High Efficiency LED, ø 3 mm Tinted Undiffused Package

Color	Type	Technology	Angle of Half Intensity ±φ
High efficiency red	TLHR4206	GaAsP on GaP	22°

Description

The TLHR4206 serie was developed for standard applications like general indicating and lighting purposes. It is housed in a 3 mm tinted clear plastic package. The wide viewing angle of these devices provides a high on-off contrast.
Several selection types with different luminous intensities are offered. All LEDs are categorized in luminous intensity groups. The green and yellow LEDs are categorized additionally in wavelength groups.
That allows users to assemble LEDs with uniform appearance.

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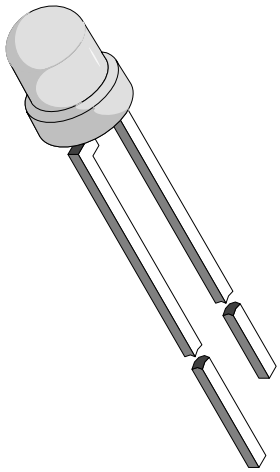


Features

- Choice of five bright colors
- Standard T-1 package
- Small mechanical tolerances
- Suitable for DC and high peak current
- Wide viewing angle
- Luminous intensity categorized
- Yellow and green color categorized

Applications

Status lights
OFF / ON indicator
Background illumination
Readout lights
Maintenance lights
Legend light

Absolute Maximum Ratings

T_{amb} = 25°C, unless otherwise specified

TLHR4206

Parameter	Test Conditions	Symbol	Value	Unit
Reverse voltage		V_R	6	V
DC forward current		I_F	30	mA
Surge forward current	$t_p \leq 10$ µs	I_{FSM}	1	A
Power dissipation	$T_{amb} \leq 60$°C	P_V	100	mW
Junction temperature		T_j	100	°C
Operating temperature range		T_{amb}	–40 to +100	°C
Storage temperature range		T_{stg}	–55 to +100	°C
Soldering temperature	t ≤ 5 s, 2 mm from body	T_{sd}	260	°C
Thermal resistance junction/ambient		R_{thJA}	400	K/W

Optical and Electrical Characteristics

T_{amb} = 25°C, unless otherwise specified

High efficiency red (**TLHR4206**)

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Luminous intensity 1)	I_F = 10 mA	TLHR4206	I_V	16	25	50	mcd
Dominant wavelength	I_F = 10 mA		λ_d	620	623	628	nm
Peak wavelength	I_F = 10 mA		λ_p		635		nm
Angle of half intensity	I_F = 10 mA		φ		±22		deg
Forward voltage	I_F = 20 mA		V_F		2	3	V
Reverse voltage	I_R = 10 μA		V_R	6	15		V
Junction capacitance	V_R = 0, f = 1 MHz		C_j		50		pF
1)in one Packing Unit $I_{VMin.}/I_{VMax.} \leq 0.5$							

Typical Characteristics (T_{amb} = 25°C, unless otherwise specified)

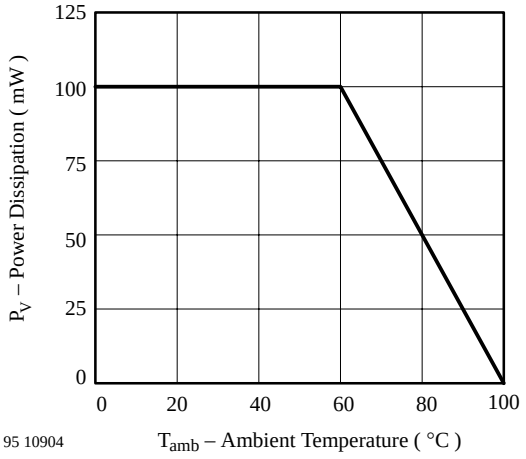


Figure 1 Power Dissipation vs. Ambient Temperature

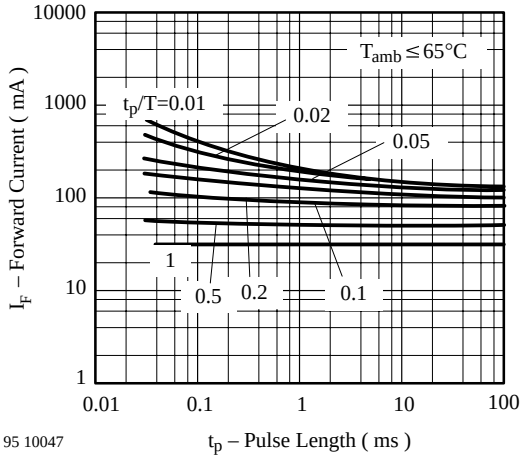


Figure 3 Forward Current vs. Pulse Length

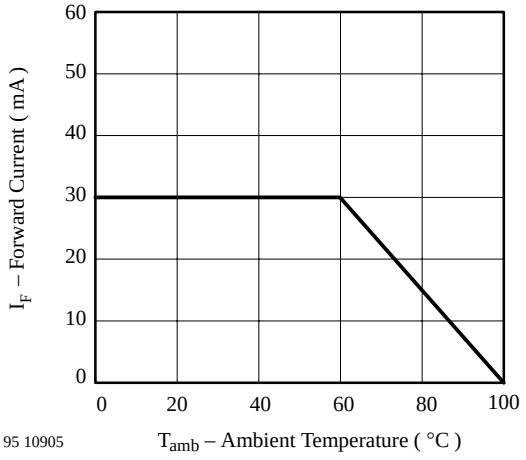


Figure 2 Forward Current vs. Ambient Temperature

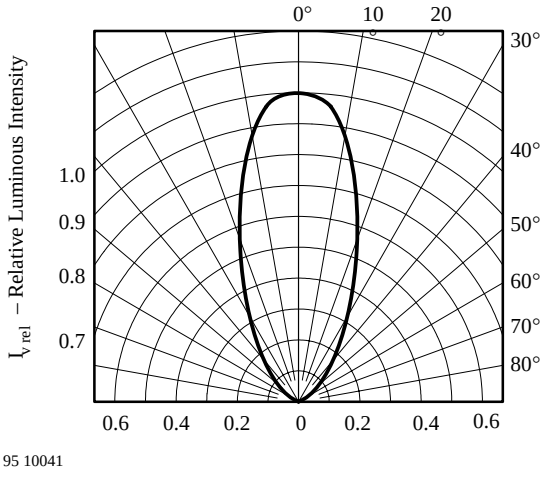


Figure 4 Rel. Luminous Intensity vs. Angular Displacement

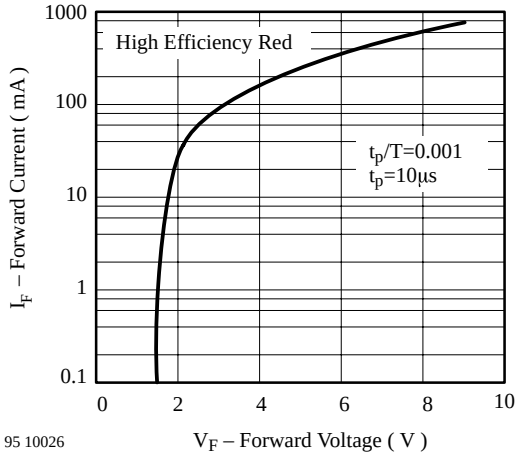


Figure 5 Forward Current vs. Forward Voltage

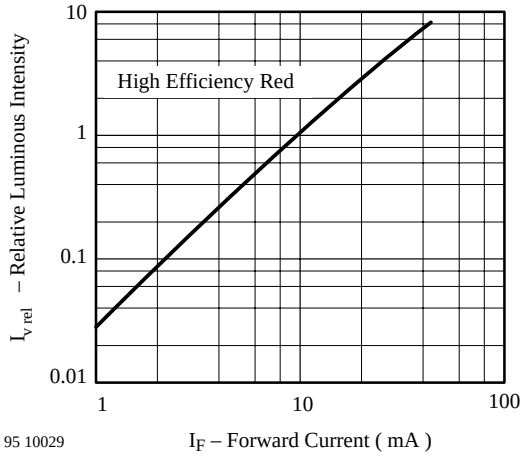


Figure 8 Relative Luminous Intensity vs. Forward Current

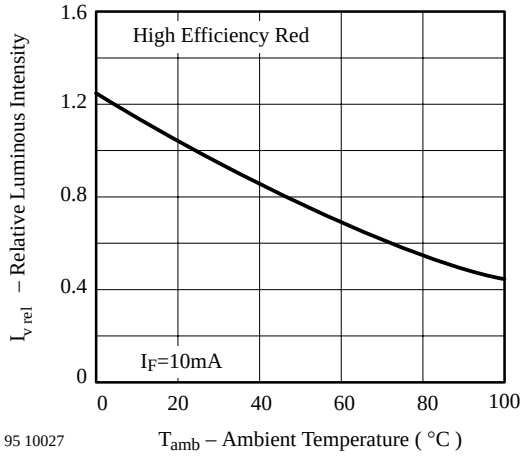


Figure 6 Rel. Luminous Intensity vs. Ambient Temperature

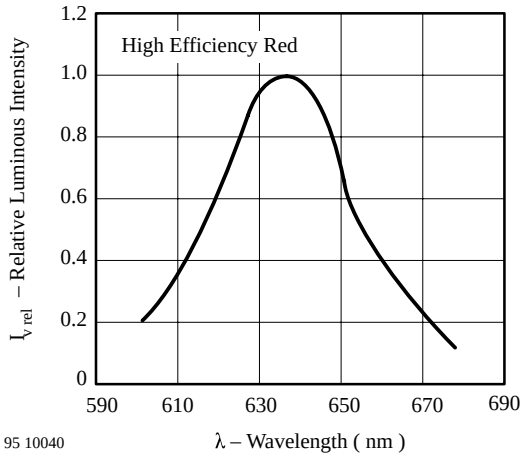


Figure 9 Relative Luminous Intensity vs. Wavelength

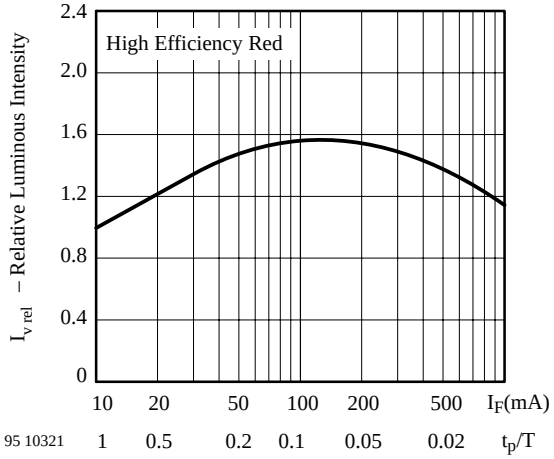
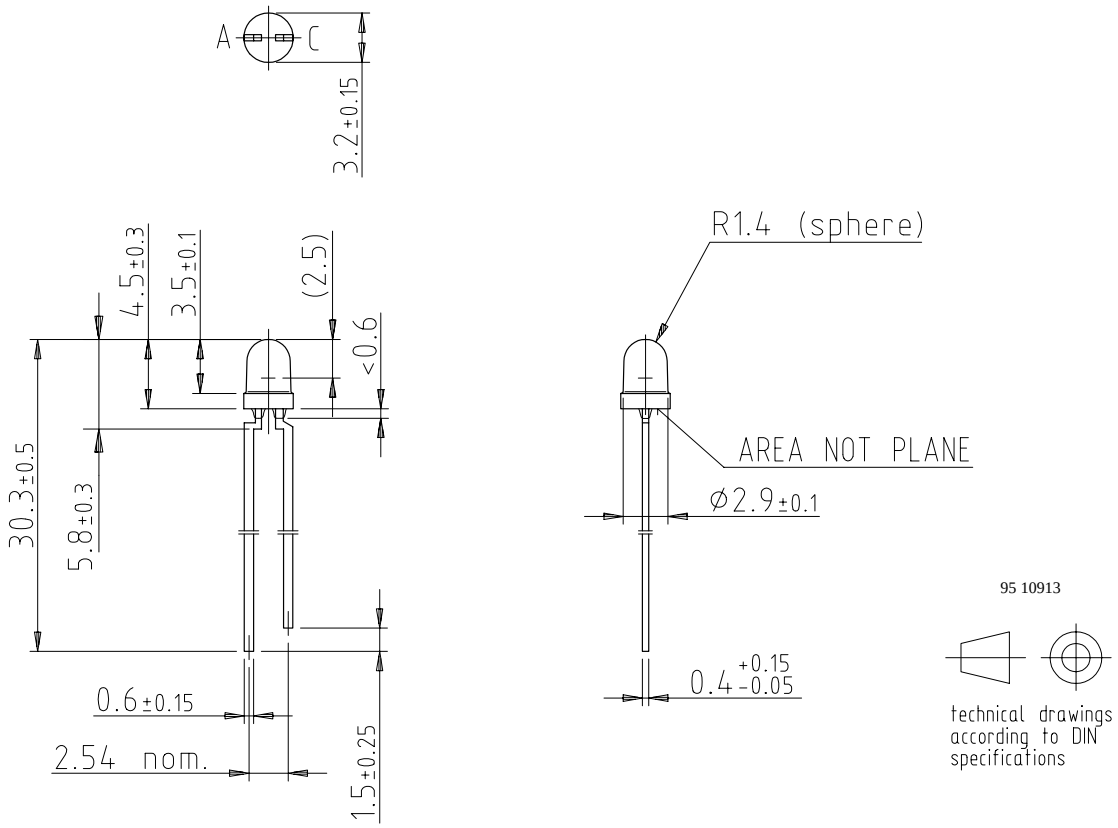


Figure 7 Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle

Dimensions in mm



Ozone Depleting Substances Policy Statement

It is the policy of **Vishay Semiconductor GmbH** to

1. Meet all present and future national and international statutory requirements.

2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

It is particular concern to control or eliminate releases of those substances into the atmosphere which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) intend to severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

Vishay Semiconductor GmbH has been able to use its policy of continuous improvements to eliminate the use of ODSs listed in the following documents.

1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively

2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA

3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

Vishay Semiconductor GmbH can certify that our semiconductors are not manufactured with ozone depleting substances and do not contain such substances.

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