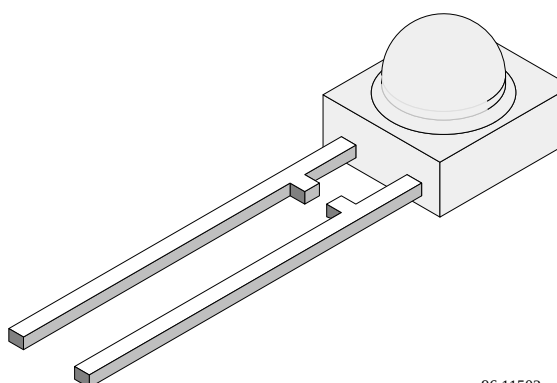


Sideview LED, 5 mm Tinted Diffused

Color	Type	Technology	Angle of Half Intensity $\pm\varphi$
Red	TLPR5600	GaAsP on GaAs	80°
High efficiency red	TLPH5600	GaAsP on GaP	80°
Yellow	TLPY5600	GaAsP on GaP	80°
Green	TLPG5600	GaP on GaP	80°
Pure green	TLPP5600	GaP on GaP	80°

Features

- Even luminance of the emitting surface
- Wide viewing angle
- Yellow and green color categorized
- For DC and pulse operation



96 11502

Applications

Indicating and illumination purposes

Absolute Maximum Ratings

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

TLPR5600 , TLPH5600 , TLPY5600 , TLPG5600 , TLPP5600

Parameter	Test Conditions	Type	Symbol	Value	Unit
Reverse voltage			V_R	6	V
DC forward current		TLPR5600	I_F	50	mA
		TLPH5600	I_F	30	mA
		TLPY5600	I_F	30	mA
		TLPG5600	I_F	30	mA
		TLPP5600	I_F	30	mA
Surge forward current	$t_p \leq 10 \mu\text{s}$		I_{FSM}	1	A
Power dissipation	$T_{amb} \leq 60^{\circ}\text{C}$		P_V	100	mW
Junction temperature			T_j	100	$^{\circ}\text{C}$
Storage temperature range			T_{stg}	-55 to +100	$^{\circ}\text{C}$
Soldering temperature	$t \leq 5 \text{ s}$, 2 mm from body	T_{sd}	T_{sd}	260	$^{\circ}\text{C}$
Thermal resistance junction/ambient		R_{thJA}	R_{thJA}	400	K/W

Optical and Electrical Characteristics

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

Red (TLPR5600)

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Luminous intensity	$I_F = 10\text{ mA}$, $I_{Vmin}/I_{Vmax} \geq 0.5$		I_V	0.25	0.5		mcd
Dominant wavelength	$I_F = 10\text{ mA}$		λ_d		645		nm
Peak wavelength	$I_F = 10\text{ mA}$		λ_p		660		nm
Angle of half intensity	$I_F = 10\text{ mA}$		ϕ		± 80		deg
Forward voltage	$I_F = 20\text{ mA}$		V_F		1.6	2	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

High efficiency red (TLPH5600)

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Luminous intensity	$I_F = 10\text{ mA}$, $I_{Vmin}/I_{Vmax} \geq 0.5$		I_V	0.63	1.5		mcd
Dominant wavelength	$I_F = 10\text{ mA}$		λ_d	612		625	nm
Peak wavelength	$I_F = 10\text{ mA}$		λ_p		635		nm
Angle of half intensity	$I_F = 10\text{ mA}$		ϕ		± 80		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

Yellow (TLPY5600)

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Luminous intensity	$I_F = 10\text{ mA}$, $I_{Vmin}/I_{Vmax} \geq 0.5$		I_V	0.63	1.5		mcd
Dominant wavelength	$I_F = 10\text{ mA}$		λ_d	581		594	nm
Peak wavelength	$I_F = 10\text{ mA}$		λ_p		585		nm
Angle of half intensity	$I_F = 10\text{ mA}$		ϕ		± 80		deg
Forward voltage	$I_F = 20\text{ mA}$		V_F		2.4	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

Green (TLPG5600)

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Luminous intensity	$I_F = 10\text{ mA}$, $I_{Vmin}/I_{Vmax} \geq 0.5$		I_V	0.63	1.5		mcd
Dominant wavelength	$I_F = 10\text{ mA}$		λ_d	562		575	nm
Peak wavelength	$I_F = 10\text{ mA}$		λ_p		565		nm
Angle of half intensity	$I_F = 10\text{ mA}$		ϕ		± 80		deg
Forward voltage	$I_F = 20\text{ mA}$		V_F		2.4	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



Pure green (TLPP5600)

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Luminous intensity	$I_F = 10 \text{ mA}$, $I_{Vmin}/I_{Vmax} \geq 0.5$		I_V	0.63	1.6		mcd
Dominant wavelength	$I_F = 10 \text{ mA}$		λ_d	555		565	nm
Peak wavelength	$I_F = 10 \text{ mA}$		λ_p		555		nm
Angle of half intensity	$I_F = 10 \text{ mA}$		ϕ		± 80		deg
Forward voltage	$I_F = 20 \text{ mA}$		V_F		2.4	3	V
Reverse voltage	$I_R = 10 \mu\text{A}$		V_R	6	15		V
Junction capacitance	$V_R = 0$, $f = 1 \text{ MHz}$		C_j		50		pF

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

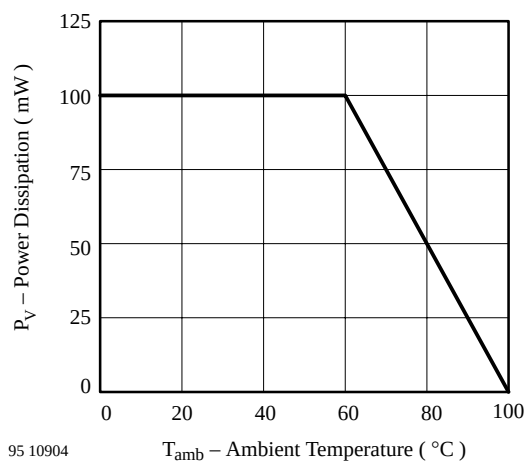


Figure 1 Power Dissipation vs. Ambient Temperature

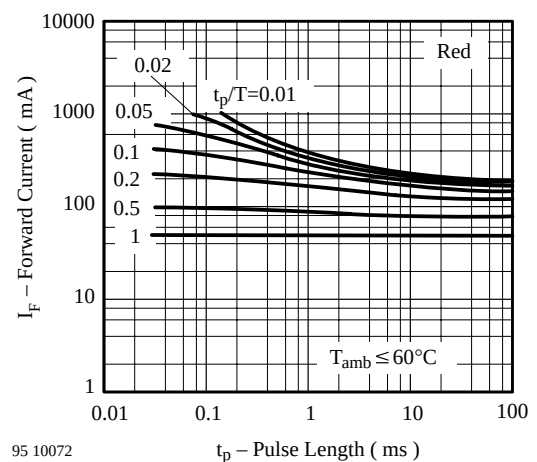


Figure 3 Forward Current vs. Pulse Length

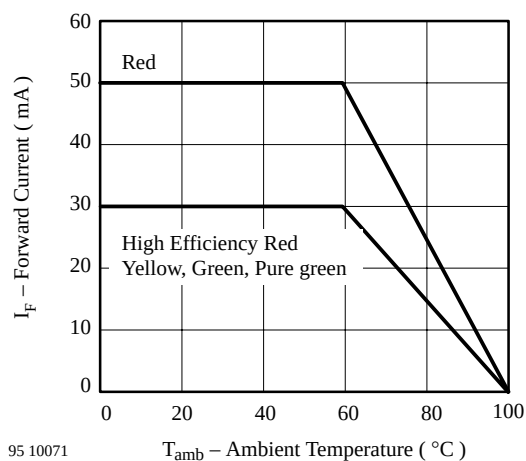


Figure 2 Forward Current vs. Ambient Temperature

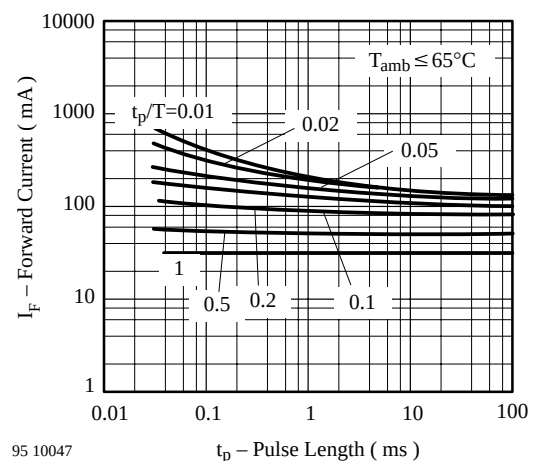
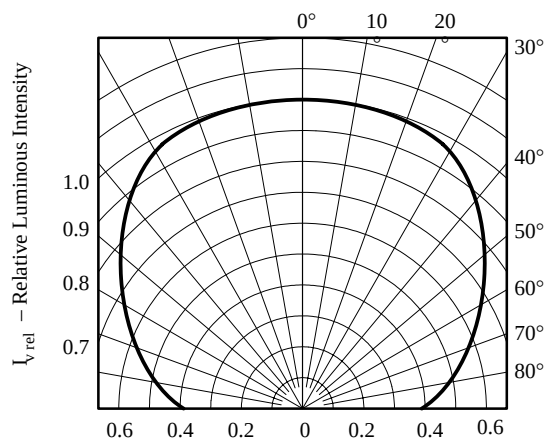
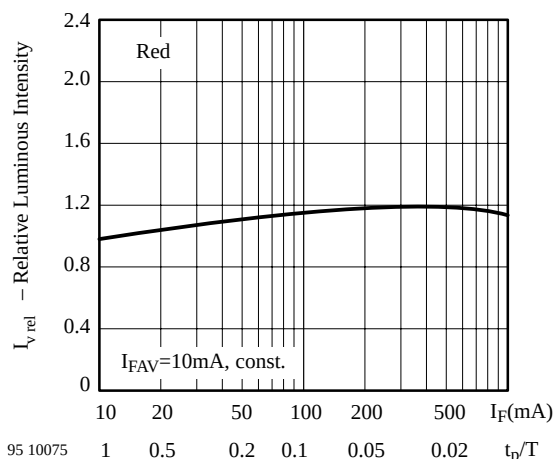


Figure 4 Forward Current vs. Pulse Length



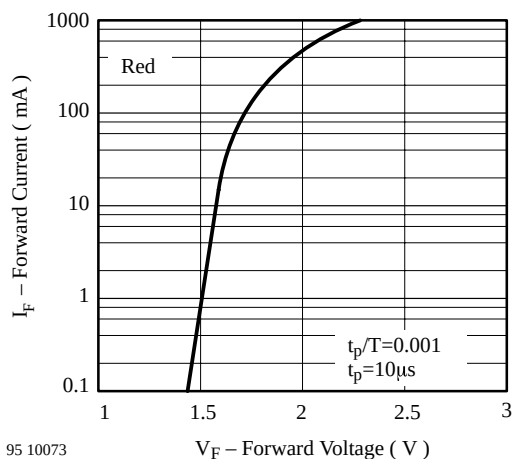
95 10078

Figure 5 Rel. Luminous Intensity vs. Angular Displacement



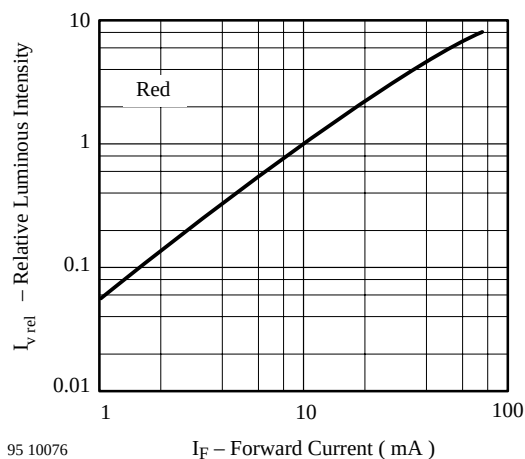
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Figure 8 Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle



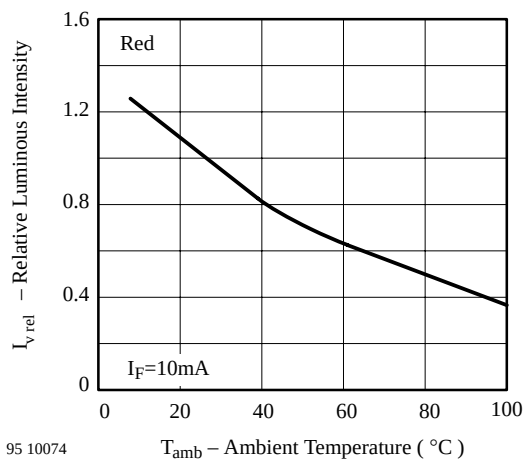
95 10073

Figure 6 Forward Current vs. Forward Voltage



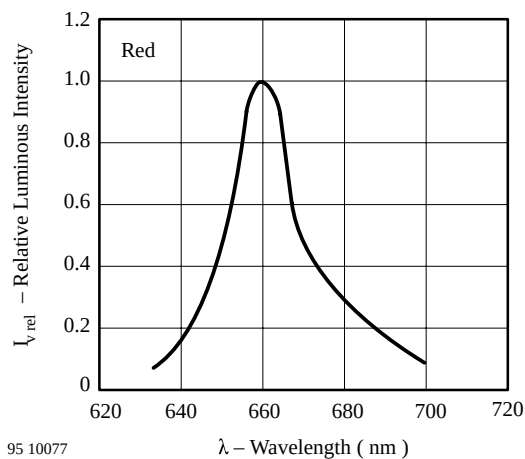
95 10076

Figure 9 Relative Luminous Intensity vs. Forward Current



95 10074

Figure 7 Rel. Luminous Intensity vs. Ambient Temperature



95 10077

Figure 10 Relative Luminous Intensity vs. Wavelength

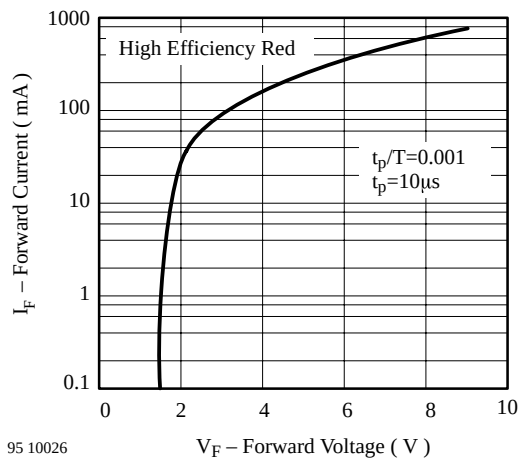


Figure 11 Forward Current vs. Forward Voltage

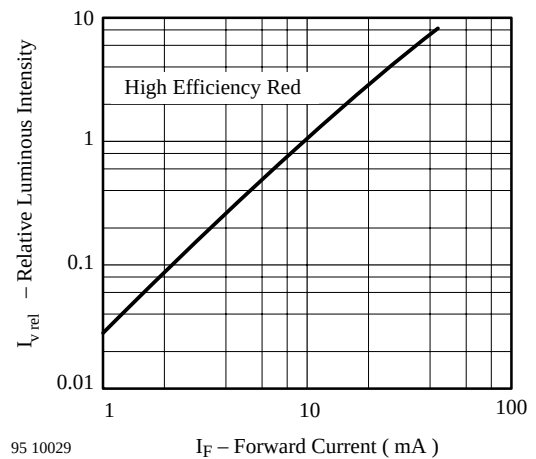


Figure 14 Relative Luminous Intensity vs. Forward Current

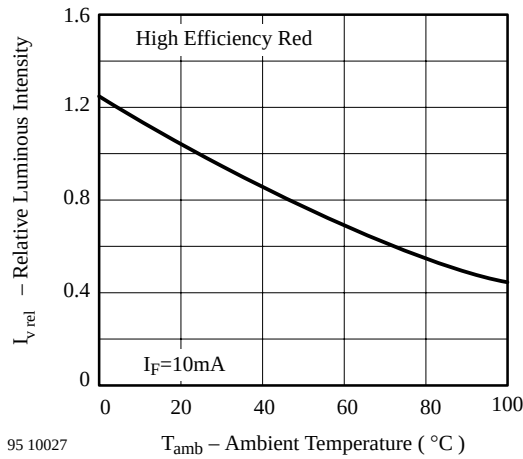


Figure 12 Rel. Luminous Intensity vs. Ambient Temperature

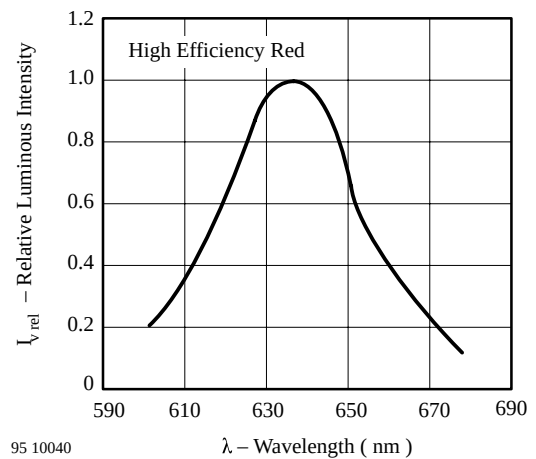


Figure 15 Forward Current vs. Forward Voltage

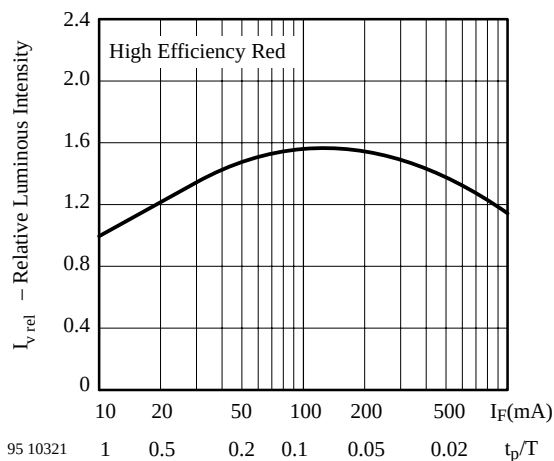


Figure 13 Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle

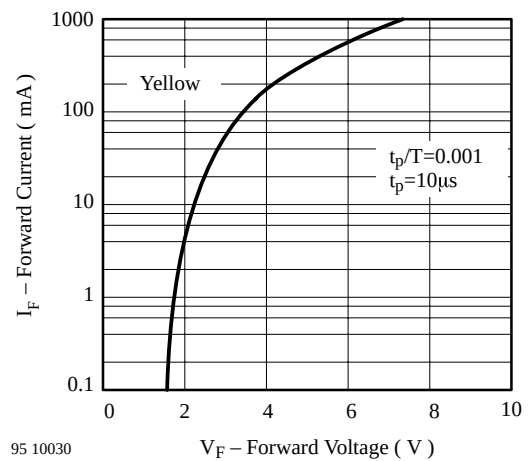


Figure 16 Forward Current vs. Forward Voltage

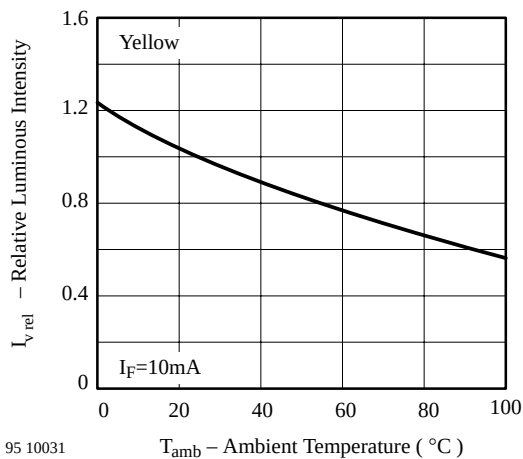


Figure 17 Rel. Luminous Intensity vs. Ambient Temperature

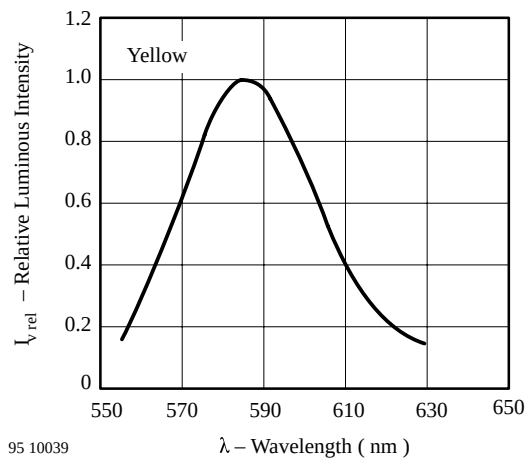


Figure 20 Relative Luminous Intensity vs. Wavelength

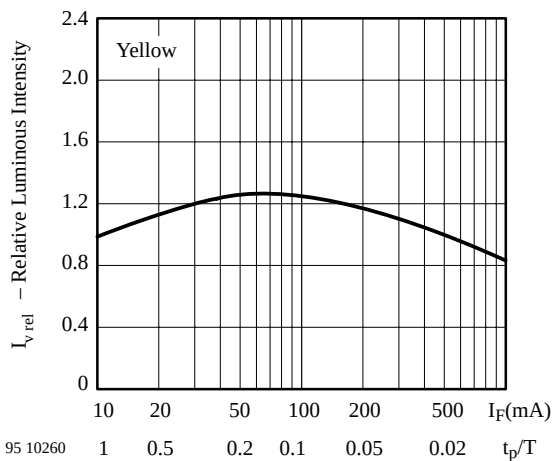


Figure 18 Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle

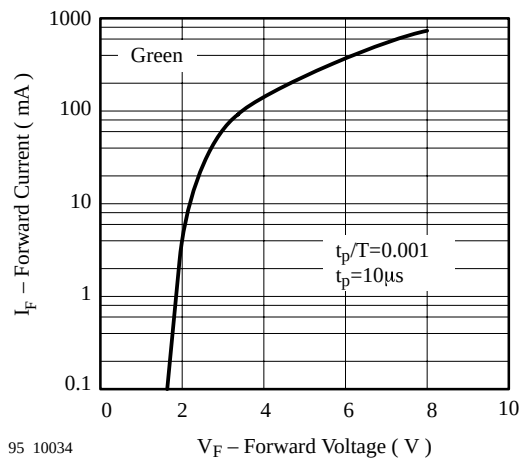


Figure 21 Forward Current vs. Forward Voltage

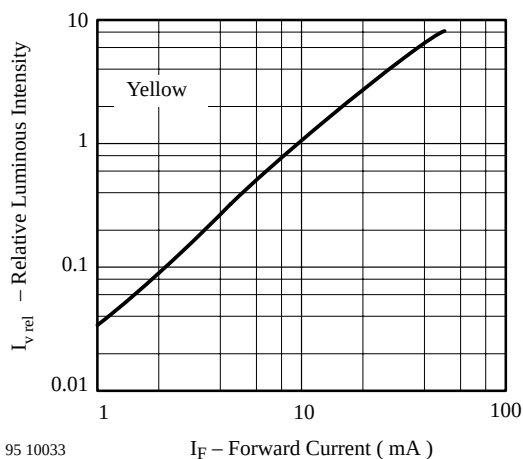


Figure 19 Relative Luminous Intensity vs. Forward Current

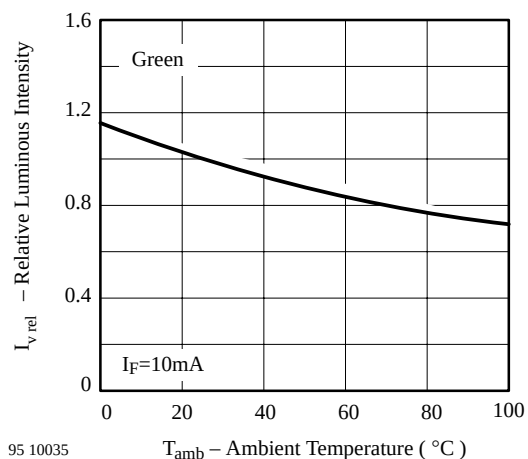


Figure 22 Rel. Luminous Intensity vs. Ambient Temperature

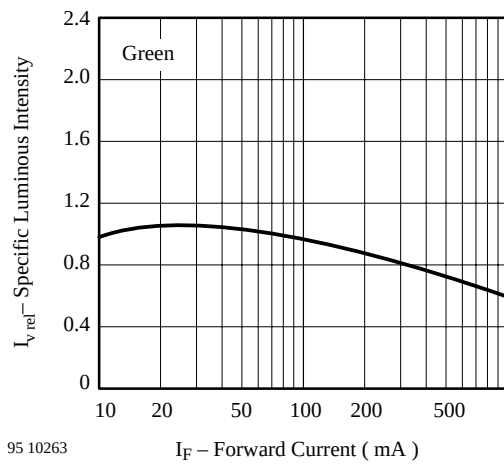


Figure 23 Specific Luminous Intensity vs. Forward Current

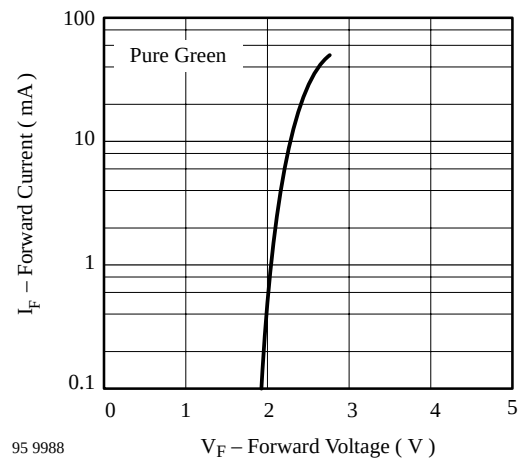


Figure 26 Forward Current vs. Forward Voltage

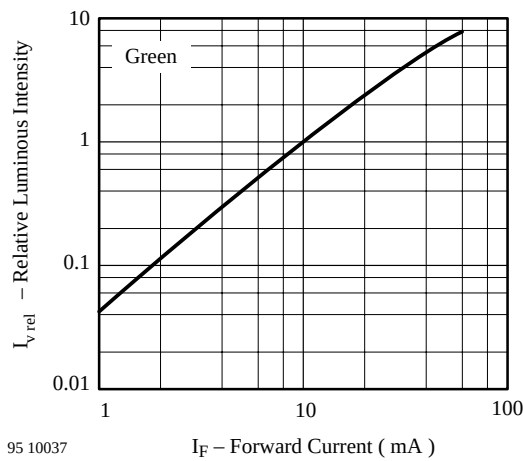


Figure 24 Relative Luminous Intensity vs. Forward Current

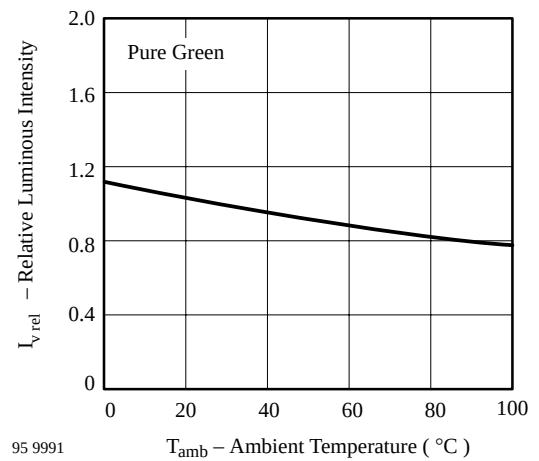


Figure 27 Rel. Luminous Intensity vs. Ambient Temperature

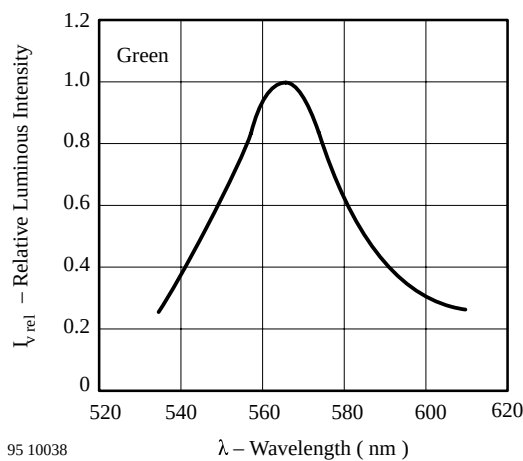


Figure 25 Relative Luminous Intensity vs. Wavelength

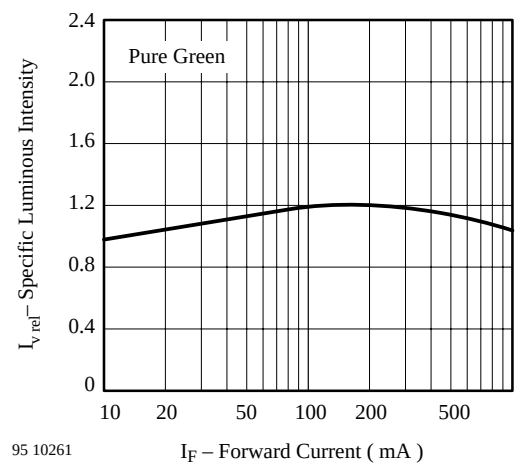


Figure 28 Specific Luminous Intensity vs. Forward Current

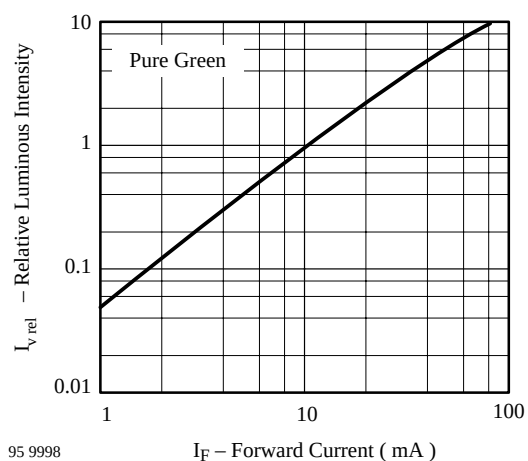
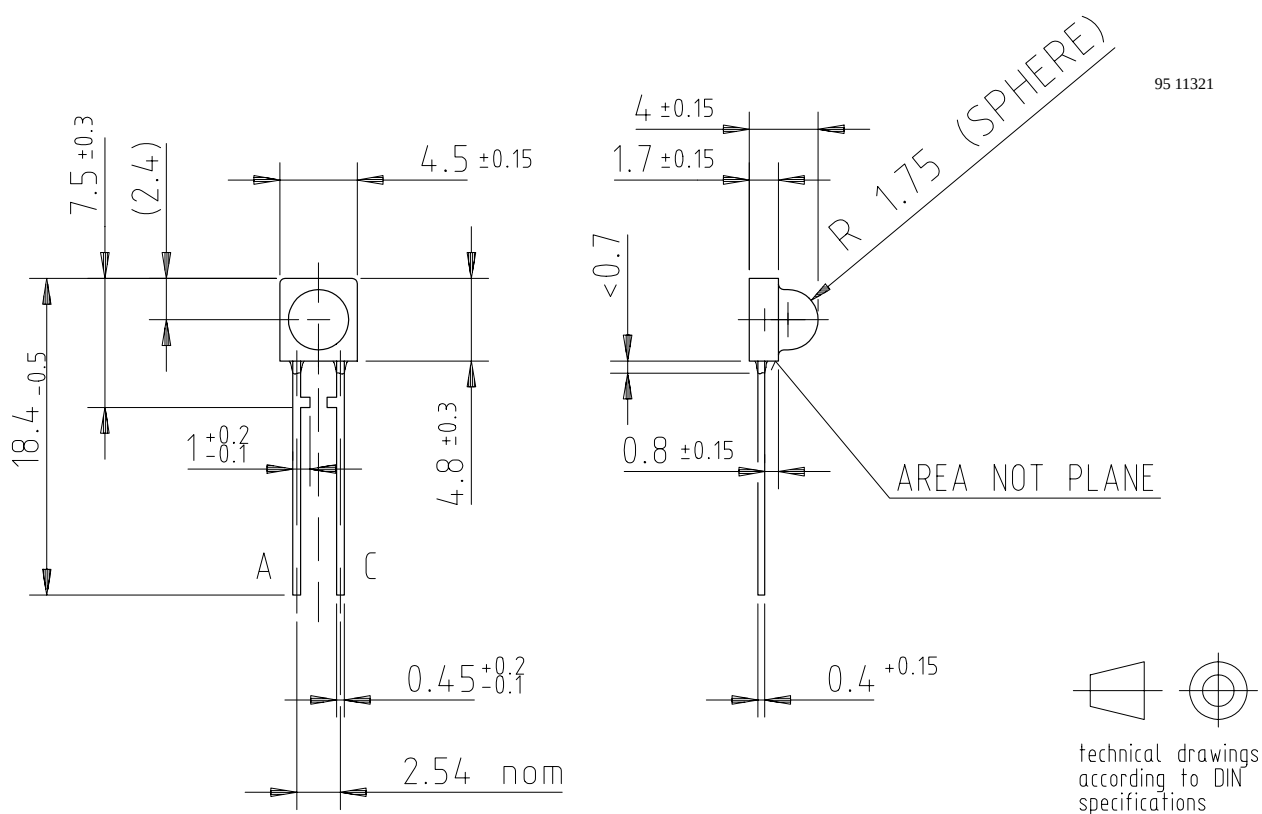


Figure 29 Relative Luminous Intensity vs. Forward Current

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.

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-Telefunken products for any unintended or unauthorized application, the buyer shall indemnify Vishay-Telefunken 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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