
LUMINESZENZDIODEN

LIGHT EMITTING DIODES



SMT-LED-Typenbezeichnungsschema

2nd and 3rd letter for the color of all MULTILED® package outlines
(higher wavelength = first letter, lower wavelength = second and third letter)

	Wavelength ($\lambda_{\text{dom, typ.}}$)	Emission Color ¹⁾
H:	645 nm	hyper-red
R:	645 nm	red
S:	632 nm	super-red (hyper-bright LED)
S:	628 nm	super-red (standard LED)
U:	628 nm	super-red
	570 nm	green
A:	615 nm	amber
O:	605 nm	orange
Y:	590 nm	yellow (standard LED)
G:	587 nm	yellow (hyper-bright LED)
P:	570 nm	green
P:	560 nm	pure green
T:	525 nm	true green (InGaN)
V:	505 nm	verde (InGaN)
B:	470 nm	blue (InGaN)
B:	466 nm	blue (GaN)

Color coordinates according to CIE1931 / Emission color:
W: x = 0.30
y = 0.32

L: Light
emitting
diode

L	S				T	6	7	6	-	P1	Q1	-1
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Lead Form

- 4: reverse gullwing leads through-hole
- 5: gullwing leads
- 6: folded leads
- 7: reverse gullwing leads
- 8: solder terminal
- 9: leadless PCB

Package Color

- 3: colorless clear
 - 5: colorless clear
 - 7: colorless diffused
 - 8: colored diffused
 - 9: colorless clear
- (SOT-23 requires no angle)

Viewing Angle (typ.)

- 30 ... 70 degrees
- 40 ... 80 degrees
- > 80 degrees
- > 80 degrees
- > 80 degrees

Special Versions

- 0: standard LED
- 1: foreign die
- 2: high-current LED
- 3: hyper-bright LED (InGaN)
- 4: GaAlAs double hetero LED
- 5: high-optical Power LED
- 6: hyper-bright LED (MOVPE, GaN)
- A: hyper bright LED (GaN-lower ESD level)
- 7: Multi TOPLED: cathodes on one side
- 9: low-current LED

SMT LED type designation system

Type

- A: SIDELED®
- C: Mini SIDELED®
- E: Power TOPLED®
- L: Smart LED
- M: Mini TOPLED®
- N: CHIPLED 1206
- Q: CHIPLED 0603
- R: CHIPLED 0805
- S: SMT-LED SOT-23
- T: TOPLED®
- T: Multi TOPLED®

Color Tolerance Range

- 1: total color tolerance range delivery in single groups
- 2: subgroups of the total color tolerance range
- 3: subgroups of the total color tolerance range
- 4: subgroups of the total color tolerance range
- 5: subgroups of the total color tolerance range
- 6: subgroups of the total color tolerance range

Luminous
Intensity Groups
(family groups)
delivery in single
groups

Luminous Intensity Groups

(single groups)

C: 0.28 ... 0.45	P: 45 ... 71
D: 0.45 ... 0.71	Q: 71 ... 112
E: 0.71 ... 1.12	R: 112 ... 180
F: 1.12 ... 1.80	S: 180 ... 280
G: 1.80 ... 2.80	T: 280 ... 450
H: 2.80 ... 4.50	U: 450 ... 710
J: 4.50 ... 7.10	V: 710 ... 1120
K: 7.10 ... 11.20	AW: 1120 ... 1800
L: 11.20 ... 18.00	BW: 1800 ... 2800
M: 18.00 ... 28.00	CW: 2800 ... 4500
N: 28.00 ... 45.00	DW: 4500 ... 7100
O: open top	

(half groups)

C1: 0.28 ... 0.36	P1: 45 ... 56
D1: 0.36 ... 0.45	Q1: 56 ... 71
E1: 0.45 ... 0.56	R1: 71 ... 90
F1: 0.56 ... 0.71	S1: 90 ... 112
G1: 0.71 ... 0.90	T1: 112 ... 140
H1: 0.90 ... 1.12	U1: 140 ... 180
J1: 1.12 ... 1.40	S1: 180 ... 224
K1: 1.40 ... 1.80	S2: 224 ... 280
L1: 1.80 ... 2.24	T1: 280 ... 355
M1: 2.24 ... 2.80	T2: 355 ... 450
N1: 2.80 ... 3.55	U1: 450 ... 560
H2: 3.55 ... 4.50	U2: 560 ... 710
J1: 4.50 ... 5.60	V1: 710 ... 900
J2: 5.60 ... 7.10	V2: 900 ... 1120
K1: 7.10 ... 9.00	AA: 1120 ... 1400
K2: 9.00 ... 11.20	AB: 1400 ... 1800
L1: 11.20 ... 14.00	BA: 1800 ... 2240
L2: 14.00 ... 18.00	BB: 2240 ... 2800
M1: 18.00 ... 22.40	CA: 2800 ... 3550
M2: 22.40 ... 28.00	CB: 3550 ... 4500
N1: 28.00 ... 35.50	DA: 4500 ... 5600
N2: 35.50 ... 45.00	DB: 5600 ... 7100

Value of Standard and TOPLED® LEDs;
in luminous intensity I_v in mcd

Luminous intensity is tested at a
current pulse duration of 25 ms and an
accuracy of $\pm 11\%$.

Gurtung von Lumineszenzdiolen

Alle SMT-LED werden im 8- bzw. 12-mm Gurt geliefert.

Taping of LEDs

All SMT LEDs are available in 8 mm resp. 12 mm tapes.

HINWEISE

Gurtung

TOPLED, Multi TOPLED:	8 mm Gurt, gegurtet auf 18 cm Spule, 2000 Stück/Spule, mit Eintrag E7510 auf 33 cm Spule 8000 Stück/Spule
Power TOPLED:	8 mm Gurt, gegurtet auf 18 cm Spule, 2000 Stück/Spule, mit Eintrag E7510 auf 33 cm Spule 8000 Stück/Spule.
Power TOPLED mit Linse:	12 mm Gurt, gegurtet auf 33 cm Spule, 2400 Stück/Spule.
TOPLED RG:	12 mm Gurt, gegurtet auf 18 cm Spule, 2000 Stück/Spule, Mit Eintrag E7510 auf 33 cm Spule, 8000 Stück/Spule.
SIDELED, Multi SIDELED:	12 mm Gurt, gegurtet auf 33 cm Spule, 2000 Stück/Spule.
Mini TOPLED:	8 mm Gurt, gegurtet auf 18 cm Spule, 3000 Stück /Spule, mit Eintrag E7510 auf 33 cm Spule, 12000 Stück/Spule.
Mini TOPLED RG through-hole:	12 mm Gurt, gegurtet auf 18 cm Spule, 3000 Stück/Spule, mit Eintrag E7510 auf 33 cm Spule, 11 800 Stück/Spule
Mini TOPLED RG:	12 mm Gurt, gegurtet auf 18 cm Spule, 3000 Stück/Spule, mit Eintrag E7510 auf 33 cm Spule, 11 800 Stück/Spule
Mini SIDELED:	12 mm Gurt, gegurtet auf 18 cm Spule, 2500 Stück/Spule, mit Eintrag E7510 auf 33 cm Spule, 10000 Stück/Spule.
SOT 23:	8 mm Gurt, gegurtet auf 18 cm Spule, 3000 Stück/Spule, mit Eintrag E7510 auf 33 cm Spule, 12000 Stück/Spule.
CHIPLED 1206:	8 mm Gurt, gegurtet auf 18 cm Spule, 3000 Stück/Spule
CHIPLED 0805:	8 mm Gurt, gegurtet auf 18 cm Spule, 4000 Stück/Spule
CHIPLED 0603:	8 mm Gurt, gegurtet auf 18 cm Spule, 4000 Stück/Spule
SmartLED:	8 mm Gurt, gegurtet auf 18 cm Spule, 5000 Stück/Spule, mit Eintrag E7510 auf 33 cm Spule, 20000 Stück/Spule.

NOTES

Tape and Reel

TOPLED, Multi TOPLED:	8-mm tape, taped on 18-cm reel, 2000 pieces/reel, with supplement E7510 on 33-cm reel, 8000 pieces/reel.
Power TOPLED:	8-mm tape, taped on 18-cm reel, 2000 pieces/reel, with supplement E7510 on 33-cm reel, 8000 pieces/reel.
Power TOPLED with Lens:	12-mm tape, taped on 33-cm reel, 2400 pieces/reel.
TOPLED RG:	12-mm tape, taped on 18-cm reel, 2000 pieces/reel, with supplement E7510 on 33-cm reel, 8000 pieces/reel.
SIDELED, Multi SIDELED:	12-mm tape, taped on 33 cm reel, 2000 pieces/reel.
Mini TOPLED:	8-mm tape, taped on 18-cm reel, 3000 pieces/reel, with supplement E7510 on 33-cm reel, 12000 pieces/reel.
Mini TOPLED RG through-hole:	12-mm tape, taped on 18-cm reel, 3000 pieces/reel, with supplement E7510 on 33-cm reel, 11 800 pieces/reel
Mini TOPLED RG:	12-mm tape, taped on 18-cm reel, 3000 pieces/reel, with supplement E7510 on 33-cm reel, 11 800 pieces/reel
Mini SIDELED:	12-mm tape, taped on 18-cm reel, 2500 pieces/reel, with Supplement E7510 auf 33-cm Spule, 10000 pieces/ reel.
SOT 23:	8 mm tape, taped on 18-cm reel, 3000 pieces/reel, with supplement E7510 on 33-cm reel, 12000 pieces/reel.
CHIPLED 1206:	8 mm tape, taped on 18-cm reel, 3000 pieces/reel
CHIPLED 0805:	8 mm tape, taped on 18-cm reel, 4000 pieces/reel
CHIPLED 0603:	8 mm tape, taped on 18-cm reel, 4000 pieces/reel
SmartLED:	8 mm tape, taped on 18-cm reel, 5000 pieces/reel, with supplement E7510 on 33-cm reel, 20000 pieces/reel.

Parameter des OSRAM LED Helligkeitsgruppen System für SMT LEDs

SMT LEDs werden in Zukunft ausschließlich in Halbgruppen gemessen. Die Helligkeitsstreuung in einer Gruppe beträgt somit maximal nur noch $(I_{V \max} / I_{V \min}) \leq 1,6$. Eine Verpackungseinheit beinhaltet jeweils eine Halbgruppe.

(Helligkeitsstreuung : halbe Helligkeit: $\pm 23\%$)

Helligkeitsgruppen und Werte siehe Seite 2 Typenbezeichnungsschema.

1. In einer Verpackungseinheit / Gurt ist immer nur eine Halbgruppe!
2. Die Standardlieferform von Serientypen beinhaltet eine untere bzw. eine obere Familiengruppe, die aus nur 3 bzw. 4 Halbgruppen besteht. Einzelgruppen sind nicht erhältlich
3. Eine Familiengruppe deckt etwa 60% der Gesamthelligkeits-Verteilung ab.

Beispiel für Gruppierungsschema:

LS T676-P1Q1-1: untere Familiengruppe
LS T676-Q1R2-1: obere Familiengruppe

Untere Familiengruppe: Der mögliche Lieferumfang beinhaltet die Helligkeitsgruppen P1, P2, Q1

Obere Familiengruppe: Der mögliche Lieferumfang beinhaltet die Helligkeitsgruppen Q1, Q2, R1, R2

Die Gruppe Q1 liegt in der Hauptverteilung und ist somit bei beiden Familiengruppen enthalten

Lambda Code "-1" ist die Farbtoleranz (Dominante Wellenlänge). Auf Anfrage sind bei einigen Typen mit Aufpreis Farbselektionen (Wellenlängengruppen) möglich.

Goldene Bestellregel für Einzelgruppen zur Sicherstellung einer kontinuierlichen LED-Belieferung:

In jeder LED-Bestellung muß neben der bestellten "Einzelgruppe" die freigegebene "Reservegruppe" deutlich aufgeführt werden.

Helligkeitsgruppierung bei SMT MULTILED

Bei einigen Multi TOPLED / Multi SIDELED haben wir auf Grund von diversen Kundenwünschen ein neues Gruppierungsschema eingeführt.

Was ist neu?

Beide (oder mehrere) Farben werden nach dem Helligkeitsgruppierungsschema (siehe Typenbezeichnungsschema) in Lichtstärke (mcd) gruppiert.

Beispiel: LSY T676 - P + Q

Superrot (S) Gruppe P = 40 ... 80 mcd

Gelb (Y) Gruppe Q = 63 ... 125 mcd

Helligkeitsgruppen

Durch die Helligkeitsverteilung von den Einzelfarben ergeben sich 4 bis 6 Einzelgruppen bei Multi TOPLED / Multi SIDELED:

Beispiel: LSY T676	Bestellgruppe
- P + P	} mögliche Liefergruppen
- P + Q	
- P + R	
- Q + Q	
- Q + R	

In einer Verpackungseinheit ist immer nur eine Kombination enthalten.

Max. Streubreite der Helligkeit innerhalb einer Verpackungseinheit

$I_{V \min} : I_{V \max}$ bzw. $\Phi_{V \min} : \Phi_{V \max} = 1 : 2$

Parameters for OSRAM LED Luminous Intensity Group System for SMT LEDs

In future, **SMT LEDs** will only be measured in half groups. Therefore the maximum luminous intensity variation in one group never exceeds $(I_{V \max} / I_{V \min}) \leq 1,6$. Each packing unit contains one half group.

(luminous intensity variation : half luminous intensity: $\pm 23\%$)

For luminous intensity groups and values see page 2 Type designation system.

1. No packing unit/tape ever contains more than one luminous intensity group!
2. The standard shipping format for serial types includes a lower or upper family group which contains of 3 or 4 groups. Individual groups are not available.
3. A family group covers approx. 60% of the overall luminous intensity.

Example of grouping scheme:

LS T676-P1Q1-1: lower family group
LS T676-Q1R2-1: upper family group

Lower family group: Scope of delivery includes luminous intensity groups P1, P2, Q1

Upper family group: Scope of delivery includes luminous intensity groups Q1, Q2, R1, R2

Group Q1 is situated in the main distribution and is therefore part of both family groups.

The color tolerance (dominant wave length) is the lambda code "-1". On surcharge wave length selections are available for most types.

Golden rule for ordering individual groups to ensure a continuous LED supply:

For any LED order please indicate clearly the released "reserve group" in addition to the "individual group" ordered.

Luminous Intensity Groups for SMT MULTILED

For certain Multi TOPLED / Multi SIDELED we have introduced a new grouping system in response to customer demands.

What is new?

Two (or more) colors will be grouped according to luminous intensity (mcd) in line with the luminous intensity group system (see Type designation system).

Example: LSY T676 - P + Q

super-red (S) Group P = 40 ... 80 mcd

yellow (Y) Group Q = 63 ... 125 mcd

Luminous Intensity Groups

The luminosity distribution of the individual colors results in the following 4 to 6 individual groups for Multi TOPLED / Multi SIDELED:

Example: LSY T676	Order group
- P + P	} possible shipment groups
- P + Q	
- P + R	
- Q + Q	
- Q + R	

Only one combination is included in any packing unit.

Matching Factor of Brightness within one packaging Unit

$I_{V \min} : I_{V \max}$ bzw. $\Phi_{V \min} : \Phi_{V \max} = 1 : 2$

Sicherheitshinweise

Osram LEDs erreichen aufgrund von neuen Chip-Technologien immer höhere optische Leistungen.

Wir empfehlen daher, schon bei der Entwicklung von Geräten, die zu diesem Zeitpunkt gültigen Normen IEC 825-1 bzw. EN 60825-1 zu beachten und insbesondere auf den Gebrauch von entsprechenden Schutzvorrichtungen in Ihren Labors hinzuweisen.

Alle Osram LED der Emissionsfarben Hyper-Rot, Super-Rot, Orange, Gelb, Grün und Pure Green entsprechen der DIN 40839 und sind somit störimpulsfest (Load Dump). Ausnahmen sind LC LED (Niedrigstrom) und Hyper-bright LED.

Betriebsbereich

Der empfohlene Betriebsbereich gibt die Betriebsbedingungen an, die nicht überschritten werden sollten, um eine Lebensdauer von $> 10^5$ Stunden zu erreichen.

Safety Instructions

The use of new chip technologies means that Osram LEDs are delivering higher and higher levels of optical performance.

We therefore recommend that the current versions of the IEC 825-1 and EN 60825-1 standards are taken into account right from the outset, i.e. at the equipment development stage, and that suitable protection facilities are provided in your laboratories.

All Osram LEDs of the emission colors hyper-red, super-red, orange, yellow, green and pure green are in accordance with DIN 40839 and therefore resistant to inference pulses (Load Dump) with the exception of LC LEDs (Low Current) and Hyper-bright LEDs.

Operating Range

In order to achieve a medium life of $> 10^5$ hours, the conditions indicated by the recommended operating range should not be exceeded.

SMT-LED

SMT-LEDs

Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Farbe der Licht- austrittsfläche Color of light emitting area				2 ϕ (typ.) (50% I_v) [deg].	Bestellnummer Ordering code	Fig.
					I_v [mcd]	Φ_v [mlm]	at I_F [mA]			

TOPLED®

TOPLED®

	LH T674-L2M2-1 LH T674-M2P1-1	hyper-red	645	colorless clear	14.00 ... 28.00 22.40 ... 56.00	62.0 (typ.) 110.0 (typ.)	10	120	Q62703-Q5024 Q62703-Q5025	1
	LS T670-H2J2-1 LS T670-J2L1-1	super-red	628	colorless clear	3.55 ... 7.10 5.60 ... 14.00	15.0 (typ.) 28.0 (typ.)	10	120	Q62703-Q5094 Q62703-Q5095	
	LO T670-J1K1-1 LO T670-K1L2-1	orange	605	colorless clear	4.50 ... 9.00 7.10 ... 18.00	20.0 (typ.) 36.0 (typ.)	10	120	Q62703-Q5046 Q62703-Q5047	
	LY T670-J1K1-1 LY T670-K1L2-1	yellow	590	colorless clear	4.50 ... 9.00 7.10 ... 18.00	20.0 (typ.) 36.0 (typ.)	10	120	Q62703-Q5132 Q62703-Q5133	
	LG T670-K1L1-1 LG T670-L1M2-1	green	570	colorless clear	7.10 ... 14.00 11.20 ... 28.00	31.0 (typ.) 56.0 (typ.)	10	120	Q62703-Q5010 Q62703-Q5011	
	LP T670-G1H1-1 LP T670-H1J2-1	pure green	560	colorless clear	1.80 ... 3.55 2.80 ... 7.10	7.1 (typ.) 14.0 (typ.)	10	120	Q62703-Q5064 Q62703-Q5065	
	LG T671-K2L2-1 LG T671-L2N1-1	green	570	colorless clear	9.00 ... 18.00 14.00 ... 35.50	40.0 (typ.) 70.0 (typ.)	10	120	Q62703-Q5012 Q62703-Q5013	

Super TOPLED®

Super TOPLED®

	LG T672-P1Q1-1 LG T672-Q1R2-1	green	570	colorless clear	45.0 ... 90.0 71.0 ... 180.0	190 (typ.) 350 (typ.)	50	120	Q62703-Q5014 Q62703-Q5015	1
	LP T672-L2M2-1 LP T672-M2P1-1	pure green	560	colorless clear	14.0 ... 28.0 22.4 ... 56.0	62 (typ.) 110 (typ.)	50	120	Q62703-Q5066 Q62703-Q5067	

TOPLED® RG (Reverse Gullwing)

TOPLED® RG (Reverse Gullwing)

	LH T774-L2M2-1 LH T774-M2P1-1	hyper-red	645	colorless clear	14.00 ... 28.00 22.40 ... 56.00	62.0 (typ.) 110.0 (typ.)	10	120	Q62703-Q5028 Q62703-Q5029	2
	LS T770-H2J2-1 LS T770-J2L1-1	super-red	628	colorless clear	3.55 ... 7.10 5.60 ... 14.00	15.0 (typ.) 28.0 (typ.)	10	120	Q62703-Q5101 Q62703-Q5102	
	LO T770-J1K1-1 LO T770-K1L2-1	orange	605	colorless clear	4.50 ... 9.00 7.10 ... 18.00	20.0 (typ.) 36.0 (typ.)	10	120	Q62703-Q5050 Q62703-Q5051	
	LY T770-J1K1-1 LY T770-K1L2-1	yellow	590	colorless clear	4.50 ... 9.00 7.10 ... 18.00	20.0 (typ.) 36.0 (typ.)	10	120	Q62703-Q5139 Q62703-Q5140	
	LG T770-K1L1-1 LG T770-L1M2-1	green	570	colorless clear	7.10 ... 14.00 11.20 ... 28.00	31.0 (typ.) 56.0 (typ.)	10	120	Q62703-Q5018 Q62703-Q5019	
	LP T770-G1H1-1 LP T770-H1J2-1	pure green	560	colorless clear	1.80 ... 3.55 2.80 ... 7.10	7.7 (typ.) 14.0 (typ.)	10	120	Q62703-Q5068 Q62703-Q5069	

■ Nicht für Neuentwicklungen / Not for new design

SMT-LED

SMT-LEDs

Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Farbe der Licht- austrittsfläche Color of light emitting area				2 ϕ (typ.) (50% I_V) [deg.]	Bestellnummer Ordering code	Fig.
					I_V [mcd]	Φ_V [mlm]	at I_F [mA]			

Hyper TOPLED®

Hyper TOPLED®

	LH T676-P1Q1-1 LH T676-Q1R2-1	hyper-red	645	colorless clear	45.0 ... 90.0 71.0 ... 180.0	190 (typ.) 350 (typ.)	20	120	Q62703-Q5026 Q62703-Q5027	1
	LS T676-P1Q1-1 LS T676-Q1R2-1	super-red	632	colorless clear	45.0 ... 90.0 71.0 ... 180.0	190 (typ.) 350 (typ.)	20	120	Q62703-Q5096 Q62703-Q5097	
	LA T676-Q1R1-1 LA T676-R1S2-1	amber	615	colorless clear	71.0 ... 140.0 112.0 ... 280.0	310 (typ.) 560 (typ.)	20	120	Q62703-Q4982 Q62703-Q4983	
	LO T676-Q2R2-1 LO T676-R2S2-1	orange	605	colorless clear	90.0 ... 180.0 140.0 ... 280.0	390 (typ.) 610 (typ.)	20	120	Q62703-Q5048 Q62703-Q5049	
	LY T676-Q1R1-1 LY T676-R1S2-1	yellow	587	colorless clear	71.0 ... 140.0 112.0 ... 280.0	310 (typ.) 560 (typ.)	20	120	Q62703-Q5134 Q62703-Q5135	
	LB T676-J2K2-1 LB T676-K2M1-1	blue	465	colorless clear	5.6 ... 11.2 9.0 ... 22.4	25 (typ.) 45 (typ.)	10	120	Q62703-Q4994 Q62703-Q4995	
	LB T673-M2N2-1 LB T673-N2Q1-1	blue	470	colorless clear	22.4 ... 45.0 35.5 ... 90.0	100 (typ.) 180 (typ.)	20	120	Q62703-Q4838 Q62703-Q4887	
	LV T673-Q1R1-1 LV T673-R1S2-1	verde	505	colorless clear	71.0 ... 140.0 112.0 ... 280.0	310 (typ.) 560 (typ.)	20	120	Q62703-Q4845 Q62703-Q4891	
	LT T673-Q2R2-1 LT T673-R2T1-1	true green	528	colorless clear	90.0 ... 180.0 140.0 ... 355.0	390 (typ.) 700 (typ.)	20	120	Q62703-Q4851 Q62703-Q4895	
	LW T676-M1N1-1 LW T676-N1P2-1	white	x=0.30 y=0.32	colored diffused	18.0 ... 35.5 28.0 ... 71.0	77 (typ.) 140 (typ.)	10	120	Q62703-Q5107 Q62703-Q5108	
	LW T673-Q2R2-1 LW T673-R2S2-1	white	x=0.32 y=0.31	colored diffused	90.0 ... 180.0 140.0 ... 280.0	390 (typ.) 610 (typ.)	20	120	Q62703-Q4836 Q62703-Q4686	

Power TOPLED®

Power TOPLED®

	LA E675-T2V1-11	amber	617	colorless clear	255 ... 900	1900 (typ.)	50	120	Q62703-Q4976	3
	LS E676-P2Q2-1 LS E676-Q2S1-1	super-red	632	colorless clear	56 ... 112 90 ... 224	240 (typ.) 440 (typ.)	30	120	Q62703-Q5767 Q62703-Q5768	
	LO E676-R1S1-1 LO E676-S1T2-1	orange	606	colorless clear	112 ... 224 180 ... 450	490 (typ.) 880 (typ.)	30	120	Q62703-Q5765 Q62703-Q5766	
	LY E676-R2S2-1 LY E676-S2U1-1	yellow	589	colorless clear	140 ... 280 224 ... 560	610 (typ.) 1100 (typ.)	30	120	Q62703-Q5119 Q62703-Q5120	
	LB E673-N1P1-1 LB E673-P1Q2-1	blue	469	colorless clear	28 ... 56 45 ... 112	120 (typ.) 220 (typ.)	30	120	Q62703-Q4844 Q62703-Q4890	
	LV E673-Q2R2-1 LV E673-R2T1-1	verde	503	colorless clear	90 ... 180 140 ... 355	390 (typ.) 700 (typ.)	30	120	Q62703-Q4848 Q62703-Q4894	
	LT E673-R1S1-1 LT E673-S1T2-1	true green	524	colorless clear	112 ... 224 180 ... 450	490 (typ.) 880 (typ.)	30	120	Q62703-Q4854 Q62703-Q4898	
	LY E675-T2V1-11	yellow	589	colorless clear	355 ... 900	1900 (typ.)	50	120	Q62703-Q5894	
	LW E673-R2S2-1 LW E673-S2U1-1	white	x=0.32 y=0.31	colored diffused	140 ... 280 224 ... 560	610 (typ.) 1100 (typ.)	30	120	Q62703-Q4862 Q62703-Q4902	

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LIGHT EMITTING DIODES

SMT-LED

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Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Farbe der Licht- austrittsfläche Color of light emitting area				2φ (typ.) (50% I _V) [deg.]	Bestellnummer Ordering code	Fig.
					I _V [mcd]	Φ _V [mlm]	at I _F [mA]			

Hyper TOPLED® RG (Reverse Gullwing)

Hyper TOPLED® RG (Reverse Gullwing)

	LS T776-P1Q1-1 LS T776-Q1R2-1	super-red	632	colorless clear	45.0 ... 90.0 71.0 ... 180.0	190 (typ.) 350 (typ.)	20	120	Q62703-Q5103 Q62703-Q5104	2
	LA T776-Q1R1-1 LA T776-R1S2-1	amber	615	colorless clear	71.0 ... 140.0 112.0 ... 280.0	310 (typ.) 560 (typ.)	20	120	Q62703-Q4984 Q62703-Q4985	
	LO T776-Q2R2-1 LO T776-R2S2-1	orange	605	colorless clear	90.0 ... 180.0 140.0 ... 280.0	390 (typ.) 610 (typ.)	20	120	Q62703-Q5052 Q62703-Q5053	
	LY T776-Q1R1-1 LY T776-R1S2-1	yellow	587	colorless clear	71.0 ... 140.0 112.0 ... 280.0	310 (typ.) 560 (typ.)	20	120	Q62703-Q5141 Q62703-Q5142	
	LB T776-J2K2-1 LB T776-K2M1-1	blue	465	colorless clear	5.6 ... 11.2 9.0 ... 22.4	25 (typ.) 45 (typ.)	10	120	Q62703-Q4996 Q62703-Q4997	
	LB T773-M2N2-1 LB T773-N2Q1-1	blue	470	colorless clear	22.4 ... 45.0 35.5 ... 90.0	100 (typ.) 180 (typ.)	20	120	on request on request	
	LT T773-Q2R2-1 LT T773-R2T1-1	true green	528	colorless clear	90.0 ... 180.0 140.0 ... 355.0	390 (typ.) 700 (typ.)	20	120	Q62703-Q4858 Q62703-Q4899	
	LW T773-Q2R2-1 LW T773-R2S2-1	white	x=0.32 y=0.31	colored diffused	90.0 ... 180.0 140.0 ... 280.0	390 (typ.) 610 (typ.)	20	120	Q62703-Q4951 Q62703-Q4952	

LC TOPLED® (Niedrigstrom)

LC TOPLED® (Low Current)

	LS T679-D2E2-1 LS T679-E2F2-1 LS T679-F2G2-1	super-red	628	colorless clear	0.56 ... 1.12 0.90 ... 1.80 1.40 ... 2.80	2.5 (typ.) 3.9 (typ.) 6.1 (typ.)	2	120	Q62703-Q5098 Q62703-Q5099 Q62703-Q5100	1
	LY T679-D2E2-1 LY T679-E2F2-1 LY T679-F2G2-1	yellow	590	colorless clear	0.56 ... 1.12 0.90 ... 1.80 1.40 ... 2.80	2.5 (typ.) 3.9 (typ.) 6.1 (typ.)	2	120	Q62703-Q5136 Q62703-Q5137 Q62703-Q5138	
	LG T679-E1F1-1 LG T679-F1G2-1	green	570	colorless clear	0.71 ... 1.40 1.12 ... 2.80	3.1 (typ.) 5.5 (typ.)	2	120	Q62703-Q5016 Q62703-Q5017	

Mini TOPLED®

Mini TOPLED®

	LS M670-H2J2-1 LS M670-J2L1-1	super-red	628	colorless clear	3.55 ... 7.1 5.60 ... 14.0	15 (typ.) 28 (typ.)	10	120	Q62703-Q5083 Q62703-Q5084	4
	LO M670-H2J2-1 LO M670-J2L1-1	orange	605	colorless clear	3.55 ... 7.1 5.60 ... 14.0	15 (typ.) 28 (typ.)	10	120	Q62703-Q5038 Q62703-Q5039	
	LY M670-H2J2-1 LY M670-J2L1-1	yellow	590	colorless clear	3.55 ... 7.1 5.60 ... 14.0	15 (typ.) 28 (typ.)	10	120	Q62703-Q5121 Q62703-Q5122	
	LG M670-J2K2-1 LG M670-K2M1-1	green	570	colorless clear	5.60 ... 11.2 9.00 ... 22.4	25 (typ.) 45 (typ.)	10	120	Q62703-Q5006 Q62703-Q5007	
	LP M670-F2G2-1 LP M670-G2J1-1	pure green	560	colorless clear	1.40 ... 2.8 2.24 ... 5.6	6 (typ.) 11 (typ.)	10	120	Q62703-Q5060 Q62703-Q5061	

SMT-LED

SMT-LEDs

Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Farbe der Licht- austrittsfläche Color of light emitting area				2 ϕ (typ.) (50% I_V) [deg.]	Bestellnummer Ordering code	Fig.
					I_V [mcd]	Φ_V [mlm]	at I_F [mA]			

Hyper Mini TOPLED®

Hyper Mini TOPLED®

	LS M676-N2P2-1 LS M676-P2R1-1	super-red	632	colorless clear	35.5 ... 71.0 56.0 ... 140.0	150 (typ.) 280 (typ.)	20	120	Q62703-Q5085 Q62703-Q5086	4
	LA M676-P2Q2-1 LA M676-Q2S1-1	amber	615	colorless clear	56.0 ... 112.0 90.0 ... 224.0	240 (typ.) 440 (typ.)	20	120	Q62703-Q4978 Q62703-Q4979	
	LO M676-Q1R1-1 LO M676-R1S2-1	orange	605	colorless clear	71.0 ... 140.0 112.0 ... 280.0	310 (typ.) 560 (typ.)	20	120	Q62703-Q5040 Q62703-Q5041	
	LY M676-P2Q2-1 LY M676-Q2S1-1	yellow	587	colorless clear	56.0 ... 112.0 90.0 ... 224.0	240 (typ.) 440 (typ.)	20	120	Q62703-Q5123 Q62703-Q5124	
	LB M676-J1K1 LB M676-K1L2	blue	465	colorless clear	4.5 ... 9.0 7.1 ... 18.0	20 (typ.) 36 (typ.)	10	120	Q62703-Q4990 Q62703-Q4991	
	LB M673-M1N1-1 LB M673-N1P2-1	blue	470	colorless clear	18.0 ... 35.5 28.0 ... 71.0	77 (typ.) 140 (typ.)	20	120	Q62703-Q4840 Q62703-Q4889	
	LT M673-Q1R1-1 LT M673-R1S2-1	true green	528	colorless clear	71.0 ... 140.0 112.0 ... 280.0	310 (typ.) 560 (typ.)	20	120	Q62703-Q4853 Q62703-Q4897	
	LW M673-Q1R1-1 LW M673-R1S1-1	white	x=0.32 y=0.31	colored diffused	71.0 ... 140.0 112.0 ... 224.0	310 (typ.) 490 (typ.)	20	120	Q62703-Q4861 Q62703-Q4901	

Mini TOPLED® RG (Reverse Gullwing)

Mini TOPLED® RG (Reverse Gullwing)

	LS M770-H2J2-1 LS M770-J2L1-1	super-red	628	colorless clear	3.55 ... 7.1 5.60 ... 14.0	15.0 (typ.) 28.0 (typ.)	10	120	Q62703-Q5087 Q62703-Q5088	5
	LO M770-H2J2-1 LO M770-J2L1-1	orange	605	colorless clear	3.55 ... 7.1 5.60 ... 14.0	15.0 (typ.) 28.0 (typ.)	10	120	Q62703-Q5042 Q62703-Q5043	
	LY M770-J1K1-1 LY M770-K1L2-1	yellow	590	colorless clear	4.50 ... 9.0 7.10 ... 18.0	20.0 (typ.) 36.0 (typ.)	10	120	Q62703-Q5125 Q62703-Q5126	
	LG M770-J2K2-1 LG M770-K2M1-1	green	570	colorless clear	5.60 ... 11.2 9.00 ... 22.4	25.0 (typ.) 45.0 (typ.)	10	120	Q62703-Q5008 Q62703-Q5009	
	LP M770-F2G2-1 LP M770-G2J1-1	pure green	560	colorless clear	1.40 ... 2.8 2.24 ... 5.6	6.1 (typ.) 11.0 (typ.)	10	120	Q62703-Q5062 Q62703-Q5063	

LC Mini TOPLED® RG (Reverse Gullwing)

LC Mini TOPLED® RG (Reverse Gullwing)

	LS M779-D1E1-1 LS M779-E1F1-1 LS M779-F1G2-1	super-red	628	colorless clear	0.45 ... 0.90 0.71 ... 1.40 1.12 ... 2.80	2.0 (typ.) 3.1 (typ.) 5.5 (typ.)	2	120	Q62703-Q5091 Q62703-Q5092 Q62703-Q5093	5
	LY M779-D1E1-1 LY M779-E1F1-1 LY M779-F1G1-1	yellow	590	colorless clear	0.45 ... 0.90 0.71 ... 1.40 1.12 ... 2.24	2.0 (typ.) 3.1 (typ.) 4.9 (typ.)	2	120	Q62703-Q5129 Q62703-Q5130 Q62703-Q5131	
	LG M779-CO	green	570	colorless clear	≥ 0.28 (1.0 typ.)	≥ 1.0 (typ.)	2	120	Q62703-Q3050	

Hyper Mini TOPLED® RG (Reverse Gullwing)

Hyper Mini TOPLED® RG (Reverse Gullwing)

	LS M776-N2P2-1 LS M776-P2R1-1	super-red	632	colorless clear	35.5 ... 71 56.0 ... 140	150 (typ.) 280 (typ.)	20	120	Q62703-Q5089 Q62703-Q5090	5
	LA M776-P2Q2-1 LA M776-Q2S1-1	amber	615	colorless clear	56.0 ... 112 90.0 ... 224	240 (typ.) 440 (typ.)	20	120	Q62703-Q4980 Q62703-Q4981	
	LO M776-Q1R1-1 LO M776-R1S2-1	orange	605	colorless clear	71.0 ... 140 112.0 ... 280	310 (typ.) 560 (typ.)	20	120	Q62703-Q5044 Q62703-Q5045	
	LY M776-P2Q2-1 LY M776-Q2S1-1	yellow	587	colorless clear	56.0 ... 112 90.0 ... 224	240 (typ.) 440 (typ.)	20	120	Q62703-Q5127 Q62703-Q5128	

LUMINESZENZDIODEN

LIGHT EMITTING DIODES

SMT-LED

SMT-LEDs

Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Farbe der Licht- austrittsfläche Color of light emitting area				2 ϕ (typ.) (50% I_V) [deg.]	Bestellnummer Ordering code	Fig.
					I_V [mcd]	Φ_V [mlm]	at I_F [mA]			

SIDELED®

SIDELED®

	LH A674-L2M2-1 LH A674-M2P1-1	hyper-red	645	colorless clear	14.00 ... 28.00 22.40 ... 56.00	62.0 (typ.) 110.0 (typ.)	10	120	Q62703-Q5022 Q62703-Q5023	6
	LS A670-H2J2-1 LS A670-J2L1-1	super-red	628	colorless clear	3.55 ... 7.10 5.60 ... 14.00	15.0 (typ.) 28.0 (typ.)	10	120	Q62703-Q5072 Q62703-Q5073	
	LO A670-J1K1-1 LO A670-K1L2-1	orange	605	colorless clear	4.50 ... 9.00 7.10 ... 18.00	20.0 (typ.) 36.0 (typ.)	10	120	Q62703-Q5030 Q62703-Q5031	
	LY A670-J1K1-1 LY A670-K1L2-1	yellow	590	colorless clear	4.50 ... 9.00 7.10 ... 18.00	20.0 (typ.) 36.0 (typ.)	10	120	Q62703-Q5109 Q62703-Q5110	
	LG A670-K1L1-1 LG A670-L1M2-1	green	570	colorless clear	7.10 ... 14.00 11.20 ... 28.00	31.0 (typ.) 56.0 (typ.)	10	120	Q62703-Q4998 Q62703-Q4999	
	LP A670-G1H1-1 LP A670-H1J2-1	pure green	560	colorless clear	1.80 ... 3.55 2.80 ... 7.10	7.7 (typ.) 14.0 (typ.)	10	120	Q62703-Q5054 Q62703-Q5055	

Super SIDELED®

Super SIDELED®

	LG A672-P1Q1-1 LG A672-Q1R2-1	green	570	colorless clear	45.0 ... 90.0 71.0 ... 180.0	190 (typ.) 350 (typ.)	50	120	Q62703-Q5000 Q62703-Q5001	6
	LP A672-L2M2-1 LP A672-M2P1-1	pure green	560	colorless clear	14.0 ... 28.0 22.4 ... 56.0	62 (typ.) 110 (typ.)	50	120	Q62703-Q5056 Q62703-Q5057	

LC SIDELED® (Niedrigstrom)

LC SIDELED® (Low Current)

	LS A679-D2E2-1 LS A679-E2F2-1 LS A679-F2G2-1	super-red	628	colorless clear	0.56 ... 1.12 0.90 ... 1.80 1.40 ... 2.80	2.5 (typ.) 3.9 (typ.) 6.1 (typ.)	2	120	Q62703-Q5076 Q62703-Q5077 Q62703-Q5078	6
	LY A679-D2E2-1 LY A679-E2G1-1	yellow	590	colorless clear	0.56 ... 1.12 0.90 ... 2.24	2.5 (typ.) 4.4 (typ.)	2	120	Q62703-Q5113 Q62703-Q5114	
	LG A679-E1F1-1 LG A679-F1G2-1	green	570	colorless clear	0.71 ... 1.40 1.12 ... 2.80	3.1 (typ.) 5.5 (typ.)	2	120	Q62703-Q5002 Q62703-Q5003	

Hyper SIDELED®

Hyper SIDELED®

	LS A676-N2P2-1 LS A676-P2R1-1	super-red	632	colorless clear	35.5 ... 71.0 56.0 ... 140.0	150 (typ.) 280 (typ.)	20	120	Q62703-Q5074 Q62703-Q5075	6
	LA A676-Q1R1-1 LA A676-R1S2-1	amber	615	colorless clear	71.0 ... 140.0 112.0 ... 280.0	310 (typ.) 560 (typ.)	20	120	Q62703-Q4972 Q62703-Q4973	
	LO A676-Q1R1-1 LO A676-R1S2-1	orange	605	colorless clear	71.0 ... 140.0 112.0 ... 280.0	310 (typ.) 560 (typ.)	20	120	Q62703-Q5032 Q62703-Q5033	
	LY A676-P2Q2-1 LY A676-Q2S1-1	yellow	587	colorless clear	56.0 ... 112.0 90.0 ... 224.0	240 (typ.) 440 (typ.)	20	120	Q62703-Q5111 Q62703-Q5112	
	LB A676-J2K2-1 LB A676-K2M1-1	blue	465	colorless clear	5.6 ... 11.2 9.0 ... 22.4	25 (typ.) 45 (typ.)	10	120	Q62703-Q4986 Q62703-Q4987	
	LB A673-M2N2-1 LB A673-N2Q1-1	blue	470	colorless clear	22.4 ... 45.0 35.5 ... 90.0	100 (typ.) 180 (typ.)	20	120	Q62703-Q4839 Q62703-Q4888	
	LV A673-Q1R1-1 LV A673-R1S2-1	verde	505	colorless clear	71.0 ... 140.0 112.0 ... 280.0	310 (typ.) 560 (typ.)	20	120	Q62703-Q4846 Q62703-Q4892	
	LT A673-Q2R2-1 LT A673-R2T1-1	true green	528	colorless clear	90.0 ... 180.0 140.0 ... 355.0	390 (typ.) 700 (typ.)	20	120	Q62703-Q4852 Q62703-Q4896	
	LW A676-M1N1-1 LW A676-N1P2-1	white	x=0.30 y=0.32	colored diffused	18.0 ... 35.5 28.0 ... 71.0	77 (typ.) 140 (typ.)	10	120	Q62703-Q5105 Q62703-Q5106	6
	LW A673-Q2R2-1 LW A673-R2S2-1	white	x=0.32 y=0.31	colored diffused	90.0 ... 180.0 140.0 ... 280.0	390 (typ.) 610 (typ.)	20	120	Q62703-Q4860 Q62703-Q4900	

■ Nicht für Neuentwicklungen / Not for new design

LUMINESZENZDIODEN

LIGHT EMITTING DIODES

SMT-LED

SMT-LEDs

Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Farbe der Licht- austrittsfläche Color of light emitting area				2 ϕ (typ.) (50% I_V) [deg.]	Bestellnummer Ordering code	Fig.
					I_V [mcd]	Φ_V [mlm]	at I_F [mA]			

Mini SIDELED®

(nicht für Neuentwicklungen -- wird durch Micro SIDELED® ersetzt)

Mini SIDELED®

(not for new design in -- will be replaced by Micro SIDELED®)

	LS C870-H2J2-1 LS C870-J2L1-1	super-red	628	colorless clear	3.55 ... 7.1 5.60 ... 14.0	15.0 (typ.) 28.0 (typ.)	10	120	Q62703-Q5079 Q62703-Q5080	7
	LO C870-H2J2-1 LO C870-J2L1-1	orange	605	colorless clear	3.55 ... 7.1 5.60 ... 14.0	15.0 (typ.) 28.0 (typ.)	10	120	Q62703-Q5034 Q62703-Q5035	
	LY C870-H2J2-1 LY C870-J2L1-1	yellow	590	colorless clear	3.55 ... 7.1 5.60 ... 14.0	15.0 (typ.) 28.0 (typ.)	10	120	Q62703-Q5115 Q62703-Q5116	
	LG C870-J2K2-1 LG C870-K2M1-1	green	570	colorless clear	5.60 ... 11.2 9.00 ... 22.4	25.0 (typ.) 45.0 (typ.)	10	120	Q62703-Q5004 Q62703-Q5005	
	LP C870-F2G2-1 LP C870-G2J1-1	pure green	560	colorless clear	1.40 ... 2.8 2.24 ... 5.6	6.1 (typ.) 11.0 (typ.)	10	120	Q62703-Q5058 Q62703-Q5059	

Hyper Mini SIDELED®

(nicht für Neuentwicklungen -- wird durch Micro SIDELED® ersetzt)

Hyper Mini SIDELED®

(not for new design in -- will be replaced by Micro SIDELED®)

	LS C876-N2P2-1 LS C876-P2R1-1	super-red	632	colorless clear	35.5 ... 71.0 56.0 ... 140.0	150 (typ.) 280 (typ.)	20	120	Q62703-Q5081 Q62703-Q5082	7
	LA C876-P2Q2-1 LA C876-Q2S1-1	amber	615	colorless clear	56.0 ... 112.0 90.0 ... 224.0	240 (typ.) 440 (typ.)	20	120	Q62703-Q4974 Q62703-Q4975	
	LO C876-P2Q2-1 LO C876-Q2S1-1	orange	605	colorless clear	56.0 ... 112.0 90.0 ... 224.0	240 (typ.) 440 (typ.)	20	120	Q62703-Q5036 Q62703-Q5037	
	LY C876-P2Q2-1 LY C876-Q2S1-1	yellow	587	colorless clear	56.0 ... 112.0 90.0 ... 224.0	240 (typ.) 440 (typ.)	20	120	Q62703-Q5117 Q62703-Q5118	
	LB C876-J1K1-1 LB C876-K1L2-1	blue	465	colorless clear	4.5 ... 9.0 7.1 ... 18.0	20 (typ.) 36 (typ.)	10	120	Q62703-Q4988 Q62703-Q4989	

Package	Type	I_V mcd		I_F mA	λ_{peak} nm	λ_{dom} nm	$\Delta\lambda$ nm	V_F V		I_F max mA	P_{tot} mW	$R_{\text{th JA}}$ K/W	Color of package	Ordering code	Fig.
		min	typ					typ	max						

Mini SIDELED RG (Reverse Gullwing) through-hole

Mini SIDELED RG (Reverse Gullwing) through-hole

	LG M470-J2K2-1	5.6	11.2	10	565	570	25	2.0	2.6	30	95	480	colorless clear	on request	37
	LG M470-K2M1-1	9.0	22.4												

SMT-LED

SMT-LEDs

Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Farbe der Licht- austrittsfläche Color of light emitting area	I_V [mcd]			2 ϕ (typ.) (50% I_V) [deg].	Bestellnummer Ordering code	Fig.
					color 1	color 2	at I_F [mA]			

Multi TOPLED®

Multi TOPLED®

	LSG T670 LSG T670-J+J LSG T670-J+K LSG T670-J+L LSG T670-K+J LSG T670-K+K LSG T670-K+L LSG T670-L+J LSG T670-L+K LSG T670-L+L	super-red/ green	628/ 570	colorless clear	≥ 4.0 (8 typ.) 4.0 ... 8.0 4.0 ... 8.0 4.0 ... 8.0 6.3 ... 12.5 6.3 ... 12.5 6.3 ... 12.5 10.0 ... 20.0 10.0 ... 20.0 10.0 ... 20.0 10.0 ... 20.0	≥ 4.0 (10 typ.) 4.0 ... 8.0 6.3 ... 12.5 10.0 ... 20.0 4.0 ... 8.0 6.3 ... 12.5 10.0 ... 20.0 4.0 ... 8.0 6.3 ... 12.5 10.0 ... 20.0	10	120	Q62703-Q4316	8
	LSY T670 LSY T670-J+J LSY T670-J+K LSY T670-J+L LSY T670-K+J LSY T670-K+K LSY T670-K+L LSY T670-L+J LSY T670-L+K LSY T670-L+L	super-red/ yellow	628/ 590	colorless clear	≥ 4.0 (8 typ.) 4.0 ... 8.0 4.0 ... 8.0 4.0 ... 8.0 6.3 ... 12.5 6.3 ... 12.5 6.3 ... 12.5 10.0 ... 20.0 10.0 ... 20.0 10.0 ... 20.0 10.0 ... 20.0	≥ 4.0 (10 typ.) 4.0 ... 8.0 6.3 ... 12.5 10.0 ... 20.0 4.0 ... 8.0 6.3 ... 12.5 10.0 ... 20.0 4.0 ... 8.0 6.3 ... 12.5 10.0 ... 20.0	10	120	Q62703-Q4317	
	LSP T670 LSP T670-H+G LSP T670-H+H LSP T670-J+G LSP T670-J+H LSP T670-J+J LSP T670-K+G LSP T670-K+H LSP T670-K+J	super-red/ pure green	628/ 560	colorless clear	≥ 4.0 (8 typ.) 2.5 ... 5.0 2.5 ... 5.0 4.0 ... 8.0 4.0 ... 8.0 4.0 ... 8.0 6.3 ... 12.5 6.3 ... 12.5 6.3 ... 12.5	≥ 1.6 (3 typ.) 1.6 ... 3.2 2.5 ... 5.0 1.6 ... 3.2 2.5 ... 5.0 4.0 ... 8.0 1.6 ... 3.2 2.5 ... 5.0 4.0 ... 8.0	10	120	Q62703-Q4318	
	LYG T670 LYG T670-J+J LYG T670-J+K LYG T670-J+L LYG T670-K+J LYG T670-K+K LYG T670-K+L LYG T670-L+J LYG T670-L+K LYG T670-L+L	yellow/ green	590/570	colorless clear	≥ 4.0 (9 typ.) 4.0 ... 8.0 4.0 ... 8.0 4.0 ... 8.0 6.3 ... 12.5 6.3 ... 12.5 6.3 ... 12.5 10.0 ... 20.0 10.0 ... 20.0 10.0 ... 20.0 10.0 ... 20.0	≥ 4.0 (10 typ.) 4.0 ... 8.0 6.3 ... 12.5 10.0 ... 20.0 4.0 ... 8.0 6.3 ... 12.5 10.0 ... 20.0 4.0 ... 8.0 6.3 ... 12.5 10.0 ... 20.0	10	120	Q62703-Q4502	
	LOP T670 LOP T670-J+G LOP T670-J+H LOP T670-J+J LOP T670-K+G LOP T670-K+H LOP T670-K+J	orange/ pure green	605/ 570	colorless clear	≥ 4.0 (8 typ.) 4.0 ... 8.0 4.0 ... 8.0 4.0 ... 8.0 6.3 ... 12.5 6.3 ... 12.5 6.3 ... 12.5	≥ 1.6 (3 typ.) 1.6 ... 3.2 2.5 ... 5.0 4.0 ... 8.0 1.6 ... 3.2 2.5 ... 5.0 4.0 ... 8.0	10	120	Q62703-Q4319	
	LOG T671 LOG T671-J+K LOG T671-J+L LOG T671-J+M LOG T671-K+K LOG T671-K+L LOG T671-K+M LOG T671-L+M	orange/ green	605/ 570	colorless clear	4.5 ... 7.1 4.5 ... 7.1 4.5 ... 7.1 7.1 ... 11.2 7.1 ... 11.2 7.1 ... 11.2 7.1 ... 11.2 11.2 ... 18.0	7.1 ... 11.2 11.2 ... 18.0 18.0 ... 28.0 7.1 ... 11.2 11.2 ... 18.0 18.0 ... 28.0 18.0 ... 28.0	10	120	Q62703-Q4320	
	LSG T671 LSG T671-J+K LSG T671-J+L LSG T671-J+M LSG T671-K+K LSG T671-K+L LSG T671-K+M LSG T671-L+K LSG T671-L+L LSG T671-L+M	super-red/ green	628/ 570	colorless clear	4.5 ... 7.1 4.5 ... 7.1 4.5 ... 7.1 7.1 ... 11.2 7.1 ... 11.2 7.1 ... 11.2 11.2 ... 18.0 11.2 ... 18.0 11.2 ... 18.0 11.2 ... 18.0	7.1 ... 11.2 11.2 ... 18.0 18.0 ... 28.0 7.1 ... 11.2 11.2 ... 18.0 18.0 ... 28.0 7.1 ... 11.2 11.2 ... 18.0 18.0 ... 28.0	10	120	Q62703-Q4321	

SMT-LED

SMT-LEDs

Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Farbe der Licht- austrittsfläche Color of light emitting area	I_V [mcd]			2 ϕ (typ.) (50% I_V) [deg].	Bestellnummer Ordering code	Fig.
					color 1	color 2	at I_F [mA]			

Multi TOPLED® (Kathoden auf einer Seite)

Multi TOPLED® (Cathodes on one side)

	LSG T677				4.5 ... 18.0	4.5 ... 18.0				
	LSG T677-J+J				4.5 ... 7.1	4.5 ... 7.1				
	LSG T677-J+K				4.5 ... 7.1	7.1 ... 11.2				
	LSG T677-J+L				4.5 ... 7.1	11.2 ... 18.0				
	LSG T677-K+J	super-red/	628/ 570	colorless clear	7.1 ... 11.2	4.5 ... 7.1	10	120	Q62703-Q4327	9
	LSG T677-K+K	green			7.1 ... 11.2	7.1 ... 11.2				
	LSG T677-K+L				7.1 ... 11.2	11.2 ... 18.0				
	LSG T677-L+J				11.2 ... 18.0	4.5 ... 7.1				
	LSG T677-L+K				11.2 ... 18.0	7.1 ... 11.2				
	LSG T677-L+L				11.2 ... 18.0	11.2 ... 18.0				

Hyper Multi TOPLED®

Hyper Multi TOPLED®

	LSY T676				45 ... 180	45 ... 180				
	LSY T676-P+P				45 ... 71	45 ... 71				
	LSY T676-P+Q	super-red/	632/ 587	colorless clear	45 ... 71	71 ... 112	20	120	Q62703-Q3428	8
	LSY T676-P+R	yellow			45 ... 71	112 ... 180				
	LSY T676-Q+Q				71 ... 112	71 ... 112				
	LSY T676-Q+R				71 ... 112	112 ... 180				

					color 1	color 2	color 3				
	LATB T686				71 ... 112	7.1 ... 11.2	71 ... 112	20	120	Q62703-Q5779	10
	-Q+Q+K				71 ... 112	11.2 ... 18.0	71 ... 112				
	-Q+Q+L	amber/	615/ 528/ 465	colorless clear and black painted package surface	71 ... 112	7.1 ... 11.2	112 ... 180				
	-Q+R+K				71 ... 112	11.2 ... 18.0	112 ... 180				
	-Q+R+L	true green/			71 ... 112	11.2 ... 18.0	112 ... 180				
	-R+Q+K	blue			112 ... 180	7.1 ... 11.2	71 ... 112				
	-R+Q+L				112 ... 180	11.2 ... 18.0	71 ... 112				
	-R+R+K				112 ... 180	7.1 ... 11.2	112 ... 180				
	-R+R+L				112 ... 180	11.2 ... 18.0	112 ... 180				

Multi TOPLED® RG (Reverse Gullwing)

Multi TOPLED® RG (Reverse Gullwing)

	LSG T770				4.5 ... 18.0	4.5 ... 18.0				
	LSG T770-J+J				4.5 ... 7.1	4.5 ... 7.1				
	LSG T770-J+K				4.5 ... 7.1	7.1 ... 11.2				
	LSG T770-J+L				4.5 ... 7.1	11.2 ... 18.0				
	LSG T770-K+J	super-red/	628/ 570	colorless clear	7.1 ... 11.2	4.5 ... 7.1	10	120	Q62703-Q4328	11
	LSG T770-K+K	green			7.1 ... 11.2	7.1 ... 11.2				
	LSG T770-K+L				7.1 ... 11.2	11.2 ... 18.0				
	LSG T770-L+J				11.2 ... 18.0	4.5 ... 7.1				
	LSG T770-L+K				11.2 ... 18.0	7.1 ... 11.2				
	LSG T770-L+L				11.2 ... 18.0	11.2 ... 18.0				

Multi SIDELED®

Multi SIDELED®

	LOG A671				4.5 ... 7.1	7.1 ... 11.2				
	LOG A671-J+K				4.5 ... 7.1	11.2 ... 18.0				
	LOG A671-J+L	orange/	605/ 570	colorless clear	4.5 ... 7.1	18.0 ... 28.0	10	120	Q62703-Q4322	12
	LOG A671-J+M	green			7.1 ... 11.2	7.1 ... 11.2				
	LOG A671-K+K				7.1 ... 11.2	11.2 ... 18.0				
	LOG A671-K+L				7.1 ... 11.2	18.0 ... 28.0				
	LOG A671-K+M				11.2 ... 18.0	18.0 ... 28.0				
	LOG A671-L+M				11.2 ... 18.0	18.0 ... 28.0				
	LSG A671				4.5 ... 7.1	18.0 ... 28.0				
	LSG A671-J+K				4.5 ... 7.1	7.1 ... 11.2				
	LSG A671-J+L				4.5 ... 7.1	11.2 ... 18.0				
	LSG A671-J+M				4.5 ... 7.1	18.0 ... 28.0				
	LSG A671-K+K	super-red/			7.1 ... 11.2	7.1 ... 11.2				
	LSG A671-K+L	green			7.1 ... 11.2	11.2 ... 18.0				
	LSG A671-K+M				7.1 ... 11.2	18.0 ... 28.0				
	LSG A671-L+K				11.2 ... 18.0	7.1 ... 11.2				
	LSG A671-L+L				11.2 ... 18.0	11.2 ... 18.0				
	LSG A671-L+M				11.2 ... 18.0	18.0 ... 28.0				

LUMINESZENZDIODEN

LIGHT EMITTING DIODES

SMT-LED

SMT-LEDs

Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Farbe der Licht- austrittsfläche Color of light emitting area	I_V [mcd]			2 ϕ (typ.) (50% I_V) [deg].	Bestellnummer Ordering code	Fig.
					color 1	color 2	at I_F [mA]			

Hyper Multi SIDELED®

Hyper Multi SIDELED®

	LSY A676	super-red/ yellow	632/ 587	colorless clear	45 ... 180	45 ... 180	20	120	Q62703-Q3374	12
	LSY A676-P+P				45 ... 71	45 ... 71				
	LSY A676-P+Q				45 ... 71	71 ... 112				
	LSY A676-P+R				45 ... 71	112 ... 180				
	LSY A676-Q+Q				71 ... 112	71 ... 112				
	LSY A676-Q+R				71 ... 112	112 ... 180				

Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Farbe der Licht- austrittsfläche Color of light emitting area	I_V [mcd]			2 ϕ (typ.) (50% I_V) [deg].	Bestellnummer Ordering code	Fig.
					I_V [mcd]	Φ_V [mlm]	at I_F [mA]			

SMT SOT-23 LED

SMT SOT-23 LEDs

	LS S260-DO	super-red	628	red diffused	≥ 0.45	—	10	140	Q62703-Q1640	35
	LY S260-DO	yellow	590	yellow diffused	≥ 0.45	—	10	140	Q62703-Q1657	
	LG S260-DO	green	570	green diffused	≥ 0.45	—	10	140	Q62703-Q1608	

SMT LC SOT-23 LED (Niedrigstrom)

SMT LC SOT-23 LEDs (Low Current)

	LS S269-BO	super-red	628	red diffused	≥ 0.18	—	2	140	Q62703-Q1566	35
	LY S269-BO	yellow	590	yellow diffused	≥ 0.18	—	2	140	Q62703-Q1568	
	LG S269-BO	green	570	green diffused	≥ 0.18	—	2	140	Q62703-Q1570	

■ Nicht für Neuentwicklungen / Not for new design

Package	Type	I_V mcd		I_F mA	λ_{peak} nm	λ_{dom} nm	$\Delta\lambda$ nm	V_F V		I_F max mA	P_{tot} mW	$R_{\text{th JA}}$ K/W	Color of package	Ordering code	Fig.
		min	typ					typ	max						

SmartLED

SmartLED

	LG L890-K1L1-1	7.1	14.0	20	565	570	25	2.0	2.6	30	95	400	colorless clear	on request	36
	LG L890-L1M2-1	11.2	28.0												

Hyper SmartLED

Hyper SmartLED

	LS L896-M1N1-1 LS L896-N1P2-1	18.0 28.0	35.5 71.0	20	645	632	16	2.0	2.5	60	165	510	colorless clear	on request	36
	LY L896-N1P1-1 LY L896-P1Q2-1	28.0 45.0	56.0 112.0	20	591	587	15	2.0	2.5	60	165	510	colorless clear	on request	
	LB L89S-K1L1-1 LB L89S-L1M2-1	7.1 11.2	14.0 28.0	10	465	470	25	3.4	3.9	15	60	450	colorless clear	on request	

LUMINESZENZDIODEN

LIGHT EMITTING DIODES

CHIPLED

 $I_F = 20 \text{ mA}$, $T_A = 25^\circ \text{C}$

Package	Type	I_V mcd		I_F mA	λ_{peak} nm	λ_{dom} nm	$\Delta\lambda$ nm	V_F V		I_F max mA	P_{tot} mW	$R_{\text{th JA}}$ K/W	Color of package	Ordering code	Fig.
		min	typ					typ	max						

CHIPLED 0603

	LG Q971	7.1	10	20	568	570	30	2.2	2.6	25	65	800	colorless diffused	Q62702-P5189	16
	LY Q971	2.8	6.0	20	589	590	40	2.2	2.6	20	65	800	colorless diffused	Q62703-P4699	

CHIPLED 0603

Hyper CHIPLED 0603

	LB Q99A	1.6	6.0	10	428	466	60	3.5	4.2	15	70	700	colorless clear	Q62702-P5184	17
	LB Q993	4.5	12	10	465	470	25	3.4	3.9	15	55	650	colorless clear	Q62702-P5290	
	LT Q993	28	70	10	523	528	33	3.2	3.9	15	55	650	colorless clear	Q62702-P5328	
	LO Q996	28	70	20	610	605	16	2.0	2.5	25	65	900	colorless clear	Q62702-P5337	16
	LY Q976	28	60	20	591	587	15	2.0	2.5	25	65	900	colorless diffused	Q62702-P5186	16
	LS Q976	18	50	20	645	632	16	2.0	2.5	25	65	900	colorless diffused	Q62702-P5187	
	LW Q98A	7.1	15	10	Cx=0.30	Cy=0.30	—	3.5	4.2	15	70	700	colored diffused	Q62702-P5185	17
	LW Q983	11.2	20	10	Cx=0.35	Cy=0.34	—	3.4	3.9	15	55	650	colored diffused	Q62702-P5225	

CHIPLED 0805

	LG R971	7.1	10	20	568	570	30	2.2	2.6	25	65	800	colorless diffused	Q62702-P5179	14
	LO R971	2.8	6	20	610	605	35	2.1	2.6	25	65	800	colorless diffused	Q62702-P5180	
	LY R971	2.8	6	20	589	590	40	2.2	2.6	20	65	800	colorless diffused	Q62702-P5181	
	LH R974	11.2	15	20	660	645	20	1.8	2.6	30	80	800	colorless diffused	Q62702-P5182	13

CHIPLED 0805

Hyper CHIPLED 0805

	LB R99A	2.8	10	20	428	465	60	3.8	4.5	20	90	680	colorless clear	Q62702-P5175	15
	LO R976	28	70	20	610	605	16	2.0	2.5	25	65	800	colorless diffused	Q62702-P5176	14
	LY R976	28	60	20	591	587	15	2.0	2.5	25	65	800	colorless diffused	Q62702-P5177	
	LS R976	18	50	20	645	632	16	2.0	2.5	25	65	800	colorless diffused	Q62702-P5178	
	LW R98A	11.2	25	20	Cx=0.32	Cy=0.34	—	3.8	4.5	20	90	680	colored diffused	Q62702-P5183	15

CHIPLED 1206

	LG N971	7.1	10	20	568	570	30	2.2	2.6	25	65	750	colorless diffused	Q62702-P5191	18
	LY N971	2.8	6	20	589	590	40	2.2	2.6	20	65	750	colorless diffused	Q62702-P5193	
	LH N974	7.1	15	20	660	645	20	1.8	2.6	30	80	750	colorless diffused	Q62702-P5192	

CHIPLED 1206

Radial-LED-Typenbezeichnungsschema

2nd and 3rd letter for the color of all MULTILED® package outlines
(higher wavelength = first letter, lower wavelength = second and third letter)

	Wavelength ($\lambda_{\text{dom typ.}}$)	Emission Color ¹⁾
H:	645 nm	hyper-red
R:	645 nm	red
S:	632 nm	super-red (hyper-bright LED)
S:	628 nm	super-red (standard LED)
U:	628 nm	super-red
	570 nm	green
A:	615 nm	amber
O:	605 nm	orange
Y:	590 nm	yellow (standard LED)
	587 nm	yellow (hyper-bright LED)
G:	570 nm	green
P:	560 nm	pure green
T:	525 nm	true green (InGaN)
V:	505 nm	verde (InGaN)
B:	470 nm	blue (InGaN)
B:	466 nm	blue (GaN)

Color coordinates according to CIE1931 / Emission color:
W: x = 0.30
y = 0.32

L: Light emitting diode

L	S				3	3	6	6	-	N	R	-1
---	---	--	--	--	---	---	---	---	---	---	---	----

Radial LED type designation system

Type

3:	round (standard version)	3 mm
5:	round (standard version)	5 mm
K:	ARGUS®/Super ARGUS® LED	3 mm
U:	Mini-LED	1 mm
Z:	Array LED (round)	2 mm

Color Tolerance Range

-1:	total color tolerance range delivery in single groups
-2:	subgroups of the total color tolerance range according to the data sheets
-3:	
-4:	
-5:	
-6:	

Luminous Intensity Groups
(family groups)
delivery in single groups e.g. N, P, Q, R

Lead Form

- 3: < 30 mm with stand-off
4: < 30 mm without stand-off

Package Color	Viewing Angle (typ.)
1: colorless clear	15 ... 30 degrees
2: colored clear	15 ... 30 degrees
3: colorless clear	30 ... 70 degrees
4: colored clear	30 ... 70 degrees
5: colorless diffused	40 ... 80 degrees
6: colored diffused	40 ... 80 degrees
7: colorless diffused	> 80 degrees
8: colored diffused	> 80 degrees
9: colorless clear	> 80 degrees

Special Versions

- 0: standard LED
1: aspherical lenses
2: high-current LED
3: hyper-bright LED (InGaN)
4: GaAlAs double hetero LED
5: high-optical Power LED
6: hyper-bright LED (MOVPE, GaN)
A: hyper-bright LED (GaN-lower ESD level)
7: Multi TOPLED: cathodes on one side
9: low-current LED
For array versions (digit 4 = Z)
Number of lamps per array

Luminous Intensity Groups
(single groups)

C: 0.28 ... 0.45	P: 45 ... 71
D: 0.45 ... 0.71	Q: 71 ... 112
E: 0.71 ... 1.12	R: 112 ... 180
F: 1.12 ... 1.80	S: 180 ... 280
G: 1.80 ... 2.80	T: 280 ... 450
H: 2.80 ... 4.50	U: 450 ... 710
J: 4.50 ... 7.10	V: 710 ... 1120
K: 7.10 ... 11.20	AW: 1120 ... 1800
L: 11.20 ... 18.00	BW: 1800 ... 2800
M: 18.00 ... 28.00	CW: 2800 ... 4500
N: 28.00 ... 45.00	DW: 4500 ... 7100
O: open top	

Value of Standard and LEDs in luminous intensity I_v in mcd.
Value of ARGUS® in luminous flux ϕ_v in mlm.

Luminous intensity is tested at a current pulse duration of 25 ms and an accuracy of $\pm 11\%$.

Gurtung von Lumineszenzdiolen

Alle radialen LED können in verschiedenen Gurtvarianten, sowohl nach IEC-Norm 286.2 und 3 als auch nach speziellen Gurtspezifikationen geliefert werden (siehe Kapitel „Gurtung und Verpackung“).

¹⁾ U: gilt für nur 5 mm MULTILED

Taping of LEDs

All unidirectional LEDs are available in various tape forms, including IEC publication 286.2 and 3 or special tape specifications (see also chapter “Tape and Reel”).

¹⁾ U: is valid only for 5 mm MULTILED

HINWEISE

Parameter des OSRAM LED-Helligkeitsgruppen-Schemas für radiale LEDs

Alle LEDs werden in Helligkeitsgruppen $I_{v \max} / I_{v \min} \leq$ Faktor 2 gemessen bzw. maximale Helligkeitsstreuung:

ganze Helligkeit: $\pm 33\%$
 halbe Helligkeit: $\pm 23\%$ (auf Anfrage)

Helligkeitsgruppen und Werte siehe Seite 16 Typenbezeichnungsschema.

1. In einer Verpackungseinheit/Gurt ist immer nur eine Helligkeitsgruppe!
Max. Streubreite der Helligkeit innerhalb einer Verpackungseinheit
 $I_{v \min} : I_{v \max}$ bzw. $\Phi_{v \min} : \Phi_{v \max} = 1 : 2$
2. Die Standardlieferform von Serientypen beinhaltet eine untere bzw. eine obere Familiengruppe oder 2 bis 4 Einzelgruppen.
3. Die 2 bis 4 Einzelgruppen decken 60 bis 80%, die beiden Familiengruppen 100% der Gesamthelligkeit ab.

Beispiel für Gruppierungsschema:

LS 3366 - NR untere Familiengruppe
 - P Einzelgruppe
 - Q Einzelgruppe
 - R Einzelgruppe
 - PS obere Familiengruppe

Untere Familiengruppe: Der mögliche Lieferumfang beinhaltet die Helligkeitsgruppen N, P, Q, R

Obere Familiengruppe: Der mögliche Lieferumfang beinhaltet die Helligkeitsgruppen P, Q, R, S

Einzelgruppen:

Die technologiebedingte Helligkeits-Streuung der heutigen LED-Herstellprozesse über einen längeren Fertigungszeitraum (Halbleitermaterial - Chipherstellung - Montageprozeß), erlaubt keine Zusage einer einzelnen Helligkeitsgruppe.

Daher müssen mindestens 2 Helligkeitsgruppen vorgesehen werden!

Auf Grund von kontinuierlichen Verbesserungen unserer Chip- und LED-Herstellungsprozesse werden sich die LED-Helligkeiten nach oben entwickeln. Über dadurch notwendige Anpassungen der Helligkeitsgruppen werden wir Sie rechtzeitig informieren.

Wenn mehr als 2 Einzelgruppen angeboten werden, muß eine Abstimmung mit Ihrem Osram OS-Partner bezüglich der Hauptverteilung erfolgen.

Bei besonders kritischen Anwendungen besteht die Möglichkeit, eine noch engere Selektion (Helligkeits-Halbgruppen / Wellenlängengruppe) durchzuführen. Die Anzahl der Liefergruppen vervielfacht sich dadurch.

Goldene Bestellregel für Einzelgruppen zur Sicherstellung einer kontinuierlichen LED-Belieferung:

In jeder LED-Bestellung muß neben der bestellten "Einzelgruppe" die freigegebene "Reservegruppe" deutlich aufgeführt werden.

Sicherheitshinweise

OSRAM LEDs erreichen aufgrund von neuen Chip-Technologien immer höhere optische Leistungen. Wir empfehlen daher, schon bei der Entwicklung von Geräten, die zu diesem Zeitpunkt gültigen Normen IEC 825-1 bzw. EN 60825-1 zu beachten und insbesondere auf den Gebrauch von entsprechenden Schutzvorrichtungen in Ihren Labors hinzuweisen.

Betriebsbereich

Der empfohlene Betriebsbereich gibt die Betriebsbedingungen an, die nicht überschritten werden sollten, um eine Lebensdauer von $> 10^5$ Stunden zu erreichen.

NOTES

Parameters for OSRAM LED Luminous Intensity Group System for Radial LEDs

All LEDs are measured in luminous intensity groups $I_{v \max} / I_{v \min} \leq$ Factor 2 or maximum luminous intensity variation:

entire luminous intensity: $\pm 33\%$
 half luminous intensity: $\pm 23\%$ (on request)

For luminous intensity groups and values see page 16 Type designation system.

1. No packing unit/tape ever contains more than one luminous intensity group!
Matching Factor of Brightness within one packaging Unit
 $I_{v \min} : I_{v \max}$ bzw. $\Phi_{v \min} : \Phi_{v \max} = 1 : 2$
2. The standard shipping format for serial types includes a lower or upper family group or 2 to 4 individual groups.
3. These 2 to 4 individual groups cover 60 to 80%, and the two family groups cover 100% of the overall luminous intensity.

Example of grouping scheme:

LS 3366 - NR lower family group
 - P individual group
 - Q individual group
 - R individual group
 - PS upper family group

Lower family group: Scope of delivery includes luminous intensity groups N, P, Q, R

Upper family group: Scope of delivery includes luminous intensity groups P, Q, R, S

Individual groups:

Luminosity variations caused by the technology used in current LED manufacturing processes over a protracted manufacturing period (semiconductor material - chip fabrication - assembly process) mean that it is not possible to assign LEDs to a single luminous intensity group.

For this reason at least two luminous intensity groups must be provided.

Owing to continuous improvements in our chip and LED manufacturing processes, LED luminous intensity values are set to increase. We will inform you in good time of any necessary changes to the luminous intensity groups.

If more than 2 individual groups are available, agreement should be reached with your Osram OS partner regarding the main distribution.

For especially critical applications there is the option of making a narrower selection (luminosity half groups / wavelength group). This multiplies the number of shipment groups.

Golden rule for ordering individual groups to ensure a continuous LED supply:

For any LED order please indicate clearly the released "reserve group" in addition to the "individual group" ordered.

Safety Instructions

The use of new chip technologies means that OSRAM LEDs are delivering higher and higher levels of optical performance. We therefore recommend that the current versions of the IEC 825-1 and EN 60825-1 standards are taken into account right from the outset, i.e. at the equipment development stage, and that suitable protection facilities are provided in your laboratories.

Operating Range

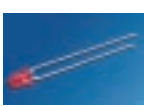
In order to achieve a medium life of $> 10^5$ hours, the conditions indicated by the recommended operating range should not be exceeded.

LUMINESZENZDIODEN

LIGHT EMITTING DIODES

RADIALE LED

RADIAL LEDs

Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Gehäusefarbe Emission Color				2φ (typ.) (50% I _V) [deg].	Bestellnummer Ordering code	Fig.
					I _V [mcd]	Φ _V [mlm]	at I _F [mA]			
3 mm LED										
	LH 3344-QT	hyper-red	645	red clear	71.0 ... 450.0	80 (typ.)	10	25	Q62703-Q2231	19
	LH 3344-R				112.0 ... 180.0	40 (typ.)			Q62703-Q3198	
	LH 3344-S				180.0 ... 280.0	70 (typ.)			Q62703-Q3199	
	LH 3344-T				280.0 ... 450.0	110 (typ.)			Q62703-Q3817	
	LH 3344-RU				112.0 ... 710.0	130 (typ.)			Q62703-Q3200	
	LS 3341-LP	super-red	628	red clear	11.20 ... 71.0	35 (typ.)	10	40	Q62703-Q3911	20
	LS 3341-M				18.00 ... 28.0	20 (typ.)			Q62703-Q2146	
	LS 3341-N				28.00 ... 45.0	30 (typ.)			Q62703-Q2147	
	LS 3341-P				45.00 ... 71.0	50 (typ.)			Q62703-Q3445	
	LS 3341-MQ				18.00 ... 112.0	55 (typ.)			Q62703-Q2148	
	LY 3341-LP	yellow	590	yellow clear	11.20 ... 71.0	35 (typ.)	10	40	Q62703-Q2152	
	LY 3341-M				18.00 ... 28.0	20 (typ.)			Q62703-Q2151	
	LY 3341-N				28.00 ... 45.0	30 (typ.)			Q62703-Q2398	
	LY 3341-P				45.00 ... 71.0	50 (typ.)			Q62703-Q3234	
	LY 3341-MQ				18.00 ... 112.0	55 (typ.)			Q62703-Q2149	
	LG 3341-KN	green	570	green clear	7.10 ... 45.0	25 (typ.)	10	40	Q62703-Q2153	
	LG 3341-M				18.00 ... 28.0	20 (typ.)			Q62703-Q2155	
	LG 3341-N				28.00 ... 45.0	30 (typ.)			Q62703-Q3187	
	LG 3341-MQ				18.00 ... 112.0	60 (typ.)			Q62703-Q2156	
	LP 3341-JM	pure green	560	green clear	4.50 ... 28.0	14 (typ.)	10	40	Q62703-Q3815	
	LP 3341-K				7.10 ... 11.2	7 (typ.)			Q62703-Q3816	
	LP 3341-L				11.20 ... 18.0	12 (typ.)			Q62703-Q2986	
	LP 3341-M				18.00 ... 28.0	20 (typ.)			Q62703-Q2919	
	LP 3341-KN				7.10 ... 45.0	22 (typ.)			Q62703-Q2750	
		LS 3340-KN	super-red	628	red clear	7.10 ... 45.0	35 (typ.)	10	50	
LS 3340-L		11.20 ... 18.0				20 (typ.)	Q62703-Q1702			
LS 3340-M		18.00 ... 28.0				30 (typ.)	Q62703-Q1704			
LS 3340-N		28.00 ... 45.0				45 (typ.)	Q62703-Q2320			
LS 3340-LP		11.20 ... 71.0				55 (typ.)	Q62703-Q3223			
LO 3340-KN		orange	605	orange clear	7.10 ... 45.0	35 (typ.)	10	50	Q62703-Q1886	
LO 3340-L					11.20 ... 18.0	20 (typ.)			Q62703-Q2256	
LO 3340-M					18.00 ... 28.0	30 (typ.)			Q62703-Q2255	
LO 3340-N					28.00 ... 45.0	45 (typ.)			Q62703-Q2473	
LO 3340-LP					11.20 ... 71.0	55 (typ.)			Q62703-Q2628	
LY 3340-JM		yellow	590	yellow clear	4.50 ... 28.0	20 (typ.)	10	50	Q62703-Q1789	
LY 3340-L					11.20 ... 18.0	20 (typ.)			Q62703-Q1791	
LY 3340-M					18.00 ... 28.0	30 (typ.)			Q62703-Q1999	
LY 3340-N					28.00 ... 45.0	45 (typ.)			Q62703-Q2652	
LY 3340-LP					11.20 ... 71.0	55 (typ.)			Q62703-Q1792	
LG 3330-KN	green	570	colorless clear	7.10 ... 45.0	35 (typ.)	10	50	Q62703-Q1698		
LG 3330-L				11.20 ... 18.0	20 (typ.)			Q62703-Q1699		
LG 3330-M				18.00 ... 28.0	30 (typ.)			Q62703-Q1700		
LG 3330-N				28.00 ... 45.0	45 (typ.)			Q62703-Q2010		
LG 3330-LP				11.20 ... 71.0	55 (typ.)			Q62703-Q2011		
LP 3340-JL	pure green	560	green clear	4.50 ... 18.0	10 (typ.)	10	50	Q62703-Q2749		
LP 3340-K				7.10 ... 11.2	9 (typ.)			Q62703-Q2982		
LP 3340-L				11.20 ... 18.0	14 (typ.)			Q62703-Q2980		
LP 3340-KM				7.10 ... 28.0	17 (typ.)			Q62703-Q3211		
	LH 3364-LP	hyper-red	645	red diffused	11.20 ... 71.0	80 (typ.)	10	45	Q62703-Q3202	19
	LH 3364-M				18.00 ... 28.0	40 (typ.)			Q62703-Q3203	
	LH 3364-N				28.00 ... 45.0	70 (typ.)			Q62703-Q2798	
	LH 3364-MQ				18.00 ... 112.0	130 (typ.)			Q62703-Q3201	

RADIALE LED

RADIAL LEDs

Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Gehäusefarbe Emission Color				2 ϕ (typ.) (50% I _V) [deg.]	Bestellnummer Ordering code	Fig.
					I _V [mcd]	Φ_V [mlm]	at I _F [mA]			

3 mm LED (Forts.)

3 mm LEDs (cont'd)

	LR 3360-DG LR 3360-F LR 3360-G LR 3360-FJ	red	645	red diffused	0.45 ... 2.8 1.12 ... 1.8 1.80 ... 2.8 1.12 ... 7.1	6 (typ.) 5 (typ.) 8 (typ.) 14 (typ.)	10	70	Q62703-Q1316 Q62703-Q1317 Q62703-Q1318 Q62703-Q1319	22
	LS 3360-HL LS 3360-K LS 3360-L LS 3360-KN	super-red	628	red diffused	2.80 ... 18.0 7.10 ... 11.2 11.20 ... 18.0 7.10 ... 45.0	26 (typ.) 20 (typ.) 35 (typ.) 65 (typ.)	10	70	Q62703-Q1320 Q62703-Q1321 Q62703-Q1322 Q62703-Q1323	
	LO 3360-HL LO 3360-K LO 3360-L LO 3360-JM	orange	605	orange diffused	2.80 ... 18.0 7.10 ... 11.2 11.20 ... 18.0 4.50 ... 28.0	26 (typ.) 20 (typ.) 35 (typ.) 40 (typ.)	10	70	Q62703-Q1887 Q62703-Q2400 Q62703-Q2596 Q62703-Q2410	
	LY 3360-HL LY 3360-K LY 3360-L LY 3360-KN	yellow	590	yellow diffused	2.80 ... 18.0 7.10 ... 11.2 11.20 ... 18.0 7.10 ... 45.0	26 (typ.) 20 (typ.) 35 (typ.) 65 (typ.)	10	70	Q62703-Q1324 Q62703-Q1325 Q62703-Q1326 Q62703-Q1998	
	LG 3360-HL LG 3360-J LG 3360-K LG 3360-L LG 3360-KN	green	570	green diffused	2.80 ... 18.0 4.50 ... 7.1 7.10 ... 11.2 11.20 ... 18.0 7.10 ... 45.0	26 (typ.) 15 (typ.) 20 (typ.) 35 (typ.) 65 (typ.)	10	70	Q62703-Q3818 Q62703-Q1865 Q62703-Q2008 Q62703-Q3507 Q62703-Q3819	
	LP 3360-GK LP 3360-H LP 3360-J LP 3360-HL	pure green	560	green diffused	1.80 ... 11.2 2.80 ... 4.5 4.50 ... 7.1 2.80 ... 18.0	16 (typ.) 9 (typ.) 14 (typ.) 26 (typ.)	10	70	Q62703-Q2467 Q62703-Q2914 Q62703-Q2915 Q62703-Q3213	

Hyper 3 mm LED

Hyper 3 mm LEDs

	LS 3336-QT LS 3336-R LS 3336-S LS 3336-T LS 3336-RU	super-red	632	colorless clear	71.0 ... 450.0 112.0 ... 180.0 180.0 ... 280.0 280.0 ... 450.0 112.0 ... 710.0	390 (typ.) 210 (typ.) 330 (typ.) 520 (typ.) 620 (typ.)	20	50	Q62703-Q3482 Q62703-Q3484 Q62703-Q3485 Q62703-Q3813 Q62703-Q3486	22
	LA 3336-RU LA 3336-S LA 3336-T LA 3336-U LA 3336-SV	amber	615	colorless clear	112.0 ... 710.0 180.0 ... 280.0 280.0 ... 450.0 450.0 ... 710.0 180.0 ... 1120.0	600 (typ.) 320 (typ.) 500 (typ.) 800 (typ.) 940 (typ.)	20	50	Q62703-Q3554 Q62703-Q3551 Q62703-Q3552 Q62703-Q3553 Q62703-Q3555	
	LO 3336-RU LO 3336-S LO 3336-T LO 3336-U LO 3336-SV	orange	605	colorless clear	112.0 ... 710.0 180.0 ... 280.0 280.0 ... 450.0 450.0 ... 710.0 180.0 ... 1120.0	600 (typ.) 320 (typ.) 500 (typ.) 800 (typ.) 940 (typ.)	20	50	Q62703-Q3144 Q62703-Q3176 Q62703-Q3170 Q62703-Q3307 Q62703-Q3177	
	LY 3336-RU LY 3336-S LY 3336-T LY 3336-U LY 3336-SV	yellow	587	colorless clear	112.0 ... 710.0 180.0 ... 280.0 280.0 ... 450.0 450.0 ... 710.0 180.0 ... 1120.0	600 (typ.) 320 (typ.) 500 (typ.) 800 (typ.) 940 (typ.)	20	50	Q62703-Q3487 Q62703-Q3489 Q62703-Q3490 Q62703-Q3814 Q62703-Q3491	
	LB 3336 LB 3336-M LB 3336-N LB 3336-P LB 3336-Q	blue	465	colorless clear	18.0 ... 28.0 28.0 ... 45.0 45.0 ... 71.0 71.0 ... 112.0	15 (typ.) 23 (typ.) 36 (typ.) 56 (typ.)	10	50	Q62703-Q4068	

Nicht für Neuentwicklungen / Not for new design

LUMINESZENZDIODEN

LIGHT EMITTING DIODES

RADIALE LED

RADIAL LEDs

Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Gehäusefarbe Emission Color				2 ϕ (typ.) (50% I_V) [deg.]	Bestellnummer Ordering code	Fig.
					I_V [mcd]	Φ_V [mlm]	at I_F [mA]			

Hyper 3 mm LED (Forts.)

Hyper 3 mm LEDs (cont'd)

	LS 3366-NR LS 3366-P LS 3366-Q LS 3366-R LS 3366-PS	super-red	632	red diffused	28.0 ... 180.0 45.0 ... 71.0 71.0 ... 112.0 112.0 ... 180.0 45.0 ... 280.0	360 (typ.) 190 (typ.) 300 (typ.) 480 (typ.) 580 (typ.)	20	70	Q62703-Q3457 Q62703-Q3458 Q62703-Q3459 Q62703-Q3460 Q62703-Q3461	22
	LA 3366-PS LA 3366-Q LA 3366-R LA 3366-S LA 3366-QT	amber	615	orange diffused	45.0 ... 280.0 71.0 ... 112.0 112.0 ... 180.0 180.0 ... 280.0 71.0 ... 450.0	540 (typ.) 280 (typ.) 450 (typ.) 720 (typ.) 840 (typ.)	20	70	Q62703-Q3881 Q62703-Q3882 Q62703-Q3883 Q62703-Q3884 Q62703-Q3885	
	LO 3366-PS LO 3366-Q LO 3366-R LO 3366-S LO 3366-QT	orange	605	orange diffused	45.0 ... 280.0 71.0 ... 112.0 112.0 ... 180.0 180.0 ... 280.0 71.0 ... 450.0	540 (typ.) 280 (typ.) 450 (typ.) 720 (typ.) 840 (typ.)	20	70	Q62703-Q3127 Q62703-Q3172 Q62703-Q3173 Q62703-Q3174 Q62703-Q3175	
	LY 3366-PS LY 3366-Q LY 3366-R LY 3366-S LY 3366-QT	yellow	587	yellow diffused	45.0 ... 280.0 71.0 ... 112.0 112.0 ... 180.0 180.0 ... 280.0 71.0 ... 450.0	540 (typ.) 280 (typ.) 450 (typ.) 720 (typ.) 840 (typ.)	20	70	Q62703-Q3462 Q62703-Q3464 Q62703-Q3465 Q62703-Q3466	
	LB 3356 LB 3356-J LB 3356-K LB 3356-L	blue	465	colorless diffused	4.5 ... 7.1 7.1 ... 11.2 11.2 ... 18.0	20 (typ.) 30 (typ.) 45 (typ.)	10	70	Q62703-Q4192	22
	LB 3333-PR LB 3333-RT	blue	470	colorless clear	45.0 ... 180.0 112.0 ... 450.0	120 (typ.) 300 (typ.)	20	30	Q62703-Q4841	
	LV 3333-SU LV 3333-UAW	verde	505	colorless clear	180.0 ... 710.0 450.0 ... 1800.0	480 (typ.) 1200 (typ.)	20	30	on request	
	LT 3333-SU LT 3333-UAW	true green	528	colorless clear	180.0 ... 710.0 450.0 ... 1800.0	480 (typ.) 1200 (typ.)	20	30	Q62703-Q4855	

3 mm LED

3 mm LEDs

	LS 3380-GK LS 3380-H LS 3380-J LS 3380-K LS 3380-HL	super-red	628	red diffused	1.8 ... 11.2 2.8 ... 4.5 4.5 ... 7.1 7.1 ... 11.2 2.8 ... 18.0	35 (typ.) 20 (typ.) 30 (typ.) 50 (typ.) 60 (typ.)	10	100	Q62703-Q2629 Q62703-Q1726 Q62703-Q1349 Q62703-Q3824 Q62703-Q2630	22
	LY 3380-GK LY 3380-H LY 3380-J LY 3380-K LY 3380-HL	yellow	590	yellow diffused	1.8 ... 11.2 2.8 ... 4.5 4.5 ... 7.1 7.1 ... 11.2 2.8 ... 18.0	35 (typ.) 20 (typ.) 30 (typ.) 50 (typ.) 60 (typ.)	10	100	Q62703-Q1352 Q62703-Q1353 Q62703-Q1354 Q62703-Q2317 Q62703-Q1355	
	LG 3380-GK LG 3380-J LG 3380-K LG 3380-JL	green	570	green diffused	1.8 ... 11.2 4.5 ... 7.1 7.1 ... 11.2 4.5 ... 18.0	45 (typ.) 20 (typ.) 30 (typ.) 40 (typ.)	10	100	Q62703-Q1356 Q62703-Q2318 Q62703-Q2631 Q62703-Q3910	

RADIALE LED

RADIAL LEDs

Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Gehäusefarbe Emission Color				2 ϕ (typ.) (50% I_V) [deg.]	Bestellnummer Ordering code	Fig.
					I_V [mcd]	Φ_V [mlm]	at I_F [mA]			

Hyper 3 mm LED

Hyper 3 mm LEDs

	LS 3386-LP LS 3386-M LS 3386-N LS 3386-P LS 3386-MQ	super-red	632	red diffused	11.2 ... 71.0 18.0 ... 28.0 28.0 ... 45.0 45.0 ... 71.0 18.0 ... 112.0	360 (typ.) 190 (typ.) 300 (typ.) 480 (typ.) 560 (typ.)	20	100	Q62703-Q3579 Q62703-Q3581 Q62703-Q3582 Q62703-Q3709 Q62703-Q3580	22
	LA 3386-MQ LA 3386-N LA 3386-P LA 3386-Q LA 3386-NR	amber	615	orange diffused	18.0 ... 112.0 28.0 ... 45.0 45.0 ... 71.0 71.0 ... 112.0 28.0 ... 180.0	530 (typ.) 280 (typ.) 450 (typ.) 700 (typ.) 840 (typ.)	20	100	Q62703-Q3886 Q62703-Q3887 Q62703-Q3888 Q62703-Q3889 Q62703-Q3890	
	LO 3386-MQ LO 3386-N LO 3386-P LO 3386-Q LO 3386-NR	orange	605	orange diffused	18.0 ... 112.0 28.0 ... 45.0 45.0 ... 71.0 71.0 ... 112.0 28.0 ... 180.0	530 (typ.) 280 (typ.) 450 (typ.) 700 (typ.) 840 (typ.)	20	100	Q62703-Q3891 Q62703-Q3892 Q62703-Q3893 Q62703-Q3894 Q62703-Q3895	
	LY 3386-MQ LY 3386-N LY 3386-P LY 3386-Q LY 3386-NR	yellow	587	yellow diffused	18.0 ... 112.0 28.0 ... 45.0 45.0 ... 71.0 71.0 ... 112.0 28.0 ... 180.0	530 (typ.) 280 (typ.) 450 (typ.) 700 (typ.) 840 (typ.)	20	100	Q62703-Q3896 Q62703-Q3897 Q62703-Q3898 Q62703-Q3899 Q62703-Q3900	

LC (Niedrigstrom) 3 mm LED

LC (Low Current) 3 mm LEDs

	LS 3369-EH LS 3369-G LS 3369-H LS 3369-GK	super-red	628	red diffused	0.71 ... 4.5 1.80 ... 2.8 2.80 ... 4.5 1.80 ... 11.2	— — — —	2	60	Q62703-Q1748 Q62703-Q2068 Q62703-Q3820 Q62703-Q3821	22
	LY 3369-EH LY 3369-F LY 3369-G LY 3369-H LY 3369-FJ	yellow	590	yellow diffused	0.71 ... 4.5 1.12 ... 1.8 1.80 ... 2.8 2.80 ... 4.5 1.12 ... 7.1	— — — — —	2	60	Q62703-Q1749 Q62703-Q2030 Q62703-Q2029 Q62703-Q1906 Q62703-Q3822	
	LG 3369-EH LG 3369-F LG 3369-G LG 3369-FJ	green	570	green diffused	0.71 ... 4.5 1.12 ... 1.8 1.80 ... 2.8 1.12 ... 7.1	— — — —	2	60	Q62703-Q1750 Q62703-Q2069 Q62703-Q2070 Q62703-Q3823	

3 mm MULTILED®¹⁾3 mm MULTILED®¹⁾

	LSG 3331-JO	super-red/ green	628/ 570	colorless clear	≥ 4.5 (18 typ.)	—	10	40	Q62703-Q2296	23
	LSG 3351-HO	super-red/ green	628/ 570	colorless diffused	≥ 2.8 (10 typ.)	—	10	50	Q62703-Q2297	

¹⁾ weitere Chipkombinationen auf Anfrage¹⁾ other chip combinations on request.

LUMINESZENZDIODEN

LIGHT EMITTING DIODES

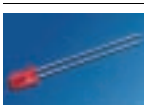
RADIALE LED

RADIAL LEDs

Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Gehäusefarbe Emission Color				2 ϕ (typ.) (50% I_V) [deg.]	Bestellnummer Ordering code	Fig.
					I_V [mcd]	Φ_V [mlm]	at I_F [mA]			

5 mm LED

5 mm LEDs

	LH 5424-QT LH 5424-S LH 5424-T LH 5424-SU	hyper-red	645	red clear	71 ... 450 180 ... 280 280 ... 450 180 ... 710	60 (typ.) 50 (typ.) 80 (typ.) 100 (typ.)	10	16	Q62703-Q2242 Q62703-Q3826 Q62703-Q3827 Q62703-Q3828	24
	LS 5421-NR LS 5421-Q LS 5421-R LS 5421-S LS 5421-QT	super-red	628	red clear	28 ... 180 71 ... 112 112 ... 180 180 ... 280 71 ... 450	20 (typ.) 20 (typ.) 30 (typ.) 50 (typ.) 60 (typ.)	10	20	Q62703-Q1994 Q62703-Q1442 Q62703-Q1738 Q62703-Q2405 Q62703-Q1995	
	LO 5411-QT LO 5411-R LO 5411-S LO 5411-T LO 5411-RU	orange	605	colorless clear	71 ... 450 112 ... 180 180 ... 280 280 ... 450 112 ... 710	70 (typ.) 20 (typ.) 30 (typ.) 50 (typ.) 60 (typ.)	10	20	Q62703-Q3928 Q62703-Q3929 Q62703-Q3930 Q62703-Q3931 Q62703-Q3932	
	LY 5421-NR LY 5421-Q LY 5421-R LY 5421-S LY 5421-QT	yellow	590	yellow clear	28 ... 180 71 ... 112 112 ... 180 180 ... 280 71 ... 450	20 (typ.) 20 (typ.) 30 (typ.) 50 (typ.) 60 (typ.)	10	20	Q62703-Q1444 Q62703-Q1446 Q62703-Q2005 Q62703-Q2632 Q62703-Q1447	
	LG 5411-NR LG 5411-Q LG 5411-R LG 5411-S LG 5411-QT	green	570	colorless clear	28 ... 180 71 ... 112 112 ... 180 180 ... 280 71 ... 450	20 (typ.) 20 (typ.) 30 (typ.) 50 (typ.) 60 (typ.)	10	20	Q62703-Q2023 Q62703-Q1739 Q62703-Q1451 Q62703-Q2321 Q62703-Q2024	25
	LS 5420-MQ LS 5420-P LS 5420-Q LS 5420-R LS 5420-PT	super-red	628	red clear	18 ... 112 45 ... 71 71 ... 112 112 ... 180 45 ... 450	20 (typ.) 20 (typ.) 30 (typ.) 50 (typ.) 90 (typ.)	10	24	Q62703-Q1428 Q62703-Q1430 Q62703-Q1993 Q62703-Q1429 Q62703-Q1431	
	LY 5420-MQ LY 5420-P LY 5420-Q LY 5420-R LY 5420-PS	yellow	590	yellow clear	18 ... 112 45 ... 71 71 ... 112 112 ... 180 45 ... 280	20 (typ.) 20 (typ.) 30 (typ.) 50 (typ.) 90 (typ.)	10	24	Q62703-Q1432 Q62703-Q1434 Q62703-Q2004 Q62703-Q3235 Q62703-Q1435	
	LG 5410-MQ LG 5410-P LG 5410-Q LG 5410-R LG 5410-PS	green	570	colorless clear	18 ... 112 45 ... 71 71 ... 112 112 ... 180 45 ... 280	20 (typ.) 20 (typ.) 30 (typ.) 50 (typ.) 60 (typ.)	10	24	Q62703-Q1439 Q62703-Q1868 Q62703-Q2020 Q62703-Q2021 Q62703-Q2022	

Hyper 5 mm LED

Hyper 5 mm LEDs

	LS 5426-TV LS 5426-VBW	super-red	632	red clear	280 ... 1120 710 ... 2800	240 (typ.) 380 (typ.)	20	16	on request on request	25
	LO 5426-VAW LO 5426-AWCW	orange	605	orange clear	710 ... 1800 1120 ... 4500	380 (typ.) 580 (typ.)	20	16	on request on request	
	LY 5426-VAW LY 5426-AWCW	yellow	587	yellow clear	710 ... 1800 1120 ... 4500	380 (typ.) 580 (typ.)	20	16	on request on request	
	LA 5416-VAW LA 5416-AWCW	amber	615	colorless clear	710 ... 1800 1120 ... 4500	380 (typ.) 580 (typ.)	20	16	on request on request	
	LS D446	super-red	632	red clear	250 (typ.)	—	20	40	on request	26
	LO D446	orange	605	orange clear	400 (typ.)	—	20	40	on request	
	LY D446	yellow	587	yellow clear	380 (typ.)	—	20	40	on request	

Nicht für Neuentwicklungen / Not for new design

RADIALE LED

RADIAL LEDs

Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Gehäusefarbe Emission Color				2φ (typ.) (50% I _V) [deg.]	Bestellnummer Ordering code	Fig.
					I _V [mcd]	Φ _V [mim]	at I _F [mA]			

Hyper 5 mm LED (Forts.)

Hyper 5 mm LEDs (cont'd)

	LB 5416 LB 5416-P LB 5416-Q LB 5416-R	blue	465	colorless clear	45 ... 71 71 ... 112 112 ... 180	26 (typ.) 41 (typ.) 66 (typ.)	10	14	Q62703-Q4256	25
	LS 5436-SO	super-red	632	colorless clear	≥ 180 (500 typ.)	—	20	40	Q62703-Q3626	
	LA 5436-TO	amber	615	colorless clear	≥ 280 (700 typ.)	—	20	40	Q62703-Q3919	
	LO 5436-TO	orange	605	colorless clear	≥ 280 (700 typ.)	—	20	40	Q62703-Q3628	
	LY 5436-TO	yellow	587	colorless clear	≥ 280 (700 typ.)	—	20	40	Q62703-Q3630	
	LB 5436 LB 5436-N LB 5436-P LB 5436-Q	blue	465	colorless clear	28 ... 45 45 ... 71 71 ... 112	20 (typ.) 30 (typ.) 45 (typ.)	10	35	Q62703-Q4028	
	LB 5413-TV LB 5413-VBW	blue	470	colorless clear	280 ... 1120 710 ... 2800	120 (typ.) 300 (typ.)	20	15	Q62703-Q4842	
	LV 5413-VBW LV 5413-BWDW	verde	505	colorless clear	710 ... 2800 1800 ... 7100	470 (typ.) 1200 (typ.)	20	15	Q62703-Q4849	
	LT 5413-VBW LT 5413-BWDW	true green	528	colorless clear	710 ... 2800 1800 ... 7100	470 (typ.) 1200 (typ.)	20	15	Q62703-Q4856	
	LB 5433-QS LB 5433-SU	blue	470	colorless clear	71 ... 280 180 ... 710	120 (typ.) 300 (typ.)	20	40	Q62703-Q4843	
	LV 5433-TV LV 5433-VBW	verde	505	colorless clear	280 ... 1120 710 ... 2800	470 (typ.) 1000 (typ.)	20	40	Q62703-Q4850	
	LT 5433-TV LT 5433-VBW	true green	528	colorless clear	280 ... 1120 710 ... 2800	470 (typ.) 1000 (typ.)	20	40	Q62703-Q4857	
	LB D433-RT LB D433-TV	blue	470	colorless clear	112 ... 450 280 ... 1120	190 (typ.) 470 (typ.)	20	40	on request	
	LT D433-TV LT D433-VBW	true green	528	colorless clear	280 ... 1120 710 ... 2800	470 (typ.) 1000 (typ.)	20	40	on request	
	LB 5456 LB 5456-J LB 5456-K LB 5456-L	blue	465	colorless diffused	4.5 ... 7.1 7.1 ... 11.2 11.2 ... 18.0	20 (typ.) 30 (typ.) 45 (typ.)	10	50	Q62703-Q4244	25

5 mm LED

5 mm LEDs

	LR 5360-DG LR 5360-F LR 5360-G LR 5360-FJ	red	645	red diffused	0.45 ... 2.80 1.12 ... 1.80 1.80 ... 2.80 1.12 ... 7.10	4 (typ.) 3 (typ.) 5 (typ.) 6 (typ.)	10	50	Q62703-Q1376 Q62703-Q1377 Q62703-Q1378 Q62703-Q1379	27
	LS 5360-HL LS 5360-J LS 5360-K LS 5360-L LS 5360-JM	super-red	628	red diffused	2.80 ... 18.00 4.50 ... 7.10 7.10 ... 11.20 11.20 ... 18.00 4.50 ... 28.00	35 (typ.) 20 (typ.) 30 (typ.) 50 (typ.) 60 (typ.)	10	50	Q62703-Q1380 Q62703-Q1744 Q62703-Q1381 Q62703-Q2001 Q62703-Q3224	
	LY 5360-HL LY 5360-J LY 5360-K LY 5360-L LY 5360-JM	yellow	590	yellow diffused	2.80 ... 18.00 4.50 ... 7.10 7.10 ... 11.20 11.20 ... 18.00 4.50 ... 28.00	35 (typ.) 20 (typ.) 30 (typ.) 50 (typ.) 60 (typ.)	10	50	Q62703-Q2000 Q62703-Q1386 Q62703-Q2001 Q62703-Q2404 Q62703-Q1387	
	LG 5360-GK LG 5360-H LG 5360-J LG 5360-K LG 5360-HL	green	570	green diffused	1.80 ... 11.20 2.80 ... 4.50 4.50 ... 7.10 7.10 ... 11.20 2.80 ... 18.00	20 (typ.) 12 (typ.) 20 (typ.) 30 (typ.) 50 (typ.)	10	50	Q62703-Q1391 Q62703-Q1390 Q62703-Q1866 Q62703-Q2012 Q62703-Q3188	

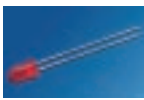
RADIALE LED

RADIAL LEDs

Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Gehäusefarbe Emission Color				2φ (typ.) (50% I _V) [deg.]	Bestellnummer Ordering code	Fig.
					I _V [mcd]	Φ _V [mlm]	at I _F [mA]			

5 mm LED (Forts.)

5 mm LEDs (cont'd)

	LH 5464-MQ LH 5464-N LH 5464-P LH 5464-Q LH 5464-NR	hyper-red	645	red diffused	18.00 ... 112.00 28.00 ... 45.00 45.00 ... 71.00 71.00 ... 112.00 28.00 ... 180.00	55 (typ.) 30 (typ.) 50 (typ.) 80 (typ.) 90 (typ.)	10	35	Q62703-Q3829 Q62703-Q3830 Q62703-Q2753 Q62703-Q3831 Q62703-Q3832	24
	LR 5460-DG LR 5460-F LR 5460-G LR 5460-FJ	red	645	red diffused	0.45 ... 2.80 1.12 ... 1.80 1.80 ... 2.80 1.12 ... 7.10	4 (typ.) 3 (typ.) 5 (typ.) 6 (typ.)	10	50	Q62703-Q1392 Q62703-Q1393 Q62703-Q1394 Q62703-Q1395	25
	LS 5460-HL LS 5460-J LS 5460-K LS 5460-L LS 5460-JM	super-red	628	red diffused	2.80 ... 18.00 4.50 ... 7.10 7.10 ... 11.20 11.20 ... 18.00 4.50 ... 28.00	35 (typ.) 20 (typ.) 30 (typ.) 50 (typ.) 60 (typ.)	10	50	Q62703-Q1396 Q62703-Q1746 Q62703-Q1397 Q62703-Q1398 Q62703-Q3225	
	LY 5460-HL LY 5460-J LY 5460-K LY 5460-L LY 5460-JM	yellow	590	yellow diffused	2.80 ... 18.00 4.50 ... 7.10 7.10 ... 11.20 11.20 ... 18.00 4.50 ... 28.00	35 (typ.) 20 (typ.) 30 (typ.) 50 (typ.) 60 (typ.)	10	50	Q62703-Q1400 Q62703-Q1401 Q62703-Q1402 Q62703-Q2403 Q62703-Q1403	
	LG 5460-GK LG 5460-H LG 5460-J LG 5460-K LG 5460-HL	green	570	green diffused	1.80 ... 11.20 2.80 ... 4.50 4.50 ... 7.10 7.10 ... 11.20 2.80 ... 18.00	20 (typ.) 12 (typ.) 20 (typ.) 30 (typ.) 50 (typ.)	10	50	Q62703-Q1407 Q62703-Q1406 Q62703-Q1867 Q62703-Q2014 Q62703-Q3190	
	LR 5480-CF LR 5480-E LR 5480-F LR 5480-DG	red	645	red diffused	0.28 ... 1.80 0.71 ... 1.12 1.12 ... 1.80 0.45 ... 2.80	4 (typ.) 3 (typ.) 5 (typ.) 6 (typ.)	10	80	Q62703-Q1986 Q62703-Q1734 Q62703-Q1987 Q62703-Q1408	
	LS 5480-GL LS 5480-J LS 5480-K LS 5480-L LS 5480-JM	super-red	628	red diffused	1.80 ... 18.00 4.50 ... 7.10 7.10 ... 11.20 11.20 ... 18.00 4.50 ... 28.00	35 (typ.) 20 (typ.) 30 (typ.) 50 (typ.) 60 (typ.)	10	80	Q62703-Q1989 Q62703-Q1414 Q62703-Q1990 Q62703-Q1991 Q62703-Q1992	
	LY 5480-HL LY 5480-J LY 5480-K LY 5480-L LY 5480-JM	yellow	590	yellow diffused	2.80 ... 18.00 4.50 ... 7.10 7.10 ... 11.20 11.20 ... 18.00 4.50 ... 28.00	35 (typ.) 20 (typ.) 30 (typ.) 50 (typ.) 60 (typ.)	10	80	Q62703-Q1416 Q62703-Q3236 Q62703-Q1418 Q62703-Q2402 Q62703-Q1419	
	LG 5480-GK LG 5480-H LG 5480-J LG 5480-K LG 5480-HL	green	570	green diffused	1.80 ... 11.20 2.80 ... 4.50 4.50 ... 7.10 7.10 ... 11.20 2.80 ... 18.00	20 (typ.) 12 (typ.) 20 (typ.) 30 (typ.) 50 (typ.)	10	80	Q62703-Q1423 Q62703-Q1422 Q62703-Q1869 Q62703-Q2018 Q62703-Q3191	
		LS 5380-FJ LS 5380-G LS 5380-H LS 5380-J LS 5380-HL	super-red	628	red diffused	1.12 ... 7.1 1.80 ... 2.8 2.80 ... 4.5 4.50 ... 7.1 2.80 ... 18.0	22 (typ.) 12 (typ.) 20 (typ.) 30 (typ.) 55 (typ.)	10	140	Q62703-Q1452 Q62703-Q1740 Q62703-Q1453 Q62703-Q1454 Q62703-Q1455
LY 5380-GK LY 5380-H LY 5380-J LY 5380-K LY 5380-HL		yellow	590	yellow diffused	1.80 ... 11.20 2.80 ... 4.50 4.50 ... 7.10 7.10 ... 11.20 2.80 ... 18.00	35 (typ.) 18 (typ.) 30 (typ.) 45 (typ.) 55 (typ.)	10	140	Q62703-Q2002 Q62703-Q1457 Q62703-Q2319 Q62703-Q3909 Q62703-Q2003	
LG 5380-GK LG 5380-H LG 5380-J LG 5380-K LG 5380-HL		green	570	green diffused	1.80 ... 11.20 2.80 ... 4.50 4.50 ... 7.10 7.10 ... 11.20 2.80 ... 18.00	35 (typ.) 18 (typ.) 30 (typ.) 45 (typ.) 55 (typ.)	10	140	Q62703-Q1463 Q62703-Q2032 Q62703-Q2016 Q62703-Q3189 Q62703-Q3825	

Nicht für Neuentwicklungen / Not for new design

LUMINESZENZDIODEN

LIGHT EMITTING DIODES

RADIALE LED

RADIAL LEDs

Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Gehäusefarbe Emission Color				2 ϕ (typ.) (50% I_V) [deg].	Bestellnummer Ordering code	Fig.
					I_V [mcd]	Φ_V [mlm]	at I_F [mA]			

LC 5 mm LED (Niedrigstrom)

LC 5 mm LEDs (Low Current)

	LS 5469-EH LS 5469-G LS 5469-H LS 5469-GK	super-red	628	red diffused	0.71 ... 4.5 1.80 ... 2.8 2.80 ... 4.5 1.80 ... 11.2	7.8 (typ.) 6.9 (typ.) 11.0 (typ.) 19.5 (typ.)	2	50	Q62703-Q1751 Q62703-Q2344 Q62703-Q2345 Q62703-Q3833	25
	LY 5469-EH LY 5469-F LY 5469-G LY 5469-H LY 5469-FJ	yellow	590	yellow diffused	0.71 ... 4.5 1.12 ... 1.8 1.80 ... 2.8 2.80 ... 4.5 1.12 ... 7.1	7.8 (typ.) 4.4 (typ.) 6.9 (typ.) 11.0 (typ.) 12.3 (typ.)	2	50	Q62703-Q1752 Q62703-Q3834 Q62703-Q3835 Q62703-Q3836 Q62703-Q3837	
	LG 5469-EH LG 5469-F LG 5469-G LG 5469-FJ	green	570	green diffused	0.71 ... 4.5 1.12 ... 1.8 1.80 ... 2.8 1.12 ... 7.1	7.8 (typ.) 4.4 (typ.) 6.9 (typ.) 12.3 (typ.)	2	50	Q62703-Q1753 Q62703-Q3856 Q62703-Q3857 Q62703-Q3858	

5 mm MULTILED® (2.54 mm Raster)

5 mm MULTILED® (2.54 mm Spacing)

	LU 5351-GL	super-red/ green	628/ 570	colorless diffused	1.8 ... 18.0	—	10	50	Q62703-Q2046	29
	LU 5351-JM	super-red/ green	628/ 570	colorless diffused	4.5 ... 28.0	—	10	50	Q62703-Q2047	

ARGUS® LED

ARGUS® LEDs

	LS K380-LP LS K380-N LS K380-P LS K380-Q LS K380-NR	super-red	628	red clear	— — — — —	11.2 ... 71.0 28.0 ... 45.0 45.0 ... 71.0 71.0 ... 112.0 28.0 ... 180.0	15	— — — — —	Q62703-Q1768 Q62703-Q0760 Q62703-Q1003 Q62703-Q1004 Q62703-Q2223	30
	LO K380-LP LO K380-N LO K380-P LO K380-Q LO K380-NR	orange	605	orange clear	— — — — —	11.2 ... 71.0 28.0 ... 45.0 45.0 ... 71.0 71.0 ... 112.0 28.0 ... 180.0	15	— — — — —	Q62703-Q1888 Q62703-Q2227 Q62703-Q2228 Q62703-Q2229 Q62703-Q2201	
	LY K380-LP LY K380-N LY K380-P LY K380-Q LY K380-NR	yellow	590	yellow clear	— — — — —	11.2 ... 71.0 28.0 ... 45.0 45.0 ... 71.0 71.0 ... 112.0 28.0 ... 180.0	15	— — — — —	Q62703-Q1769 Q62703-Q0575 Q62703-Q0576 Q62703-Q3844 Q62703-Q2224	
	LG K380-LP LG K380-N LG K380-P LG K380-Q LG K380-NR	green	570	green clear	— — — — —	11.2 ... 71.0 28.0 ... 45.0 45.0 ... 71.0 71.0 ... 112.0 28.0 ... 180.0	15	— — — — —	Q62703-Q1770 Q62703-Q0759 Q62703-Q1034 Q62703-Q3193 Q62703-Q2225	
	LP K380-KN LP K380-L LP K380-M LP K380-N LP K380-LP	pure green	560	colorless clear	— — — — —	7.1 ... 45.0 11.2 ... 18.0 18.0 ... 28.0 28.0 ... 45.0 11.2 ... 71.0	15	— — — — —	Q62703-Q2506 Q62703-Q3215 Q62703-Q2610 Q62703-Q2605 Q62703-Q3217	

■ Nicht für Neuentwicklungen / Not for new design

LUMINESZENZDIODEN

LIGHT EMITTING DIODES

RADIALE LED

RADIAL LEDs

Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Gehäusefarbe Emission Color				2φ (typ.) (50% I _V) [deg]	Bestellnummer Ordering code	Fig.
					I _V [mcd]	Φ _V [mlm]	at I _F [mA]			

Super ARGUS® LED

Super ARGUS® LEDs

	LG K382-QT	green	570	green clear	—	71 ... 450	50	—	Q62703-Q2642	30
	LG K382-R				—	112 ... 180			Q62703-Q2643	
	LG K382-S				—	180 ... 280			Q62703-Q2644	
	LG K382-T				—	280 ... 450			Q62703-Q2645	
	LG K382-RU				—	112 ... 710			Q62703-Q1959	
	LP K382-NR	pure green	560	colorless clear	—	28 ... 180	50	—	Q62703-Q2646	
	LP K382-P				—	45 ... 71			Q62703-Q2339	
	LP K382-Q				—	71 ... 112			Q62703-Q2338	
	LP K382-R				—	112 ... 180			Q62703-Q2337	
	LP K382-PS				—	45 ... 280			Q62703-Q2123	

Hyper ARGUS® 3 mm LED

Hyper ARGUS® 3 mm LEDs

	LH K376-QS LH K376-R LH K376-S LH K376-RT	hyper-red	645	colorless clear	— — — —	71.0 ... 280.0 112.0 ... 180.0 180.0 ... 280.0 112.0 ... 450.0	20	—	Q62703-Q3492 Q62703-Q3304 Q62703-Q3305 Q62703-Q3493	30
	LS K376-QT LS K376-R LS K376-S LS K376-T LS K376-RU	super-red	632	colorless clear	— — — — —	71.0 ... 450.0 112.0 ... 180.0 180.0 ... 280.0 280.0 ... 450.0 112.0 ... 710.0	20	—	Q62703-Q3467 Q62703-Q3468 Q62703-Q3469 Q62703-Q3470 Q62703-Q3471	
	LA K376-RU LA K376-S LA K376-T LA K376-U LA K376-SV	amber	615	colorless clear	— — — — —	112.0 ... 710.0 180.0 ... 280.0 280.0 ... 450.0 450.0 ... 710.0 180.0 ... 1120.0	20	—	Q62703-Q3735 Q62703-Q3737 Q62703-Q3738 Q62703-Q3739 Q62703-Q3736	
	LO K376-RU LO K376-S LO K376-T LO K376-U LO K376-SV	orange	605	colorless clear	— — — — —	112.0 ... 710.0 180.0 ... 280.0 280.0 ... 450.0 450.0 ... 710.0 180.0 ... 1120.0	20	—	Q62703-Q3472 Q62703-Q3473 Q62703-Q3474 Q62703-Q3475 Q62703-Q3476	
	LY K376-RU LY K376-S LY K376-T LY K376-U LY K376-SV	yellow	587	colorless clear	— — — — —	112.0 ... 710.0 180.0 ... 280.0 280.0 ... 450.0 450.0 ... 710.0 180.0 ... 1120.0	20	—	Q62703-Q3477 Q62703-Q3478 Q62703-Q3479 Q62703-Q3480 Q62703-Q3481	
	LB K376 LB K376-L1 LB K376-L2 LB K376-M1 LB K376-M2 LB K376-N1	blue	465	colorless clear	— — — — — —	11.2 ... 14.0 14.0 ... 18.0 18.0 ... 22.4 22.4 ... 28.0 28.0 ... 35.5	10	—	Q62703-Q4069	

Nicht für Neuentwicklungen / Not for new design

RADIALE LED

RADIAL LEDs

Package	Type	Emissionsfarbe Emission color	λ_{dom} (typ.) [nm]	Gehäusefarbe Emission Color				2 ϕ (typ.) (50% I_V) [deg].	Bestellnummer Ordering code	Fig.
					I_V [mcd]	Φ_V [mlm]	at I_F [mA]			

Zeilen LED 2 mm $\varnothing$

Array LEDs 2 mm Dia

	LR Z181-CO LR Z182-CO LR Z183-CO LR Z184-CO LR Z185-CO LR Z186-CO LR Z187-CO LR Z188-CO	red	645	red diffused	≥ 0.25	—	10	100	Q62703-Q1495 Q62703-Q1496 Q62703-Q1497 Q62703-Q1498 Q62703-Q1499 Q62703-Q1500 Q62703-Q1501 Q62703-Q1502	31
	LY Z181-CO	yellow	590	yellow diffused	≥ 0.25	—	10	100	Q62703-Q1505	
	LG Z181-CO LG Z182-CO LG Z183-CO LG Z184-CO LG Z185-CO LG Z186-CO LG Z188-CO	green	570	green diffused	≥ 0.25	—	10	100	Q62703-Q1506 Q62703-Q1507 Q62703-Q1508 Q62703-Q1509 Q62703-Q1510 Q62703-Q1511 Q62703-Q1513	

Mini LED 1 mm $\varnothing$

Miniature LEDs 1 mm Dia

	LS U260-EO	super-red	628	red diffused	≥ 0.71	—	10	60	Q62703-Q1492	32
	LY U260-EO	yellow	590	yellow diffused	≥ 0.71	—	10	60	Q62703-Q1493	
	LG U260-EO	green	570	colorless diffused	≥ 0.71	—	10	60	Q62703-Q1494	

Mini LED mit axialen Anschlüssen

Miniature LEDs, Axial-Leaded

	RL 50	red	645	colorless clear	≥ 0.5	—	20	90	Q68000-A5954	33
	RL 54	red	645	red diffused	≥ 0.4	—	20	90	Q68000-A5958	
	RL 55	red	645	red diffused	≥ 2.0	—	10	50	Q68000-A5959	34
	YL 56	yellow	590	yellow diffused	≥ 2.0	—	10	40	Q68000-A5961	
	GL 56	green	570	green diffused	≥ 1.0	—	10	40	Q68000-A5962	

■ Nicht für Neuentwicklungen / Not for new design

LUMINESZENZDIODEN

LIGHT EMITTING DIODES

Lötbedingungen für LED

Beim Einlöten ist darauf zu achten, daß das Bauelement thermisch nicht überlastet wird. Die maximale Sperrschichttemperatur darf nur kurzzeitig (max. 1 min) überschritten werden.

Zulässige Lötverfahren und Vorbehandlung siehe Tabelle:

Soldering conditions for LEDs

When soldering the component into position, make sure that it is not thermally overloaded. The maximum junction temperature may only be exceeded briefly (for no more than 1 min.).

Permissible soldering methods and preconditioning are:

Package	IR Reflow Soldering	TTW Soldering	Preconditioning acc. to Jedec Level
5mm (T1 3/4) LED	—	X	n.a.
3mm (T1) LED	—	X	n.a.
Mini SIDELED®	X	—	2
Mini TOPLED®	X	X	2
TOPLED®	X	X	2
SIDELED®	X	X	2
Multi TOPLED®	X	X	2
Multi SIDELED®	X	—	2
CHIPLED	X	—	2
Power TOPLED®	X	X	2
SMT Radial	X	—	3
ARGUS®	—	X	n.a.
SOT-23 LED	X	—	1
SmartLED	X	—	—

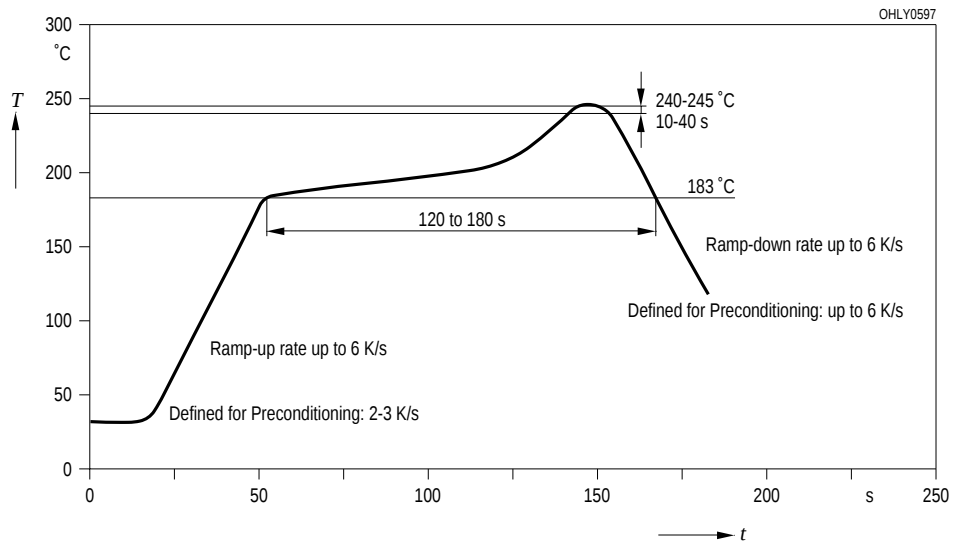
Lösungsmittel zum Reinigen von eingelöteten LED

Zum Reinigen der eingelöteten LED sind organische Lösungsmittel geeignet, die aus Alkoholen oder bestimmten Fluorkohlenwasserstoffen oder aus einer Mischung von beiden Gruppen bestehen. Keinesfalls sollte man Lösungsmittel oder Lösungsmittelgemische verwenden, die chlorierte Kohlenwasserstoffe oder Ketone enthalten. Lösungsmittel dieser Art können den Verguß angreifen oder auflösen.

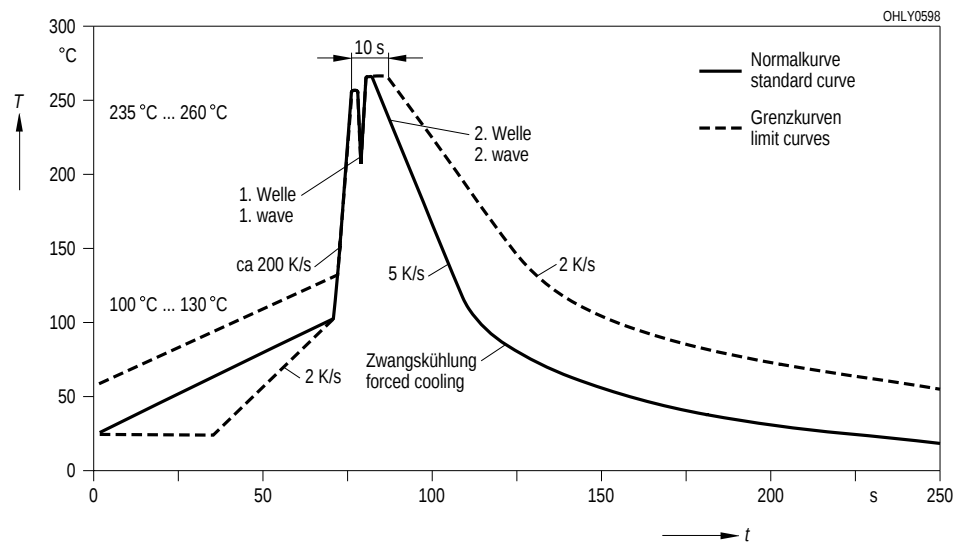
Cleaning solvents for soldered-in LEDs

Organic solvents consisting of alcohols or hydrocarbon-fluorides or a mixture of both groups are suitable for cleaning soldered-in LEDs. In no way should solvents or solvent mixtures be used which contain chlorinated hydrocarbons or ketones. This type of solvents may attack or corrode the display housing or casing.

IR-reflow-soldering-profile acc. to IPC 9501



Wave soldering (dual wave) soldering profile acc. to CECC 00802



Grenzwerte

Absolute maximum ratings

		Betriebstemperatur/ Operating temperature	Lagertemperatur/ Storage temperature	Sperrschichttemperatur/ Junction temperature	Stoßstrom Surge current ($T_A = 25\text{ °C}/t_p < 10\text{ }\mu\text{s}$)	Sperrspannung Reverse voltage ($T_A = 25\text{ °C}$)	Durchlaßstrom Forward current ($T_A = 25\text{ °C}$)	Verlustleistung Power dissipation ($T_A = 25\text{ °C}$)	Wärmewiderstand Sperrschicht/Luft Thermal resistance Junction/Air
	Color*	T_{op} °C	T_{stg} °C	T_j °C	I_{FM} A	V_R V	I_F mA	P_{tot} mW	R_{thJA} K/W
TOPLED®	S, O, Y, G	-40 ... +100		+100	0.5	25	30	100	400
	P	-40 ... +100		+100	0.5	5	30	100	
	H	-40 ... +100		+100	0.5	3	30	90	
Super TOPLED®	S, O, Y, G	-40 ... +100		+100	1	25	50	190	300
	P	-40 ... +100		+100	1	5	50	190	
Hyper TOPLED®	S, A, O	-40 ... +100		+125	1	3	30	80	500
	Y	-40 ... +100		+125	0.2	3	20	55	500
	B	-40 ... +100		+100	–	5	20	100	500
Power TOPLED®	A	-40 ... +100		+125	–	3	70	130	300
	Y	-40 ... +100		+125	–	3	50	130	300
Low-current TOPLED®	S, Y, G	-40 ... +100		+100	0.15	5	7.5	20	500
SIDELED®	H	-40 ... +100		+100	0.5	3	30	90	430
	S, O, Y, G, P	-40 ... +100		+100	0.5	5	30	100	430
Super SIDELED®	S, O, Y, G, P	-40 ... +100		+100	1	5	50	190	330
Hyper SIDELED®	S, A, O	-40 ... +100		+100	1	3	30	80	530
	Y	-40 ... +100		+100	0.2	3	20	55	530
	B	-40 ... +100		+100	–	5	20	100	530
Low-current SIDELED®	S, Y, G	-40 ... +100		+100	0.15	5	7.5	20	430
Mini SIDELED®	S, O, Y, G, P	-40 ... +100		+100	0.5	5	30	100	530
Hyper Mini SIDELED®	S, A, O	-40 ... +100		+125	0.8	3	30	80	630
	Y	-40 ... +100		+125	0.2	3	20	55	630
	B	-40 ... +100		+125	–	5	20	100	630
Mini TOPLED®	S, O, Y, G, P	-40 ... +100		+100	0.5	5	30	100	480
Hyper Mini TOPLED®	S, A, O	-40 ... +100		+125	0.8	3	30	80	580
	Y	-40 ... +100		+125	0.2	3	20	55	580
	B	-40 ... +100		+125	–	5	20	100	580
CHIPLED 0603	–	-30 ... +85	-40 ... +85	+95	–	5	25	70	–
CHIPLED 0805	–	-30 ... +85	-40 ... +85	+95	–	5	25	70	–
CHIPLED 1206	–	-30 ... +85	-40 ... +85	+95	–	5	25	70	–
Hyper CHIPLED 0603	–	-30 ... +85	-40 ... +85	+95	–	5	25	70	–
Hyper CHIPLED 0805	–	-30 ... +85	-40 ... +85	+95	–	5	25	70	–
Multi CHIPLED	–	-30 ... +85	-40 ... +85	+95	–	5	25	70	–

* R ≡ rot, H ≡ Hyper-rot, S ≡ Super-rot, O ≡ Orange, Y ≡ Gelb, G ≡ Grün, P ≡ Pure green, B ≡ Blau

* R ≡ red, H ≡ hyper-red, S ≡ super-red, O ≡ orange, Y ≡ yellow, G ≡ green, P ≡ pure green, B ≡ blue

¹⁾ Gilt nicht für Zweifarben-LED mit antiparallel geschalteten Systemen¹⁾ Not valid for two-color LED with antiparallel dies

Diese Daten gelten nicht für RL 50, 54, 55, YL 56, GL 56.

These data do not apply to RL 50, 54, 55, YL 56, GL 56.

Grenzwerte (Forts.)

Absolute maximum ratings (cont')

		Betriebstemperatur/ Operating temperature	Lagertemperatur/ Storage temperature	Sperrschichttemperatur/ Junction temperature	Stoßstrom Surge current ($T_A = 25\text{ °C}/t_p < 10\text{ }\mu\text{s}$)	Sperrspannung Reverse voltage ($T_A = 25\text{ °C}$)	Durchlaßstrom Forward current ($T_A = 25\text{ °C}$)	Verlustleistung Power dissipation ($T_A = 25\text{ °C}$)	Wärmewiderstand Sperrschicht/Luft Thermal resistance Junction/Air
	Color*	T_{op} °C	T_{stg} °C	T_j °C	I_{FM} A	V_R V	I_F mA	P_{tot} mW	R_{thJA} K/W
SOT 23	S, Y, G	-55 ... +100		+100	0.5	25	30	100	750
Low-current SOT 23	S, Y, G	-55 ... +100		+100	0.15	25	7.5	20	750
Hyper LED (3 + 5 mm)	S, A, O	-55 ... +100		+100	1	3	30	80	500
	Y	-55 ... +100		+100	0.2	3	20	55	500
	B	-40 ... +100		+100	–	5	20	100	500
LED (3 + 5 mm) ARGUS®	R	-55 ... +100		+100	0.5	25	45	100	400
	S, O, Y, G	-55 ... +100		+100	0.5	25	40 ¹⁾	140	
	P	-55 ... +100		+100	0.5	5	30 ¹⁾	100	
	H	-55 ... +100		+100	0.5	3	40	120	
Super ARGUS®	S, O, Y, G	-55 ... +100		+100	1	25	75	240	250
	P	-55 ... +100		+100	1	5	75	240	
Hyper ARGUS®	S, A, O	-55 ... +100		+100	1	3	30	80	500
	Y	-55 ... +100		+100	0.2	3	20	55	500
	H	-55 ... +100		+100	0.5	3	50	130	500
	B	-40 ... +100		+100	–	5	20	100	500
Low-current LED Low-current ARGUS®	S, Y, G	-55 ... +100		+100	0.15	25	7.5	20	500
Mini-LED	S, Y, G	-40 ... +80		+100	0.35	25	15	50	1100
ARRAY LED	R, Y, G	-40 ... +80		+100	0.5	25	30	90	750

* R ≡ rot, H ≡ Hyper-rot, S ≡ Super-rot, O ≡ Orange, Y ≡ Gelb, G ≡ Grün, P ≡ Pure green, B ≡ Blau

* R ≡ red, H ≡ hyper-red, S ≡ super-red, O ≡ orange, Y ≡ yellow, G ≡ green, P ≡ pure green, B ≡ blue

¹⁾ Gilt nicht für Zweifarben-LED mit antiparallel geschalteten Systemen

¹⁾ Not valid for two-color LED with antiparallel dies

Diese Daten gelten nicht für RL 50, 54, 55, YL 56, GL 56.

These data do not apply to RL 50, 54, 55, YL 56, GL 56.

Für Details siehe Datenblatt.

For details see data sheet.

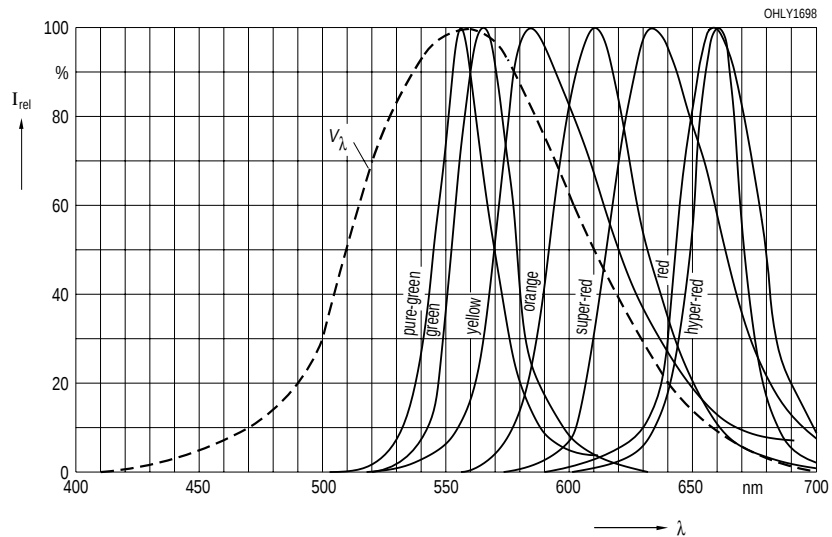
Kenndaten ($T_A = 25\text{ °C}$)Typical values ($T_A = 25\text{ °C}$)

Standard-current-LED			red	hyper-red	super-red	orange	yellow	green	pure green	
Wellenlänge des emittierten Lichts/ Wavelength at peak emission	$I_F = 10\text{ mA}$	λ_{peak}	660	660	635	610	586	565	557	nm
Dominantwellenlänge/ Dominant wavelength	$I_F = 10\text{ mA}$	λ_{dom}	645	645	628	605	590	570	560	nm
Durchlassspannung/ Forward Voltage	$I_F = 10\text{ mA}$	V_F	1.6 (≤ 2.0)	1.75 (≤ 2.6)	2.0 (≤ 2.6)	2.0 (≤ 2.6)	2.0 (≤ 2.6)	2.0 (≤ 2.6)	2.0 (≤ 2.6)	V

Low-current LED			super-red	yellow	green	
Wellenlänge des emittierten Lichts/Wavelength at peak emission	$I_F = 7.5\text{ mA}$	λ_{peak}	635	586	565	nm
Dominantwellenlänge/Dominant wavelength	$I_F = 7.5\text{ mA}$	λ_{dom}	628	590	570	nm
Durchlassspannung/Forward Voltage	$I_F = 2\text{ mA}$	V_F	1.8 (≤ 2.6)	2.0 (≤ 2.7)	1.9 (≤ 2.6)	V

High-current LED			super-red	orange	yellow	green	pure green	
Wellenlänge des emittierten Lichts/Wavelength at peak emission	$I_F = 20\text{ mA}$	λ_{peak}	635	610	586	565	557	nm
Dominantwellenlänge/Dominant wavelength	$I_F = 20\text{ mA}$	λ_{dom}	628	605	590	570	560	nm
Durchlassspannung/Forward Voltage	$I_F = 50\text{ mA}$	V_F	2.0 (≤ 3.8)	2.4 (≤ 3.8)	2.4 (≤ 3.8)	2.6 (≤ 3.8)	2.6 (≤ 3.8)	V

Standard-current LED, Low-current LED, High-current LED

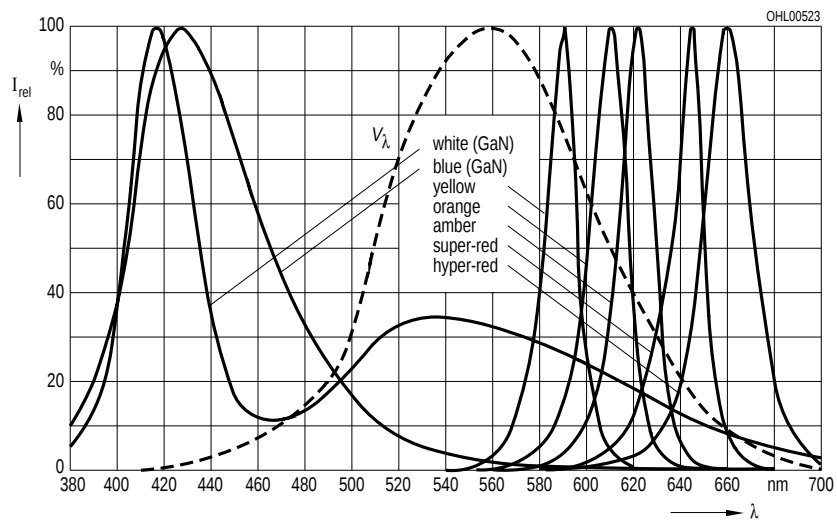


Kenndaten ($T_A = 25\text{ °C}$)Typical values ($T_A = 25\text{ °C}$)

Hyper-Bright-LED		hyper-red	super-red	amber	orange	yellow	blue	
Wellenlänge des emittierten Lichts/ Wavelength at peak emission $I_F = 20\text{ mA}$	λ_{peak}	660	645	622	610	586	428	nm
Dominantwellenlänge/ Dominant wavelength $I_F = 20\text{ mA}$	λ_{dom}	645	632	615	605	590	466	nm
Durchlassspannung/ Forward Voltage $I_F = 20\text{ mA}$	V_F	2.0 (≤ 2.6)	2.0 (≤ 2.6)	2.0 (≤ 2.6)	2.0 (≤ 2.6)	2.0 (≤ 2.6)	3.5 ¹⁾ (≤ 4.2)	V

¹⁾ $I_F = 10\text{ mA}$

Hyper-Bright LED



LUMINESZENZDIODEN

LIGHT EMITTING DIODES

Kenndaten ($T_A = 25\text{ °C}$)

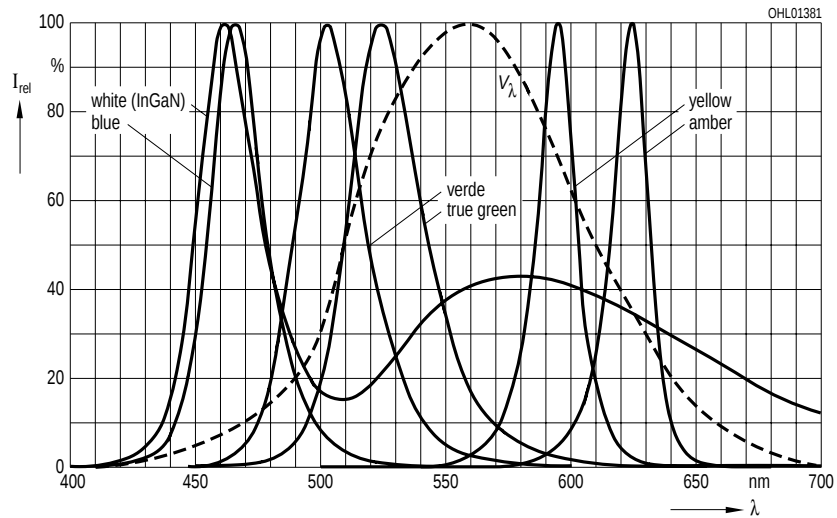
Typical values ($T_A = 25\text{ °C}$)

Single Chip White LED		LW T676 (GaN) $I_F = 10\text{ mA}$	LW T673 (InGaN) $I_F = 20\text{ mA}$	
Farbort des emittierten Lichts/ Color coordinate at peak emission		$x = 0.30$ $y = 0.32$	$x = 0.32$ $y = 0.31$	
Durchlassspannung/ Forward voltage	V_F	4.5	4.3	V

Standard-InGaN LED		blue	verde	true green	
Wellenlänge des emittierten Lichts/ Wavelength at peak emission $I_F = 20\text{ mA}$	λ_{peak}	465	503	523	nm
Dominantwellenlänge/ Dominant wavelength $I_F = 20\text{ mA}$	λ_{dom}	470	505	528	nm
Durchlassspannung/ Forward Voltage $I_F = 20\text{ mA}$	V_F	3.5	3.3	3.3	V

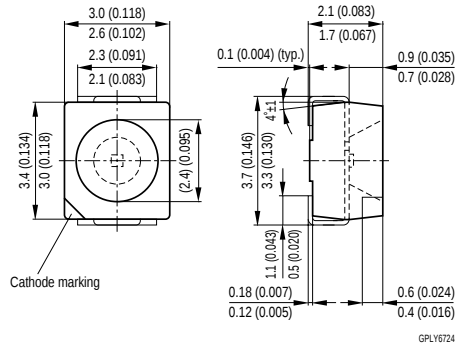
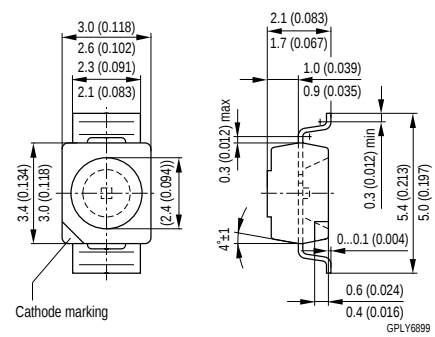
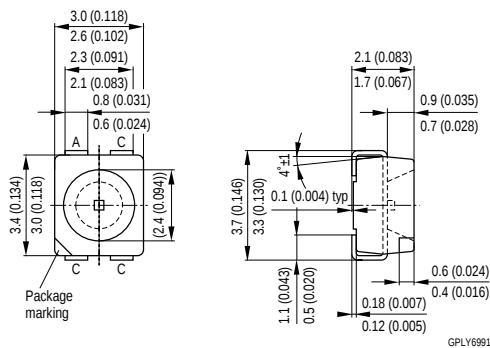
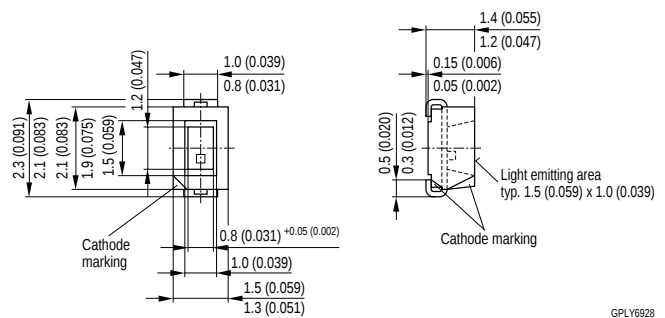
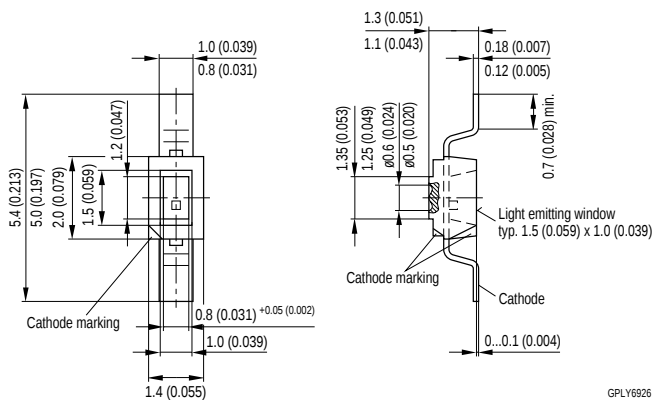
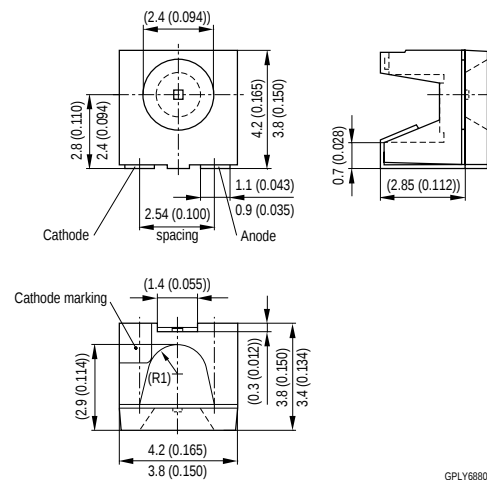
HOP (High Optical Power)		amber	yellow	
Wellenlänge des emittierten Lichts/ Wavelength at peak emission $I_F = 50\text{ mA}$	λ_{peak}	624	594	nm
Dominantwellenlänge/ Dominant wavelength $I_F = 50\text{ mA}$	λ_{dom}	617	590	nm
Durchlassspannung/ Forward Voltage $I_F = 50\text{ mA}$	V_F	2.0	1.9	V

Single Chip White LED, Standard-InGaN LED, HOP LED



Maßbilder in mm (inch)

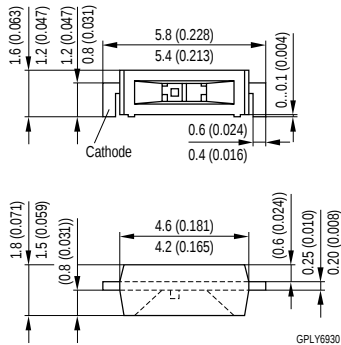
Outline Drawings dimensions in mm (inch)

Figure 1 L* T670, L* T672, LH T674, L* T679,
L* T676, LG T671, L* T673**Figure 2** LH T774, L* T770
L* T776, L* T773**Figure 3** L* E676, L* E675, L* E673**Figure 4** L* M670, L* M676, L* M673**Figure 5** L* M770, L* M776, L* M779**Figure 6** LH A674, L* A670, L* A676,
L* A672, L* A679, L* A673

Maßbilder in mm (inch)

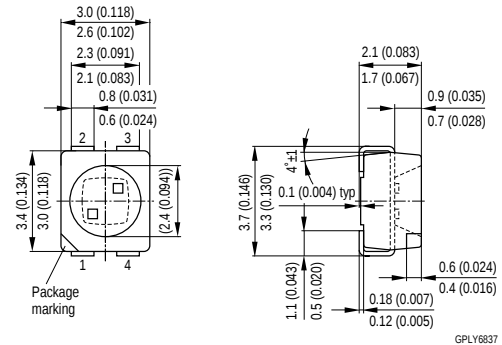
Outline Drawings dimensions in mm (inch)

Figure 7 L* C870, L* C876, L* C873



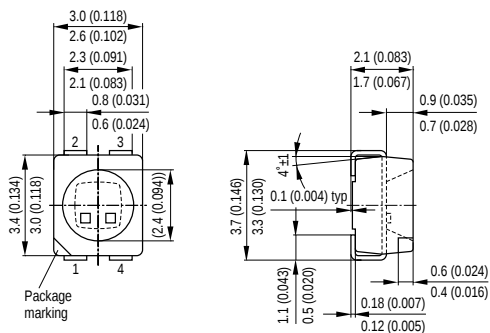
GPLY6930

Figure 8 L** T671, L** T676, L** T670



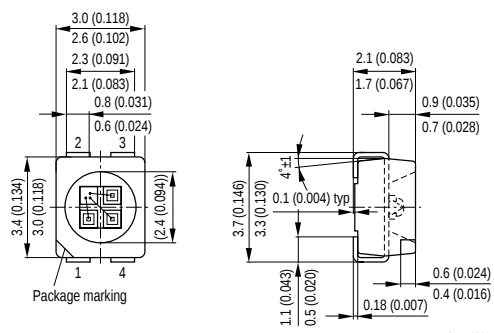
GPLY6837

Figure 9 LSG T677



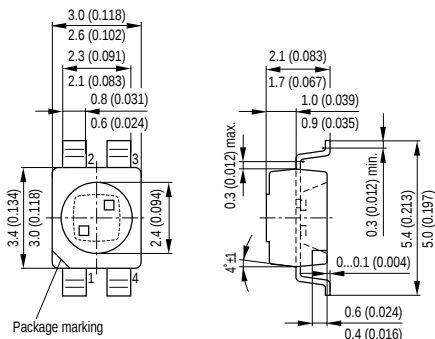
GPLY6925

Figure 10 LATB T686



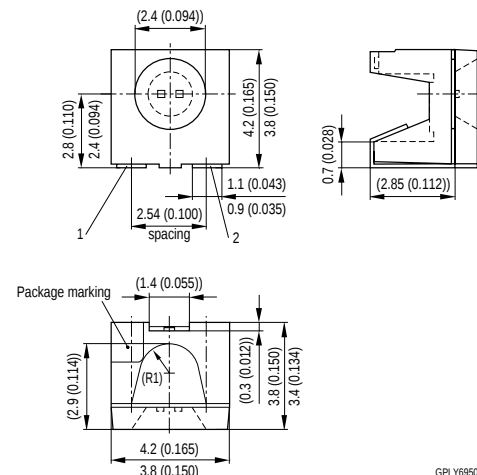
GPLY6900

Figure 11 L** T770



GPLY6908

Figure 12 L** A676, L** A671



GPLY6950

Maßbilder in mm (inch)

Outline Drawings dimensions in mm (inch)

Figure 13 LH R974

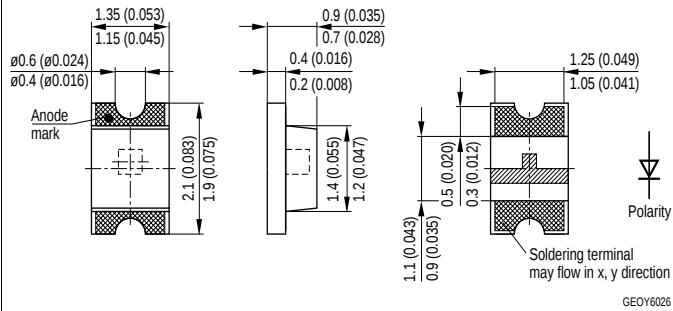


Figure 14 L* R971, L* R976

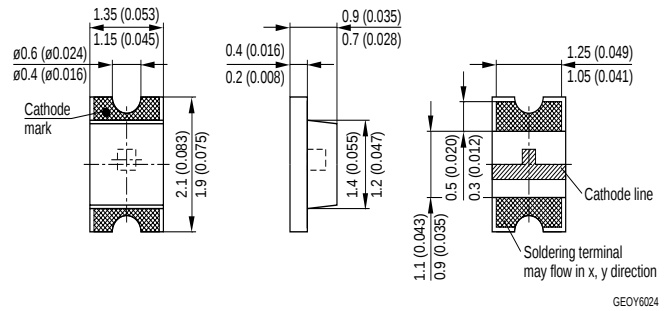


Figure 15 LB R99A, LW R98A

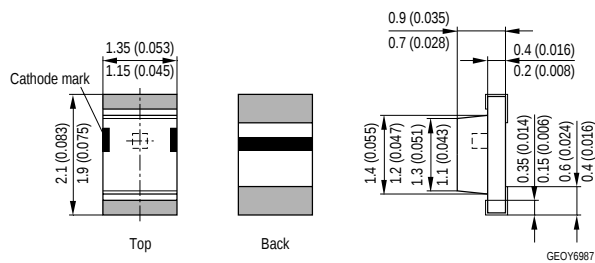


Figure 16 L* Q971, L* Q976

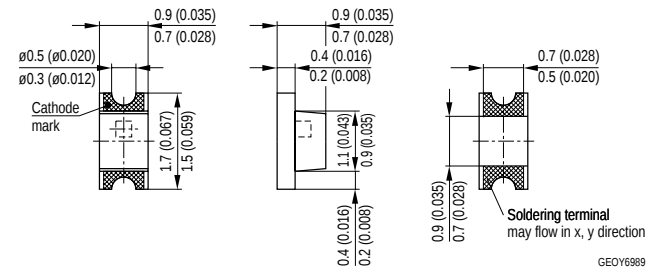


Figure 17 LB Q99A, L* Q993, LW Q98A, LW Q983

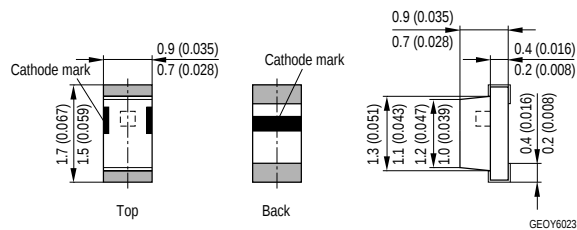
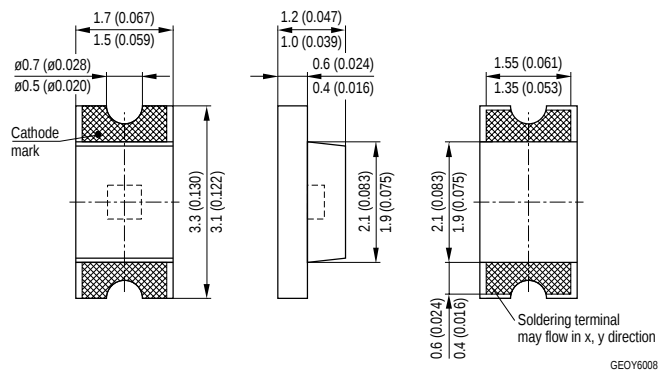
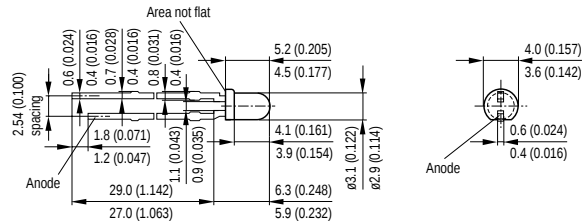


Figure 18 L* N971, LH N974

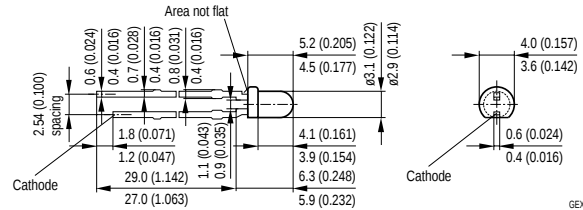


Maßbilder in mm (inch)

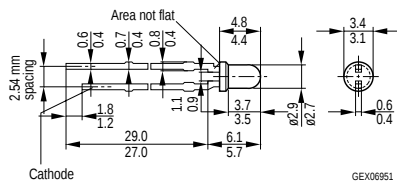
Outline Drawings dimensions in mm (inch)

Figure 19 LH 3344, LH 3364

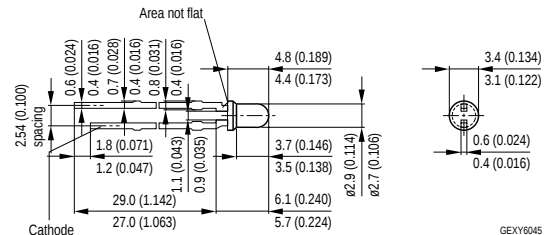
GEXY6717

Figure 20 L* 3341

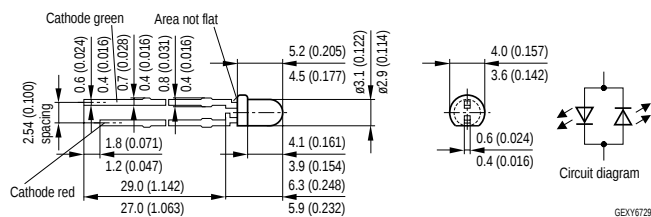
GEXY6711

Figure 21 L* 3340, L* 3330

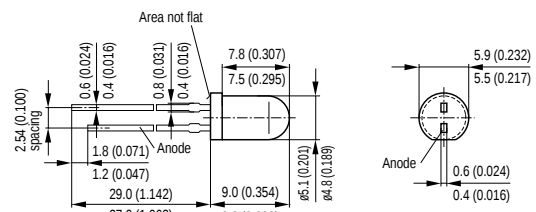
GEX06951

Figure 22 L* 3360, L* 3336, LB 3356, L* 3333, L* 3366
L* 3380, L* 3386, L* 3369

GEXY6045

Figure 23 LSG 3331, LSG 3351

GEXY6729

Figure 24 LH 5424, LH 5464

GEXY6718

Outline Drawings dimensions in mm (inch)

Figure 26 **L* D446, L* D443**

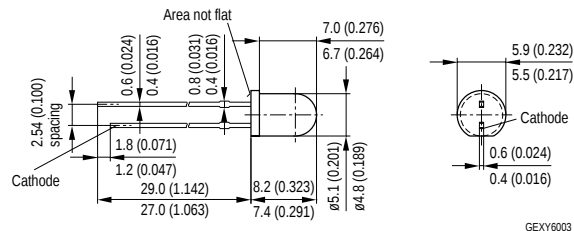


Figure 28 L* 5380

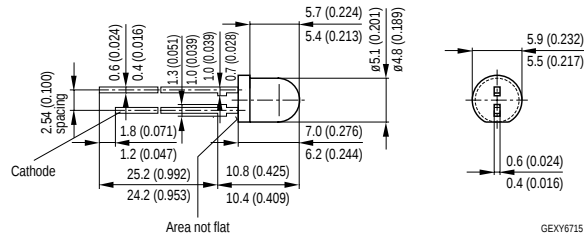
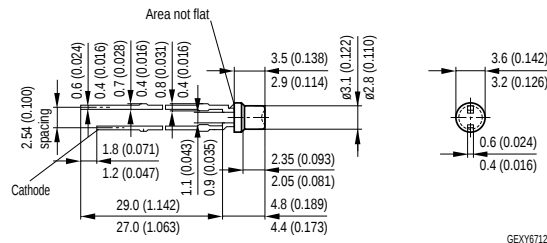


Figure 30 L* K380, L* K382, L* K376



Outline Drawings dimensions in mm (inch)

Figure 32 L* U260

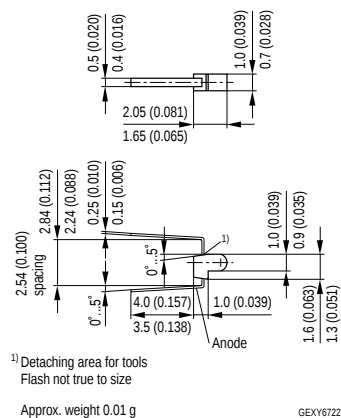


Figure 34 RL 55, YL 56, GL 56

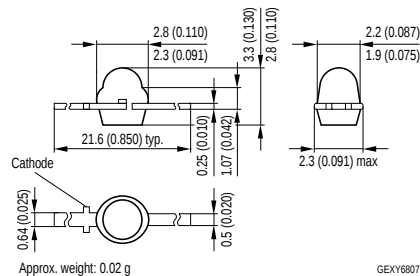
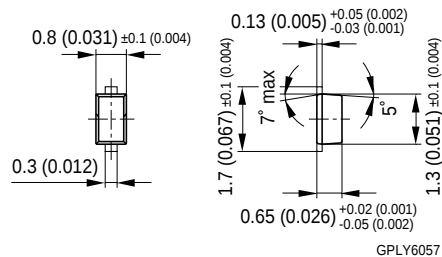


Figure 36 L* L890, L* L896, L* L89S



Outline Drawings dimensions in mm (inch)

Figure 37 **LG M470**



Figure 38 **Hülse und Ring, 3 mm LED**
Sleeves and ring, 3 mm LED:
Q62901-B61 (glass clear)
Q62901-B62 (black)



Ø Bohrung/bore = 4.3-4.4 mm *)
 Stärke der Montageplatte = 1.0-1.5 mm *)
 Thickness of mounting board = 1.0-1.5 mm *)

Figure 39 Hülse und Ring, 5 mm LED
Sleeves and ring, 5 mm LED:
Q62901-B64 (glass clear)
Q62901-B65 (black)



Ø Bohrung/bore = 6.45-6 mm *)
 Stärke der Montageplatte = 1.5-2.5 mm *)
 Thickness of mounting board = 1.5-2.5 mm *)

Maßbilder in mm (inch)

Figure 40 Aneinanderreihbare Halterung für 3 mm LED
Endstackable clips for 3 mm LED
Q62902-B152-F222 (black)

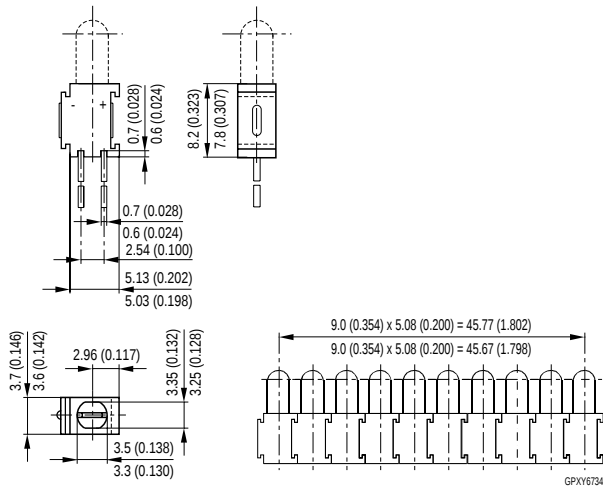


Figure 41 Aneinanderreihbare Halterung für 5 mm LED
Endstackable clips for 5 mm LED
Q62902-B153-F222 (black)

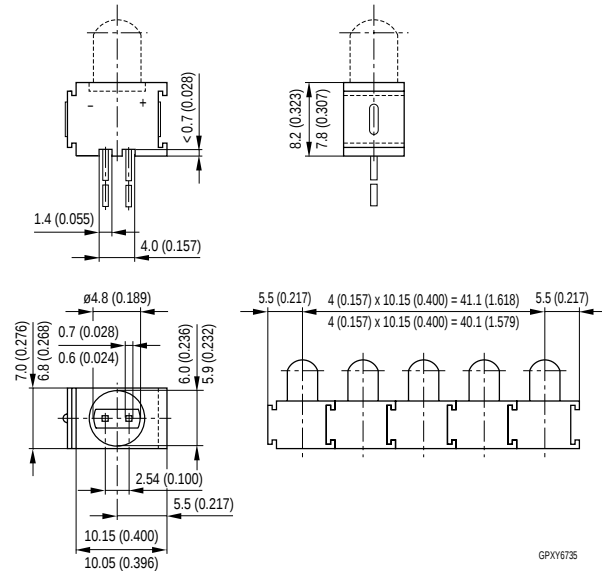


Figure 42 Winkelhalterungen für 5 mm LED
Rectangular mounting part for 5 mm LED
Q62902-B156-F222 (grey)

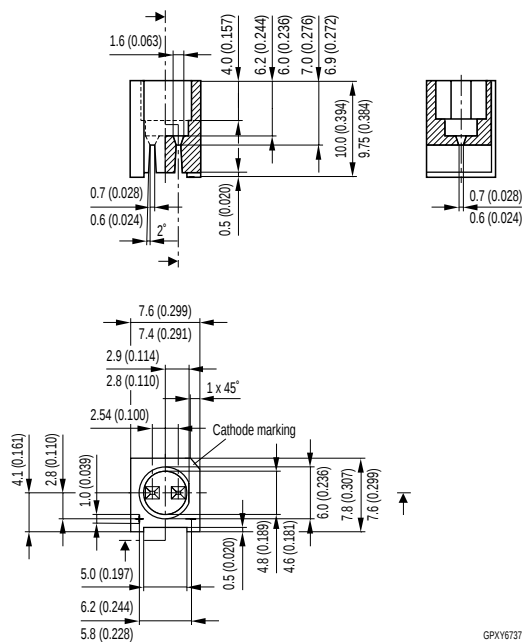
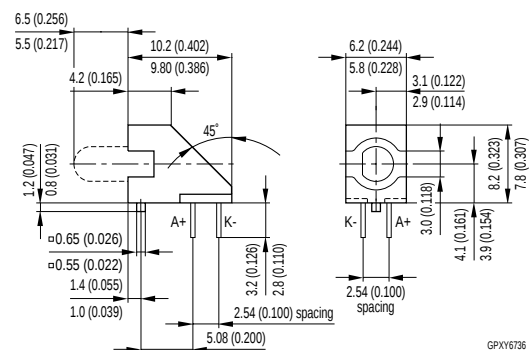


Figure 43 Winkelhalterungen für 3 mm LED
Rectangular mounting part for 3 mm LED
Q62902-B155-F222 (grey)



Maßbilder in mm (inch)

Outline Drawings dimensions in mm (inch)

Figure 44 Reflektor für 3 mm LED
Reflector für 3 mm LED
Q62902-B141-F222 (silver)

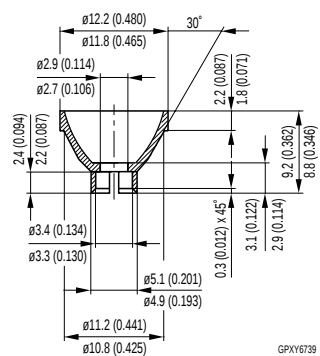


Figure 45 Reflektor für 5 mm LED
Reflector für 5 mm LED
Q62902-B154-F222 (silver)

