

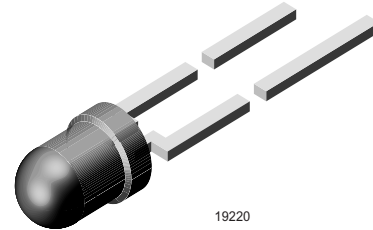
Universal LED in \varnothing 3 mm Tinted Diffused Package

Features

- For DC and pulse operation
- Luminous intensity categorized
- Standard \varnothing 3 mm (T-1) package
- Lead-free device

Applications

General indicating and lighting purposes



19220



Parts Table

Part	Color, Luminous Intensity	Angle of Half Intensity ($\pm\phi$)	Technology
TLUR4400	Red, $I_V > 4$ mcd	30 °	GaAsP on GaAs
TLUR4401	Red, $I_V = (4 \text{ to } 32)$ mcd	30 °	GaAsP on GaAs

Absolute Maximum Ratings

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

TLUR44..

Parameter	Test condition	Symbol	Value	Unit
Reverse voltage		V_R	6	V
DC Forward current		I_F	20	mA
Surge forward current	$t_p \leq 10$ μ s	I_{FSM}	0.5	A
Power dissipation	$T_{amb} \leq 60$ °C	P_V	60	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	$t \leq 5$ s, 2 mm from body	T_{sd}	260	°C
Thermal resistance junction/ambient		R_{thJA}	500	K/W

Optical and Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Red

TLUR44..

Parameter	Test condition	Part	Symbol	Min	Typ.	Max	Unit
Luminous intensity ¹⁾	$I_F = 10\text{ mA}$	TLUR4400	I_V	4	15		mcd
		TLUR4401	I_V	4		32	mcd
Dominant wavelength	$I_F = 10\text{ mA}$		λ_d		630		nm
Peak wavelength	$I_F = 10\text{ mA}$		λ_p		640		nm
Angle of half intensity	$I_F = 10\text{ mA}$		ϕ		± 30		deg
Forward voltage	$I_F = 20\text{ mA}$		V_F		2	3	V
Reverse voltage	$I_R = 10\text{ }\mu\text{A}$		V_R	6	15		V
Junction capacitance	$V_R = 0, f = 1\text{ MHz}$		C_j		50		pF

¹⁾ in one Packing Unit $I_{Vmin}/I_{Vmax} \leq 0.5$

Typical Characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

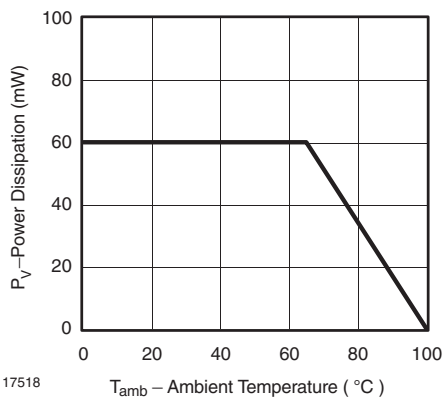


Figure 1. Power Dissipation vs. Ambient Temperature

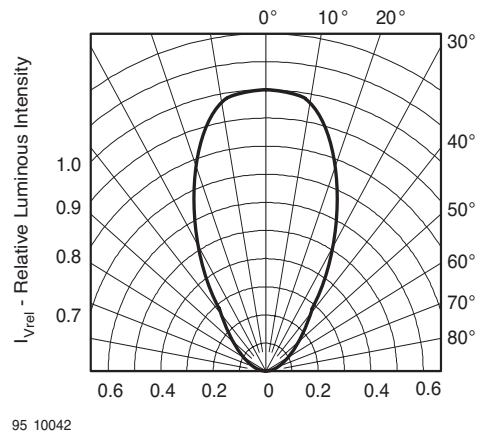


Figure 3. Rel. Luminous Intensity vs. Angular Displacement

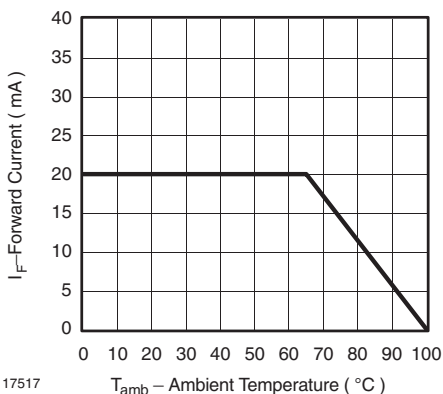


Figure 2. Forward Current vs. Ambient Temperature

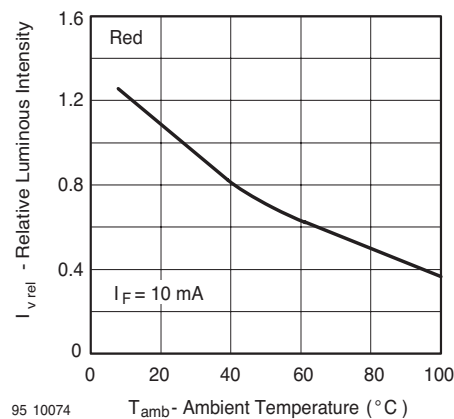


Figure 4. Rel. Luminous Intensity vs. Ambient Temperature

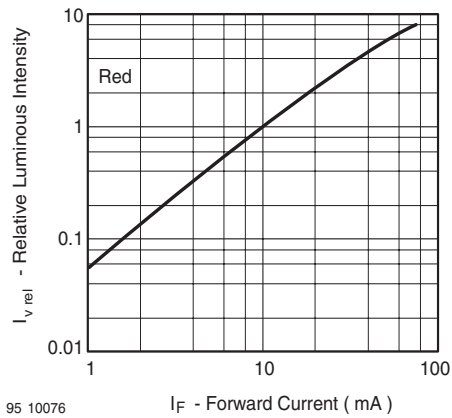


Figure 5. Relative Luminous Intensity vs. Forward Current

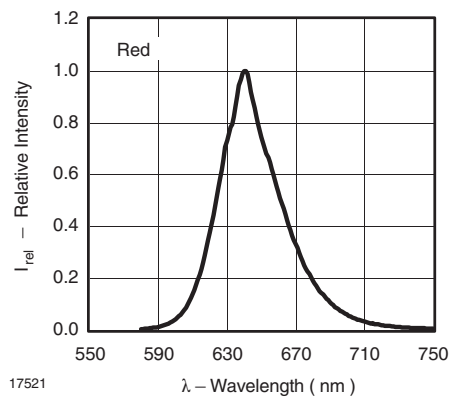


Figure 6. Relative Intensity vs. Wavelength

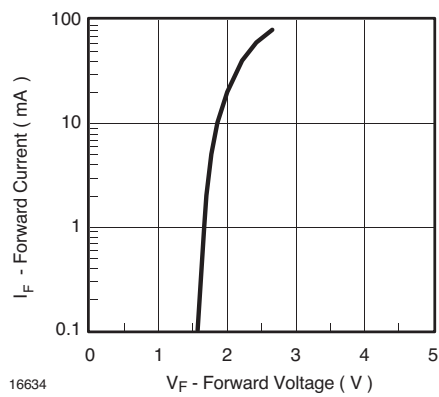


Figure 7. Forward Current vs. Forward Voltage

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.

We reserve the right to make changes to improve technical design and may do so without further notice.

Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer. Should the buyer use Vishay Semiconductors products for any unintended or unauthorized application, the buyer shall indemnify Vishay Semiconductors against all claims, costs, damages, and expenses, arising out of, directly or indirectly, any claim of personal damage, injury or death associated with such unintended or unauthorized use.

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