $t \leq 10$ µs, $D = 0.005$	I_{FM}	0.5	A
Sperrspannung Reverse voltage	V_R	5	V
Verlustleistung Power dissipation	P_{tot}	100	mW
Wärmewiderstand Thermal resistance Sperrschicht / Umgebung Junction / air			
Montage auf PC-Board*) (Padgröße ≥ 16 mm²) mounted on PC board*) (pad size ≥ 16 mm²)	$R_{th\ JA}$ 1) $R_{th\ JA}$ 2)	480 650	K/W K/W

*) PC-board: FR4

1) nur ein Chip betrieben
2) beide Chips betrieben

1) one system only
2) both systems on simultaneously

Notes

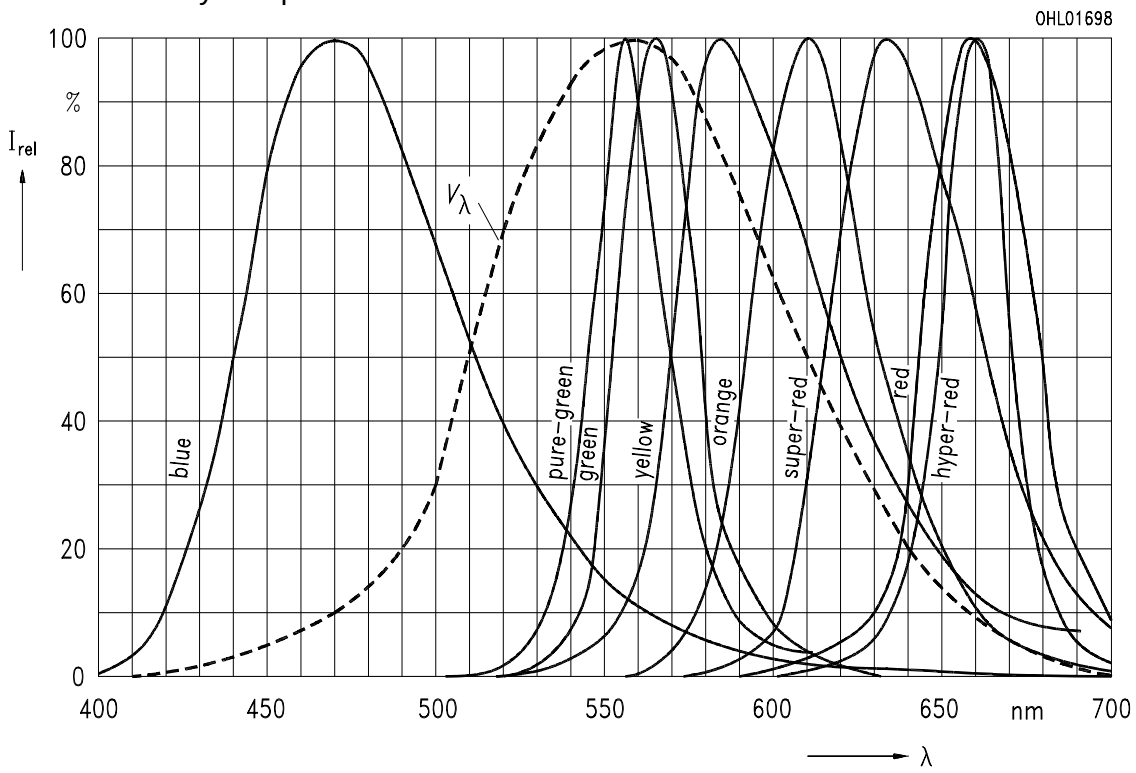
Die angegebenen Grenzdaten gelten für einen Chip.

The stated maximum ratings refer to one chip.

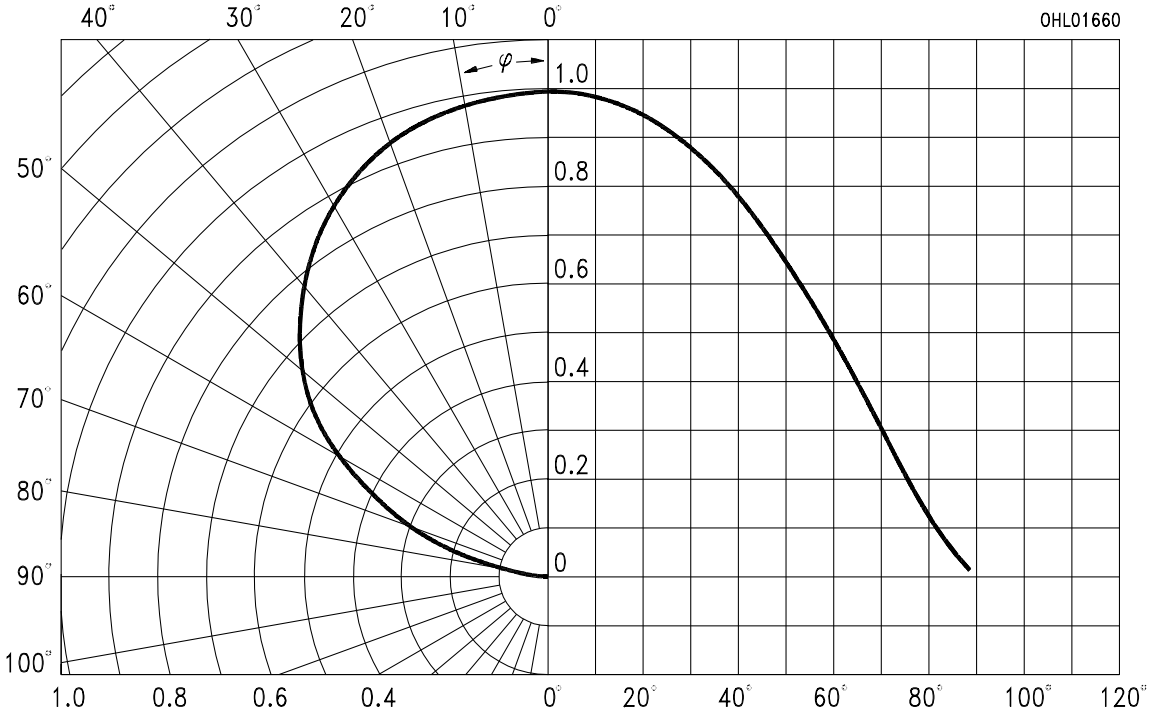
Kennwerte (T_A = 25 ˚C)
Characteristics

Bezeichnung **Parameter**	**Symbol** **Symbol**	**Wert** **Value**					**Ein-heit** **Unit**
		LS	**LO**	**LG**	**LP**	**LY**	
Wellenlänge des emittierten Lichtes (typ.) Wavelength at peak emission (typ.) I_F = 10 mA	λ_{peak}	635	610	565	557	586	nm
Dominantwellenlänge (typ.) Dominant wavelength (typ.) I_F = 10 mA	λ_{dom}	628	605	570	560	590	nm
Spektrale Bandbreite bei 50 % $I_{rel\ max}$ (typ.) Spectral bandwidth at 50 % $I_{rel\ max}$ (typ.) I_F = 10 mA	$\Delta\lambda$	45	40	25	22	45	nm
Abstrahlwinkel bei 50 % I_V (Vollwinkel) Viewing angle at 50 % I_V	2φ	120	120	120	120	120	Grad deg.
Durchlaßspannung (typ.) Forward voltage (max.) I_F = 10 mA	V_F V_F	2.0 2.6	2.0 2.6	2.0 2.6	2.0 2.6	2.0 2.6	V V
Sperrstrom (typ.) Reverse current (max.) V_R = 5 V	I_R I_R	0.01 10	0.01 10	0.01 10	0.01 10	0.01 10	µA µA
Kapazität (typ.) Capacitance V_R = 0 V, f = 1 MHz	C_0	12	8	15	15	10	pF
Schaltzeiten: Switching times: I_V from 10 % to 90 % (typ.) I_V from 90 % to 10 % (typ.) I_F = 100 mA, t_p = 10 µs, R_L = 50 Ω	 t_r t_f	 300 150	 450 200	 450 200	 450 200	 300 150	 ns ns

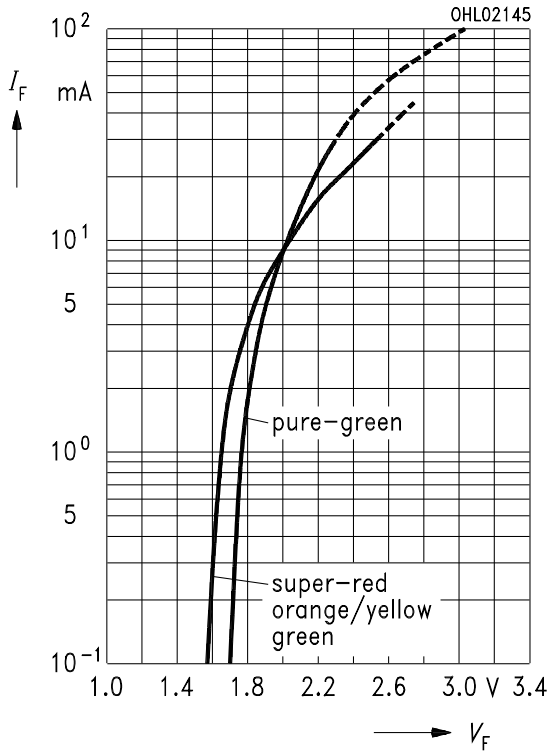
Relative spektrale Emission $I_{rel} = f(\lambda)$, $T_A = 25$ °C, $I_F = 10$ mA
Relative spectral emission
V (λ) = spektrale Augenempfindlichkeit
Standard eye response curve



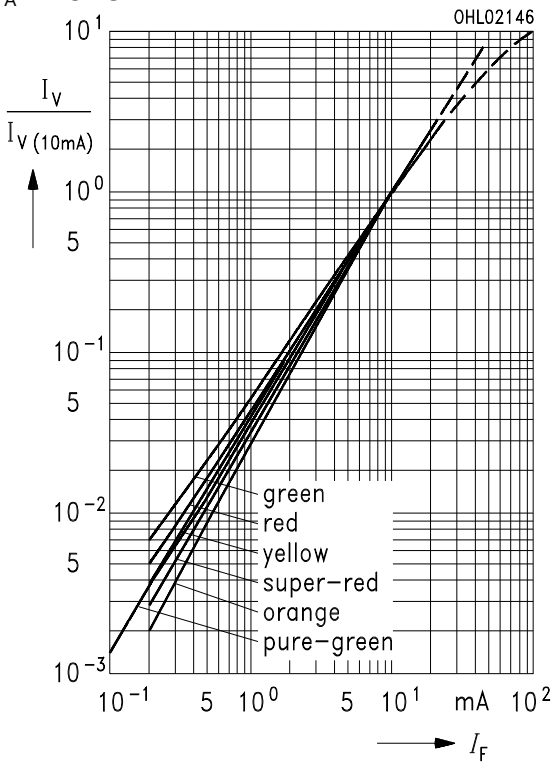
Abstrahlcharakteristik $I_{rel} = f(\varphi)$
Radiation characteristic



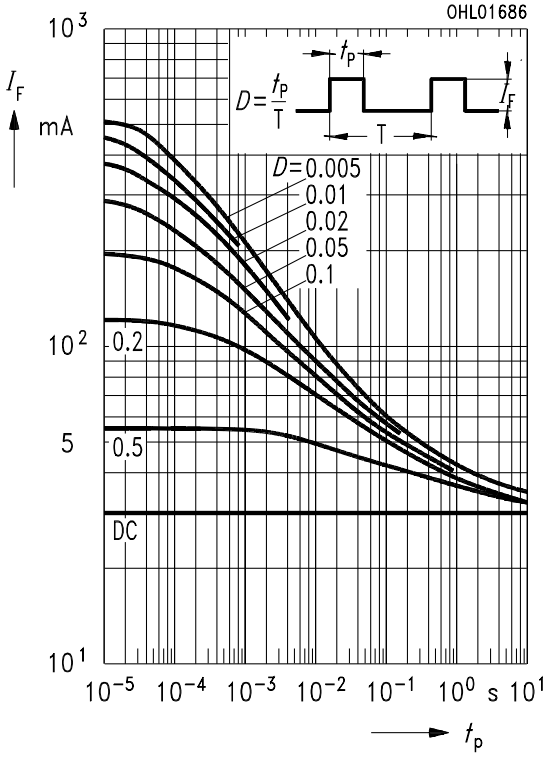
Durchlaßstrom $I_F = f(V_F)$
Forward current
T_A = 25 ˚C



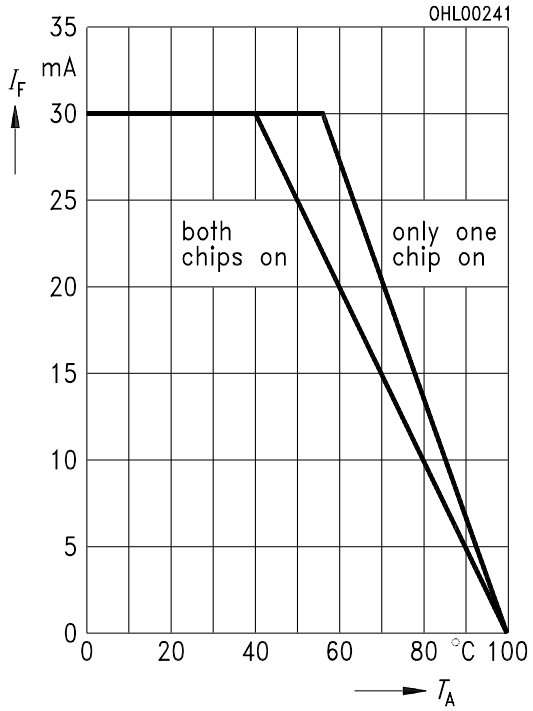
Relative Lichtstärke $I_V / I_{V(10\ mA)} = f(I_F)$
Relative luminous intensity
T_A = 25 ˚C



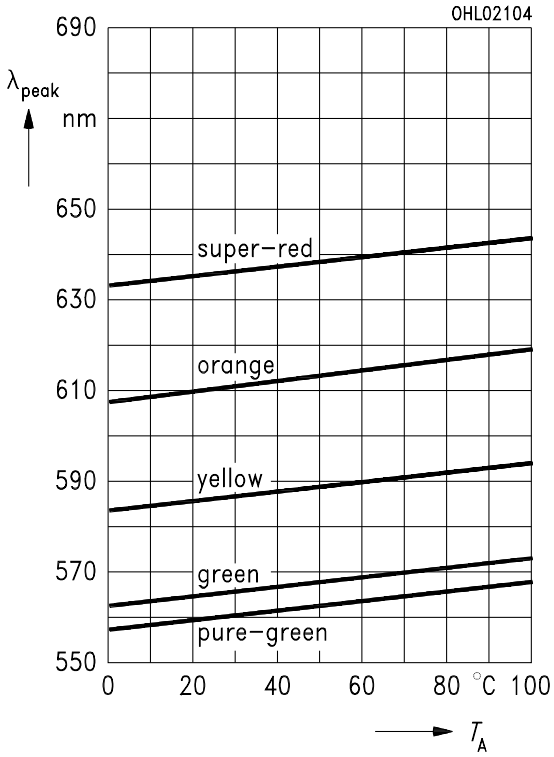
Zulässige Impulsbelastbarkeit $I_F = f(t_p)$
Permissible pulse handling capability
Duty cycle D = parameter, T_A = 25 ˚C



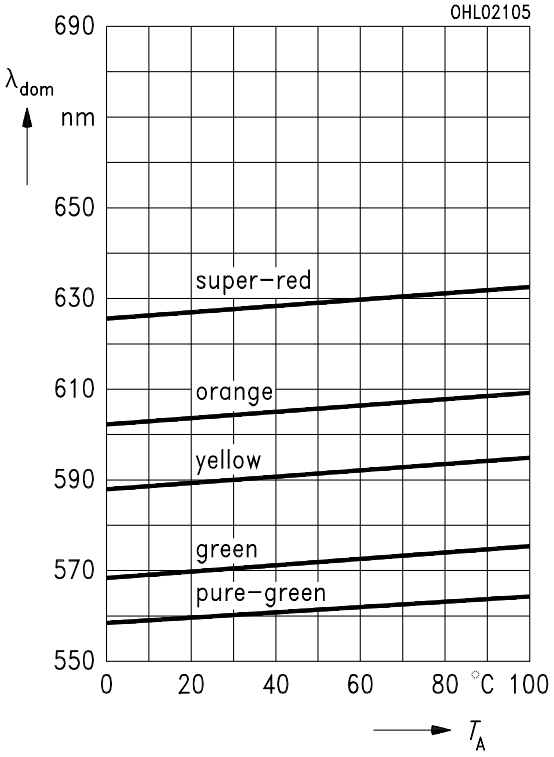
Maximal zulässiger Durchlaßstrom $I_F = f(T_A)$
Max. permissible forward current



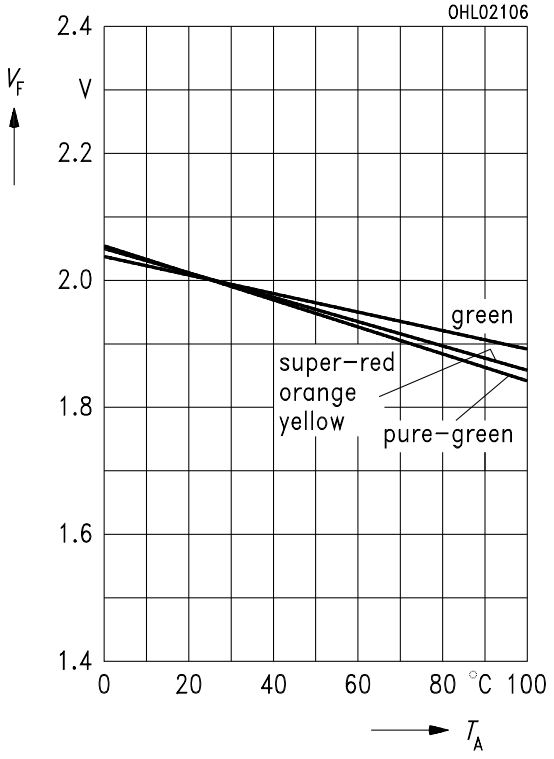
Wellenlänge der Stahlung $\lambda_{peak} = f(T_A)$
Wavelength at peak emission
I_F = 10 mA



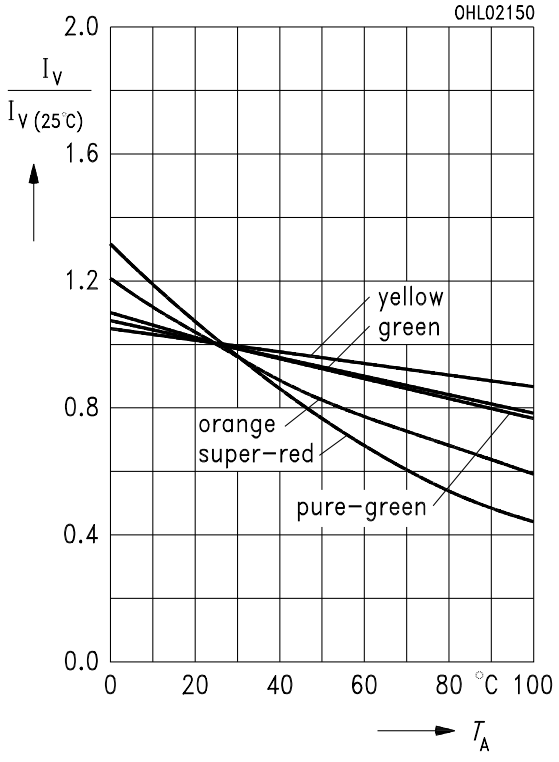
Dominantwellenlänge $\lambda_{dom} = f(T_A)$
Dominant wavelength
I_F = 10 mA



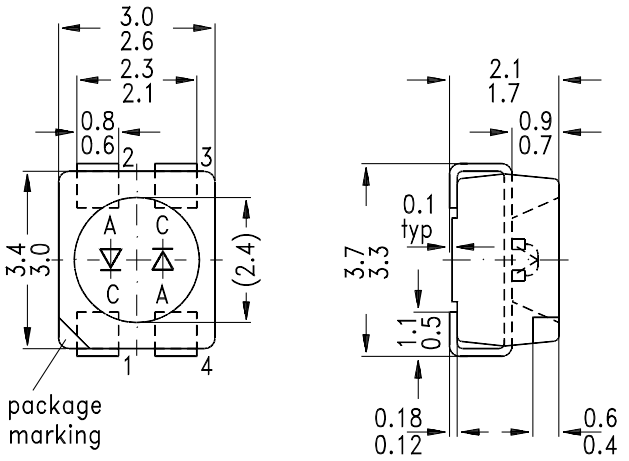
Durchlaßspannung $V_F = f(T_A)$
Forward voltage
I_F = 10 mA



Relative Lichtstärke $I_V / I_{V(25\,^\circ C)} = f(T_A)$
Relative luminous intensity
I_F = 10 mA



Maßzeichnung (Maße in mm, wenn nicht anders angegeben)
Package Outlines (Dimensions in mm, unless otherwise specified)



L	S	G	T670
LED	Emission color 1	Emission color 2	Package
	cathode: pin 1	cathode: pin 3	

GPL06837