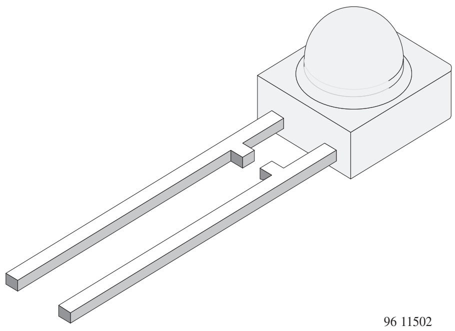
Sideview LED, 5 mm Tinted Diffused

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

Applications
Indicating and illumination purposes



Parts Table

Part	Color, Luminous Intensity	Angle of Half Intensity (±φ)	Technology
TLPR5600	Red, I_V > 1 mcd	80	GaAsP on GaAs
TLPH5600	High eff. red, I_V > 0.63 mcd	80	GaAsP on GaP
TLPY5600	Yellow, I_V > 0.63 mcd	80	GaAsP on GaP
TLPG5600	Green, I_V > 0.63 mcd	80	GaP on GaP
TLPP5600	Pure green, I_V > 0.63 mcd	80	GaP on GaP

Absolute Maximum Ratings
T_{amb} = 25 °C, unless otherwise specified
TLPR5600 , TLPH5600 , TLPY5600 , TLPG5600 , TLPP5600

Parameter	Test condition	Part	Symbol	Value	Unit
Reverse voltage			V_R	6	V
DC forward current		TLPR5600	I_F	20	mA
		TLPH5600	I_F	30	mA
		TLPY5600	I_F	30	mA
		TLPG5600	I_F	30	mA
		TLPP5600	I_F	30	mA
Surge forward current	$t_p \leq 10\ \mu s$		I_{FSM}	1	A
Power dissipation		TLPR5600	P_V	60	mW
	$T_{amb} \leq 60$ °C	TLPH5600	P_V	100	mW
	$T_{amb} \leq 60$ °C	TLPY5600	P_V	100	mW
	$T_{amb} \leq 60$ °C	TLPG5600	P_V	100	mW
	$T_{amb} \leq 60$ °C	TLPP5600	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

Parameter	Test condition	Part	Symbol	Value	Unit
Thermal resistance junction/ ambient		TLPR5600	R_{thJA}	500	K/W
		TLPH5600	R_{thJA}	400	K/W
		TLPY5600	R_{thJA}	400	K/W
		TLPG5600	R_{thJA}	400	K/W
		TLPP5600	R_{thJA}	400	K/W

Optical and Electrical Characteristics

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

Red

TLPR5600

Parameter	Test condition	Part	Symbol	Min	Typ.	Max	Unit
Luminous intensity [1]	I_F = 10 mA		I_V	1	2.5		mcd
Dominant wavelength	I_F = 10 mA		λ_d		630		nm
Peak wavelength	I_F = 10 mA		λ_p		640		nm
Angle of half intensity	I_F = 10 mA		φ		± 80		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 $I_{VMin.}/I_{VMax.} \leq 0.5$

High efficiency red

TLPH5600

Parameter	Test condition	Part	Symbol	Min	Typ.	Max	Unit
Luminous intensity [1]	I_F = 10 mA		I_V	0.63	1.5		mcd
Dominant wavelength	I_F = 10 mA		λ_d	612		625	nm
Peak wavelength	I_F = 10 mA		λ_p		635		nm
Angle of half intensity	I_F = 10 mA		φ		± 80		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 $I_{VMin.}/I_{VMax.} \leq 0.5$

Yellow

TLPY5600

Parameter	Test condition	Part	Symbol	Min	Typ.	Max	Unit
Luminous intensity [1]	I_F = 10 mA		I_V	0.63	1.5		mcd
Dominant wavelength	I_F = 10 mA		λ_d	581		594	nm
Peak wavelength	I_F = 10 mA		λ_p		585		nm
Angle of half intensity	I_F = 10 mA		φ		± 80		deg
Forward voltage	I_F = 20 mA		V_F		2.4	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 $I_{VMin.}/I_{VMax.} \leq 0.5$

Green

Parameter	Test condition	Part	Symbol	Min	Typ.	Max	Unit
Luminous intensity 1)	I_F = 10 mA		I_V	0.63	1.5		mcd
Dominant wavelength	I_F = 10 mA		λ_d	562		575	nm
Peak wavelength	I_F = 10 mA		λ_p		565		nm
Angle of half intensity	I_F = 10 mA		φ		± 80		deg
Forward voltage	I_F = 20 mA		V_F		2.4	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 $I_{VMin.}/I_{VMax.} \leq 0.5$

Pure green

TLPP5600

Parameter	Test condition	Part	Symbol	Min	Typ.	Max	Unit
Luminous intensity 1)	I_F = 10 mA		I_V	0.63	1.6		mcd
Dominant wavelength	I_F = 10 mA		λ_d	555		565	nm
Peak wavelength	I_F = 10 mA		λ_p		555		nm
Angle of half intensity	I_F = 10 mA		φ		± 80		deg
Forward voltage	I_F = 20 mA		V_F		2.4	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)

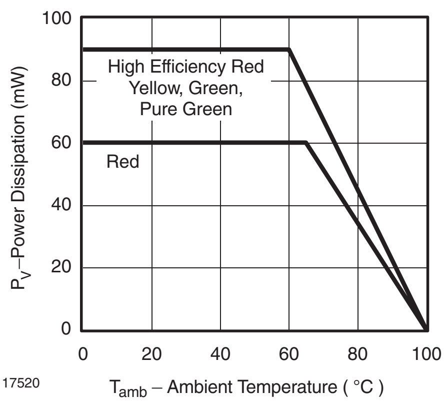


Figure 1. Power Dissipation vs. Ambient Temperature

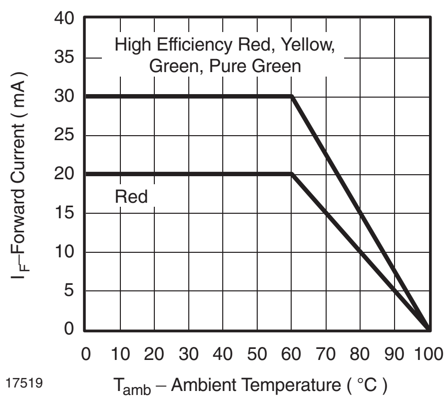


Figure 2. Forward Current vs. Ambient Temperature

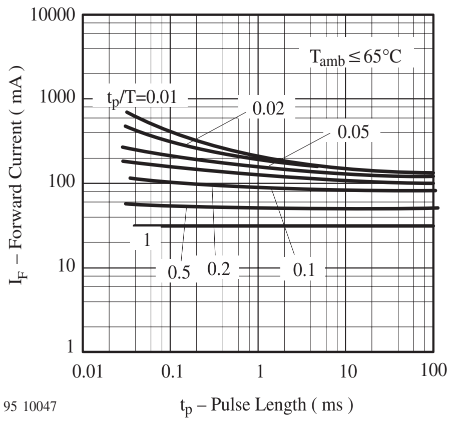


Figure 3. Forward Current vs. Pulse Length

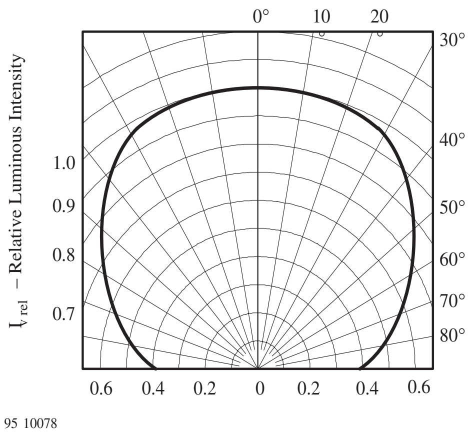


Figure 4. Rel. Luminous Intensity vs. Angular Displacement

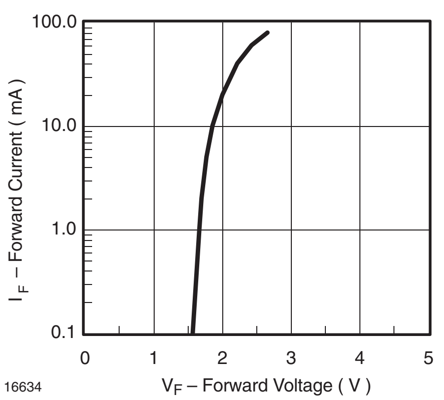


Figure 5. Forward Current vs. Forward Voltage

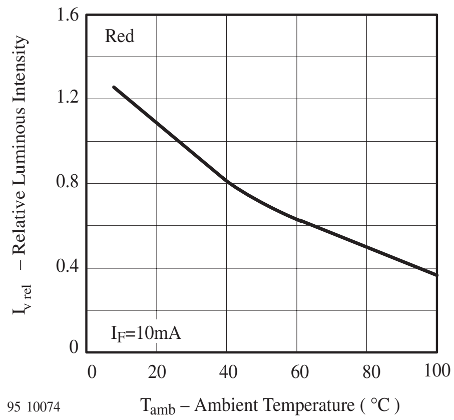


Figure 6. Rel. Luminous Intensity vs. Ambient Temperature

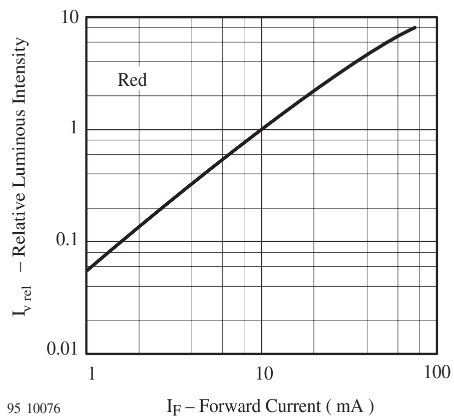


Figure 7. Relative Luminous Intensity vs. Forward Current

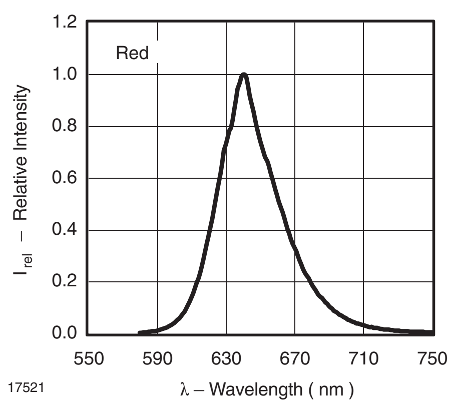


Figure 8. Relative Intensity vs. Wavelength

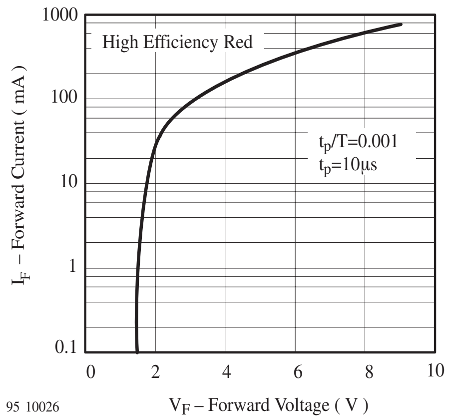


Figure 9. Forward Current vs. Forward Voltage

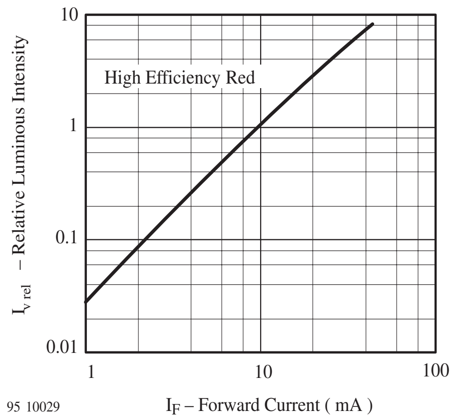


Figure 12. Relative Luminous Intensity vs. Forward Current

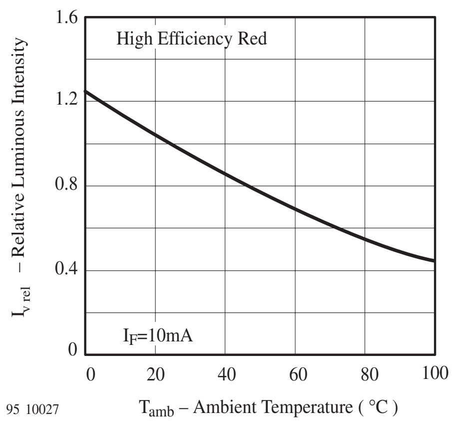


Figure 10. Rel. Luminous Intensity vs. Ambient Temperature

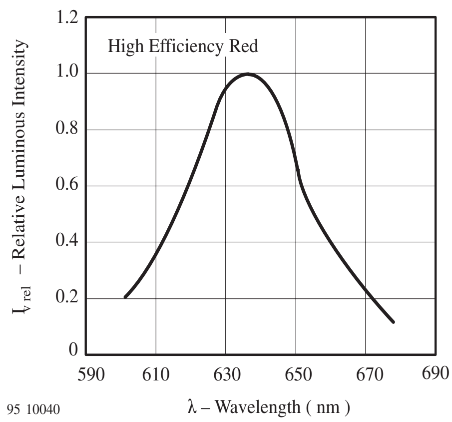


Figure 13. Relative Intensity vs. Wavelength

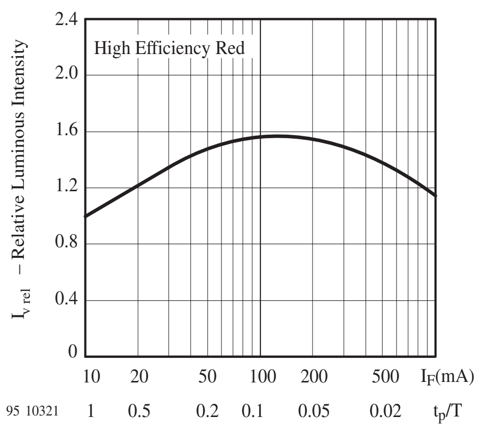


Figure 11. Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle

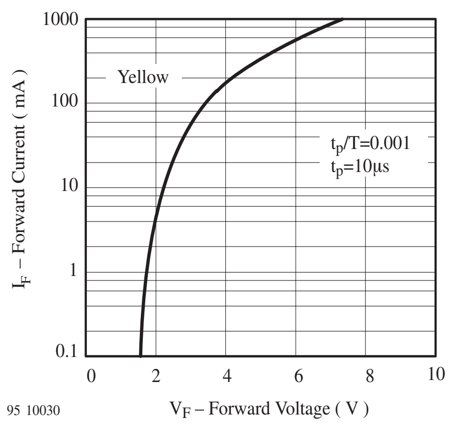


Figure 14. Forward Current vs. Forward Voltage

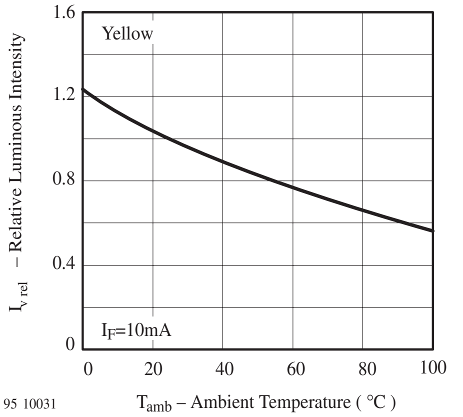


Figure 15. Rel. Luminous Intensity vs. Ambient Temperature

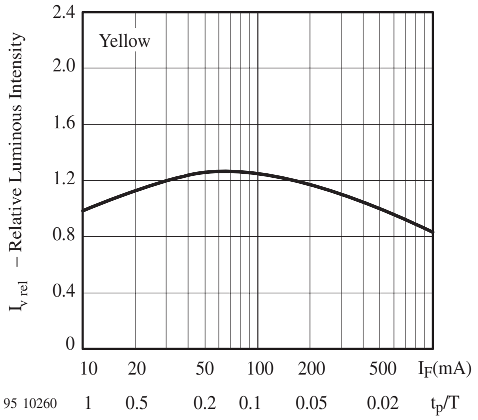


Figure 16. Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle

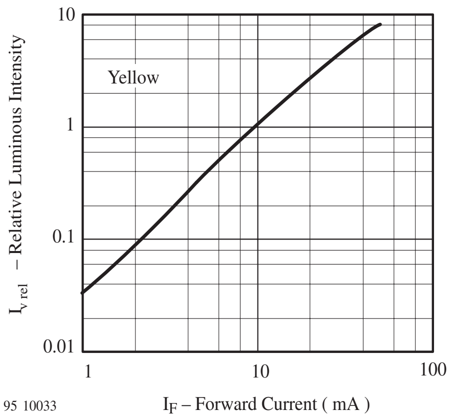


Figure 17. Relative Luminous Intensity vs. Forward Current

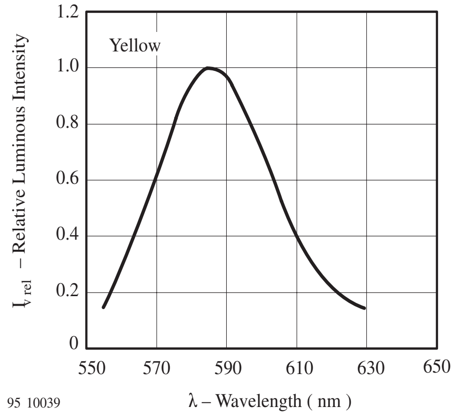


Figure 18. Relative Intensity vs. Wavelength

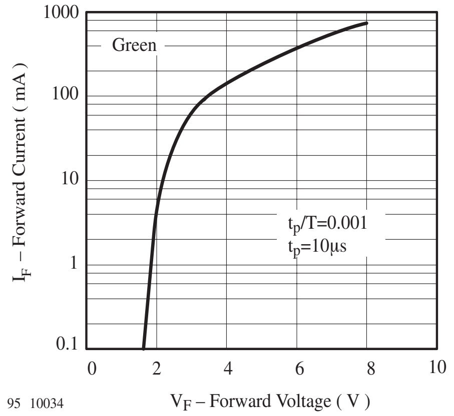


Figure 19. Forward Current vs. Forward Voltage

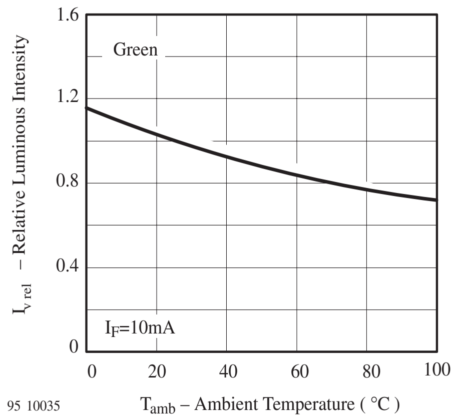


Figure 20. Rel. Luminous Intensity vs. Ambient Temperature

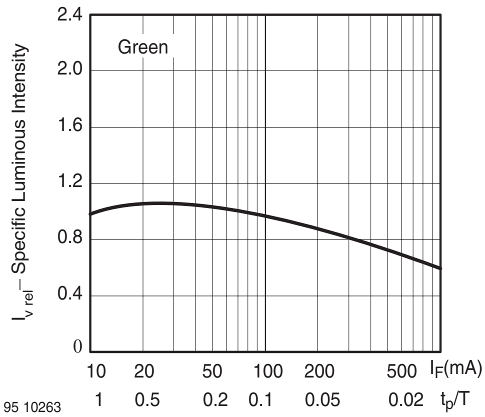


Figure 21. Specific Luminous Intensity vs. Forward Current

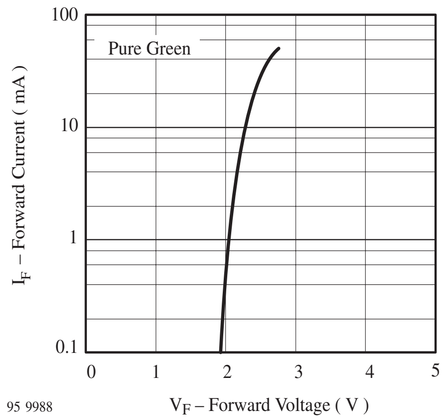


Figure 24. Forward Current vs. Forward Voltage

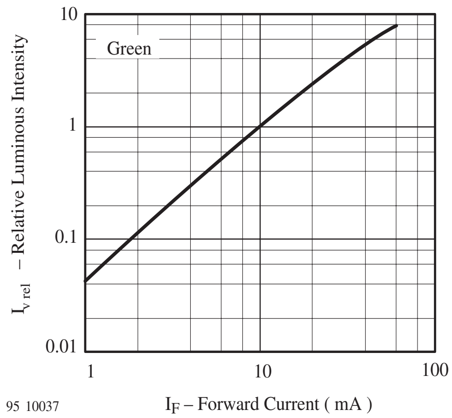


Figure 22. Relative Luminous Intensity vs. Forward Current

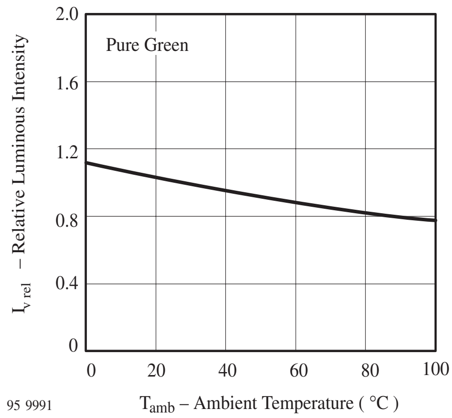


Figure 25. Rel. Luminous Intensity vs. Ambient Temperature

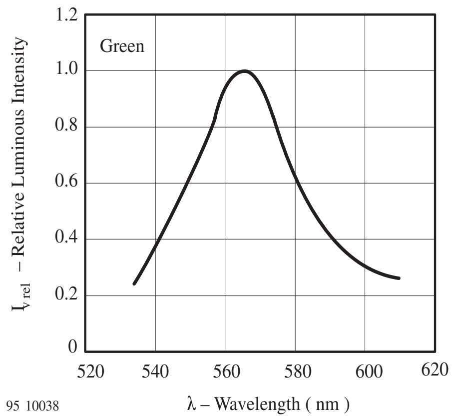


Figure 23. Relative Intensity vs. Wavelength

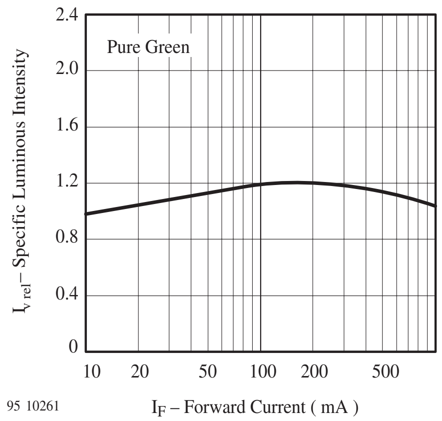


Figure 26. Specific Luminous Intensity vs. Forward Current

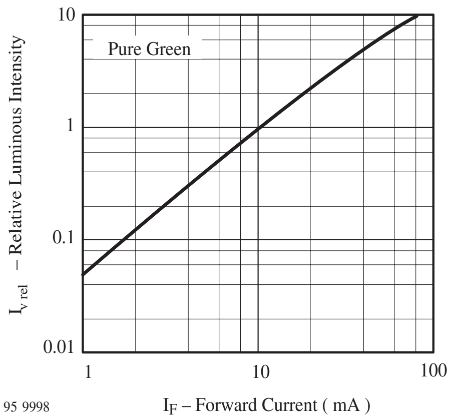


Figure 27. Relative Luminous Intensity vs. Forward Current

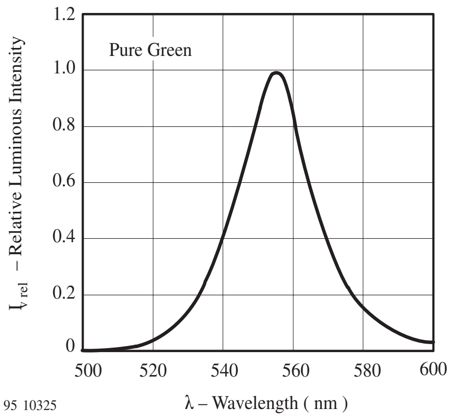
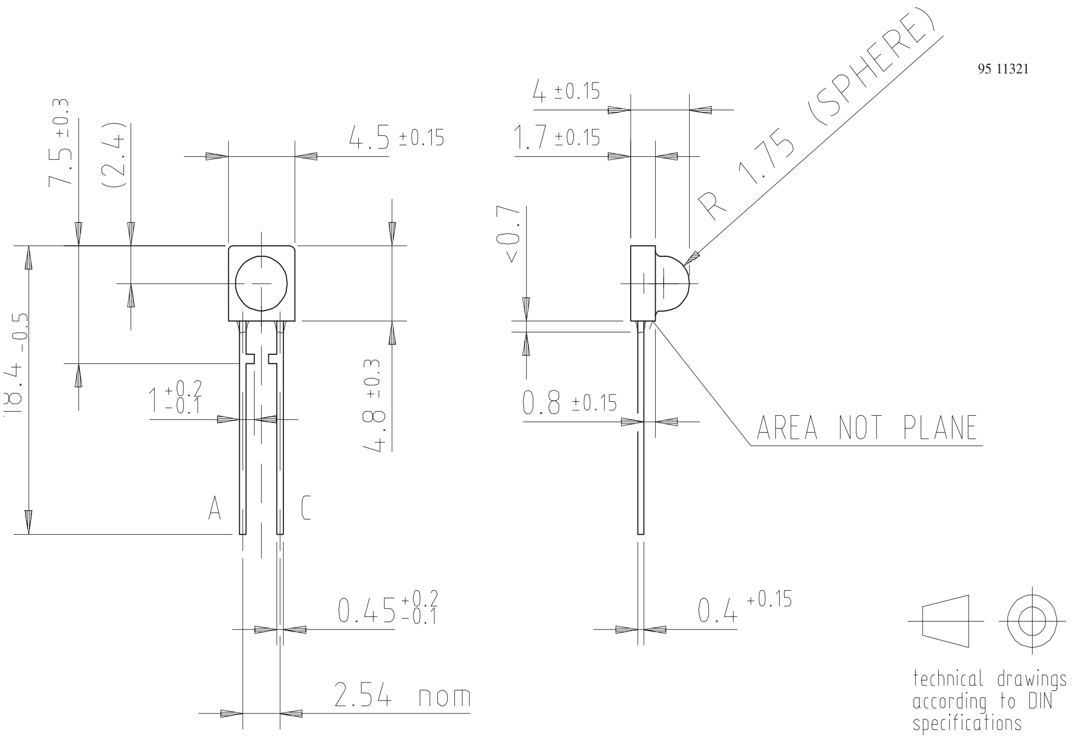


Figure 28. Relative Intensity vs. Wavelength

Package 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 operatingsystems 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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