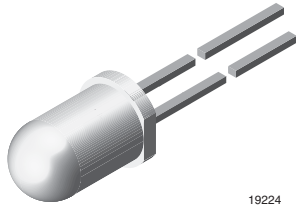


High Efficiency LED, \varnothing 5 mm Tinted Non-Diffused Package



19224

DESCRIPTION

The TLH.62.. series was developed for standard applications like general indicating and lighting purposes.

It is housed in a 5 mm tinted non-diffused plastic package. The small viewing angle of these devices provides a high brightness.

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.

FEATURES

- Choice of three bright colors
- Standard T-1 $\frac{3}{4}$ package
- Small mechanical tolerances
- Suitable for DC and high peak current
- Small viewing angle
- Luminous intensity categorized
- Yellow and green color categorized
- TLH.62.. without stand-offs
- Lead (Pb)-free device



APPLICATIONS

- Status lights
- Off/on indicator
- Background illumination
- Readout lights
- Maintenance lights
- Legend light

PRODUCT GROUP AND PACKAGE DATA

- Product group: LED
- Package: 5 mm
- Product series: standard
- Angle of half intensity: $\pm 14^\circ$

PARTS TABLE		
PART	COLOR, LUMINOUS INTENSITY	TECHNOLOGY
TLHR6200	Red, $I_V = 20$ mcd (typ.)	GaAsP on GaP
TLHR6201	Red, $I_V = 30$ mcd (typ.)	GaAsP on GaP
TLHR6205	Red, $I_V = 40$ mcd (typ.)	GaAsP on GaP
TLHY6200	Yellow, $I_V = 30$ mcd (typ.)	GaAsP on GaP
TLHY6201	Yellow, $I_V = 40$ mcd (typ.)	GaAsP on GaP
TLHY6205	Yellow, $I_V = 50$ mcd (typ.)	GaAsP on GaP
TLHG6200	Green, $I_V = 30$ mcd (typ.)	GaP on GaP
TLHG6201	Green, $I_V = 40$ mcd (typ.)	GaP on GaP
TLHG6205	Green, $I_V = 50$ mcd (typ.)	GaP on GaP



ABSOLUTE MAXIMUM RATINGS¹⁾ TLHR62.. , TLHY62.. , TLHG62..				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V_R	6	V
DC Forward current	$T_{amb} \leq 65\text{ °C}$	I_F	30	mA
Surge forward current	$t_p \leq 10\ \mu\text{s}$	I_{FSM}	1	A
Power dissipation	$T_{amb} \leq 65\text{ °C}$	P_V	100	mW
Junction temperature		T_j	100	°C
Operating temperature range		T_{amb}	- 20 to + 100	°C
Storage temperature range		T_{stg}	- 55 to + 100	°C
Soldering temperature	$t \leq 5\ \text{s}, 2\ \text{mm from body}$	T_{sd}	260	°C
Thermal resistance junction/ambient		R_{thJA}	350	K/W

Note:

¹⁾ $T_{amb} = 25\text{ °C}$, unless otherwise specified

OPTICAL AND ELECTRICAL CHARACTERISTICS¹⁾ TLHR62..., RED							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN	TYP.	MAX	UNIT
Luminous intensity ²⁾	$I_F = 10\ \text{mA}$	TLHR6200	I_V	10	20		mcd
		TLHR6201	I_V	16	30		mcd
		TLHR6205	I_V	25	40		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		± 14		deg
Forward voltage	$I_F = 20\ \text{mA}$		V_F		2	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

Note:

¹⁾ $T_{amb} = 25\text{ °C}$, unless otherwise specified

²⁾ In one packing unit $I_{Vmin}/I_{Vmax} \leq 0.5$

OPTICAL AND ELECTRICAL CHARACTERISTICS¹⁾ TLHY62..., YELLOW							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN	TYP.	MAX	UNIT
Luminous intensity ²⁾	$I_F = 10\ \text{mA}$	TLHY6200	I_V	10	30		mcd
		TLHY6201	I_V	16	40		mcd
		TLHY6205	I_V	25	50		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		± 14		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

Note:

¹⁾ $T_{amb} = 25\text{ °C}$, unless otherwise specified

²⁾ In one packing unit $I_{Vmin}/I_{Vmax} \leq 0.5$

OPTICAL AND ELECTRICAL CHARACTERISTICS¹⁾ TLHG62.., GREEN							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN	TYP.	MAX	UNIT
Luminous intensity ²⁾	$I_F = 10 \text{ mA}$	TLHG6200	I_V	16	30		mcd
		TLHG6201	I_V	25	40		mcd
		TLHG6205	I_V	40	50		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		± 14		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

Note:

¹⁾ $T_{amb} = 25 \text{ }^\circ\text{C}$, unless otherwise specified

²⁾ In one packing unit $I_{Vmin}/I_{Vmax} \leq 0.5$

TYPICAL CHARACTERISTICS

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

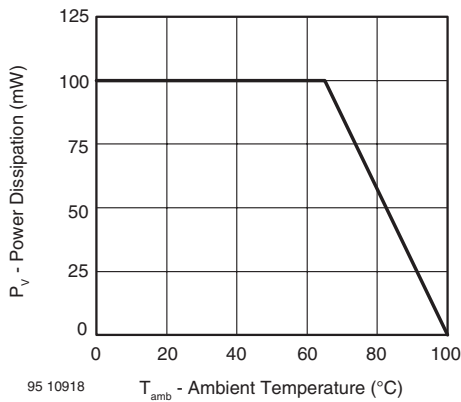


Figure 1. Power Dissipation vs. Ambient Temperature

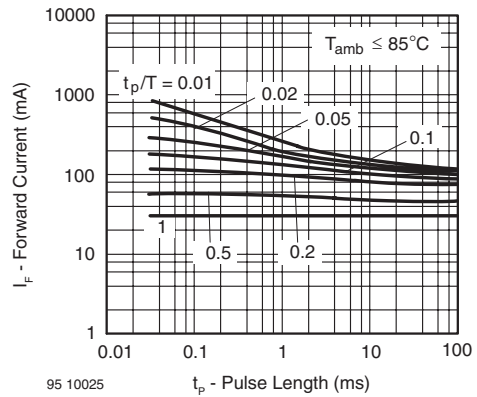


Figure 3. Forward Current vs. Pulse Length

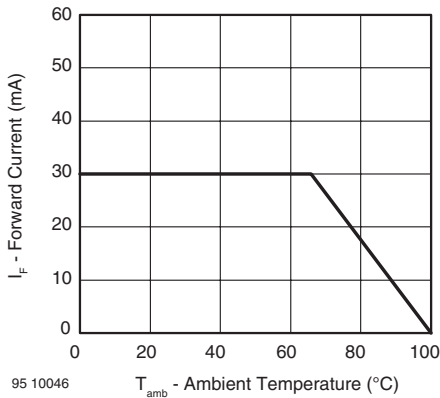


Figure 2. Forward Current vs. Ambient Temperature

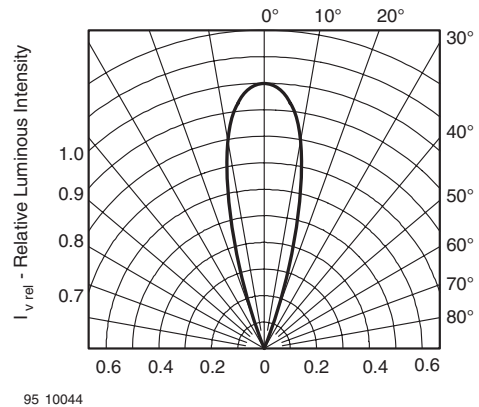


Figure 4. Rel. Luminous Intensity vs. Angular Displacement

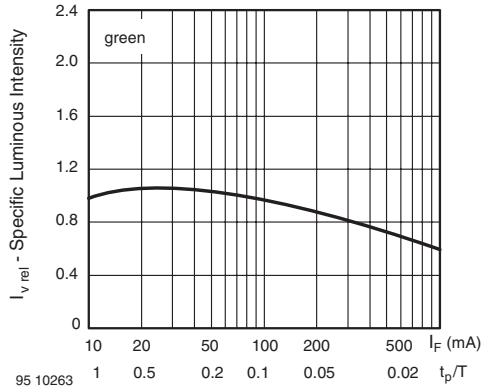


Figure 17. Specific Luminous Intensity vs. Forward Current

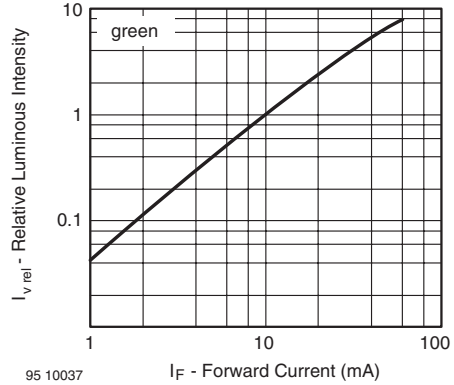
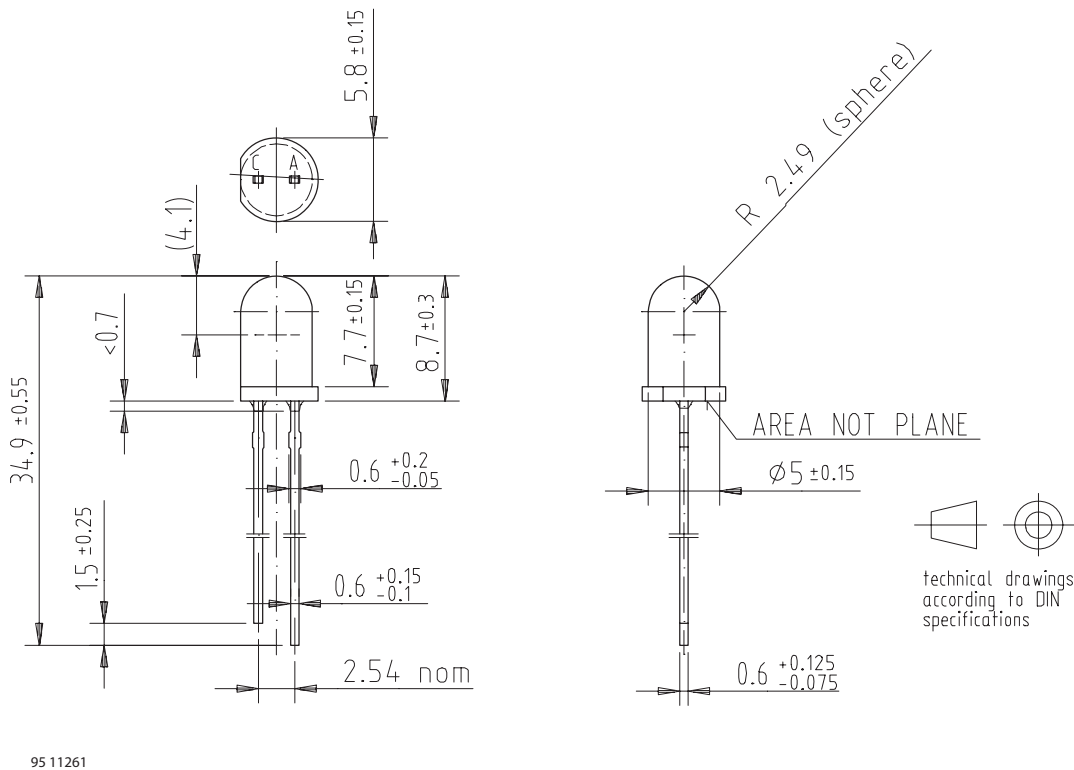


Figure 18. Relative Luminous Intensity vs. Forward Current

PACKAGE DIMENSIONS in millimeters



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