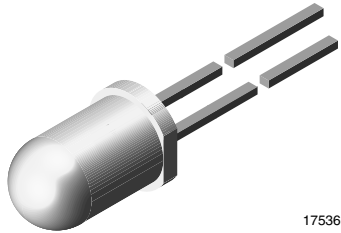


High Efficiency LED, Ø 5 mm Untinted Non-Diffused



17536

DESCRIPTION

The TLH.6800 series was developed for standard applications which need a very small radiation angle or a very high luminous intensity.

It is housed in a 5 mm untinted non-diffused plastic package. The very small viewing angle of these devices provide a very high luminous intensity.

The yellow and green LEDs are categorized in luminous intensity and additionally in wavelength groups.

That allows users to assemble LEDs with uniform appearance.

FEATURES

- Standard T-1 $\frac{3}{4}$ package
- Small mechanical tolerances
- Suitable for DC and high peak current
- Very small viewing angle
- Very high intensity
- Luminous intensity categorized
- Yellow and green color categorized
- ESD-withstand voltage up to 2 kV according to JESD22-A114-B
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



RoHS
COMPLIANT

APPLICATIONS

- Status lights
- Off/on indicator
- Lightpipe
- Outdoor display
- Medical instruments
- Maintenance lights
- Legend lights

PRODUCT GROUP AND PACKAGE DATA

- Product group: LED
- Package: 5 mm
- Product series: standard
- Angle of half intensity: $\pm 4^\circ$

PARTS TABLE

PART	COLOR, LUMINOUS INTENSITY	TECHNOLOGY
TLHG6800-AS12Z	Green, $I_V > 430$ mcd	GaP on GaP

ABSOLUTE MAXIMUM RATINGS ¹⁾ TLHG6800

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V_R	6	V
DC Forward current	$T_{amb} \leq 65^\circ\text{C}$	I_F	30	mA
Surge forward current	$t_p \leq 10 \mu\text{s}$	I_{FSM}	1	A
Power dissipation	$T_{amb} \leq 65^\circ\text{C}$	P_V	100	mW
Junction temperature		T_j	100	$^\circ\text{C}$
Operating temperature range		T_{amb}	- 40 to + 100	$^\circ\text{C}$
Storage temperature range		T_{stg}	- 55 to + 100	$^\circ\text{C}$
Soldering temperature	$t \leq 5$ s, 2 mm from body	T_{sd}	260	$^\circ\text{C}$
Thermal resistance junction/ambient		R_{thJA}	350	K/W

Note:

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

OPTICAL AND ELECTRICAL CHARACTERISTICS ¹⁾ TLHG6800, GREEN						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Luminous intensity ²⁾	$I_F = 20 \text{ mA}$	I_V	430	700		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		± 4		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 $I_{Vmin.}/I_{Vmax.} \leq 0.5$

LUMINOUS INTENSITY CLASSIFICATION		
GROUP	LIGHT INTENSITY (mcd)	
	MIN.	MAX.
BB	430	860
CC	575	1150
DD	750	1500
EE	1000	2000
FF	1350	2700

Note:

Luminous intensity is tested at a current pulse duration of 25 ms and an accuracy of $\pm 11 \%$.

The above type numbers represent the order groups which include only a few brightness groups. Only one group will be shipped on each bag (there will be no mixing of two groups on each bag). In order to ensure availability, single brightness groups will not be orderable.

In a similar manner for colors where wavelength groups are measured and binned, single wavelength groups will be shipped in any one bag.

In order to ensure availability, single wavelength groups will not be orderable.

COLOR CLASSIFICATION		
GROUP	GREEN	
	DOM. WAVELENGTH (nm)	
	MIN.	MAX.
3	562	565
4	564	567
5	566	569
6	568	571
7	570	573
8	572	575

Note:

Wavelengths are tested at a current pulse duration of 25 ms and an accuracy of $\pm 1 \text{ nm}$.

TYPICAL CHARACTERISTICS

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

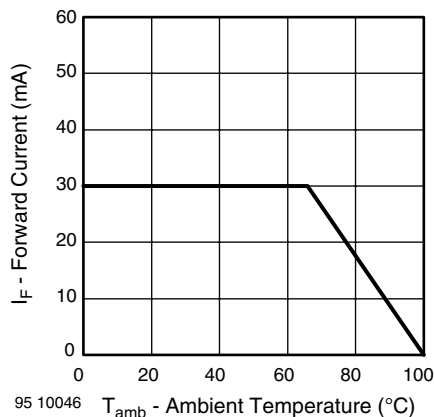


Figure 1. Forward Current vs. Ambient Temperature

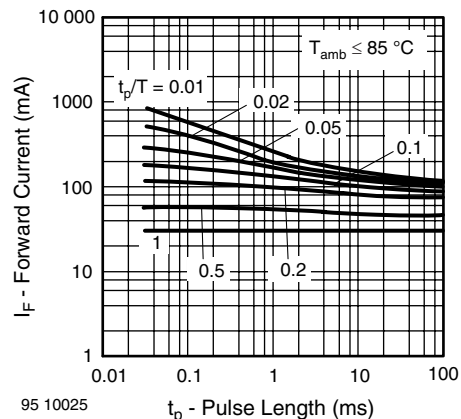


Figure 2. Forward Current vs. Pulse Length

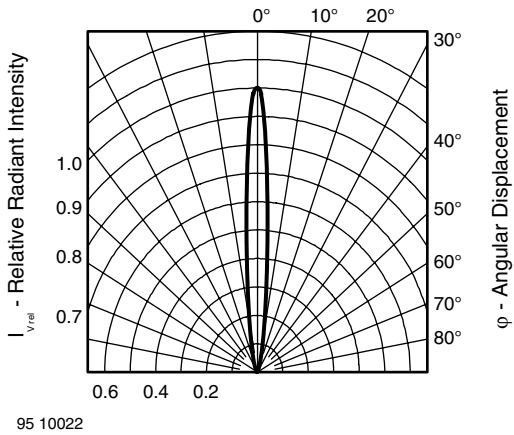


Figure 3. Rel. Luminous Intensity vs. Angular Displacement

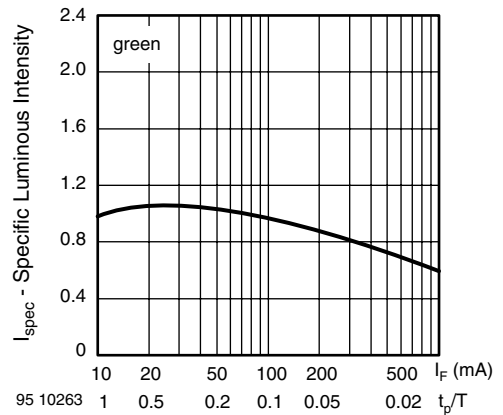


Figure 6. Specific Luminous Intensity vs. Forward Current

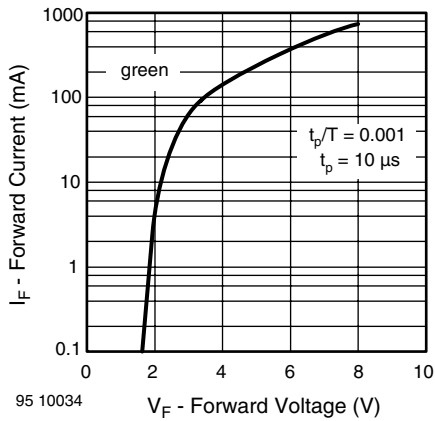


Figure 4. Forward Current vs. Forward Voltage

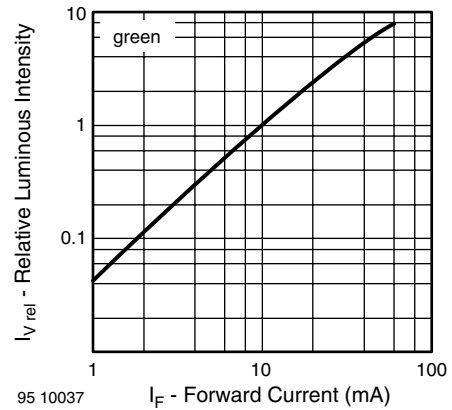


Figure 7. Relative Luminous Intensity vs. Forward Current

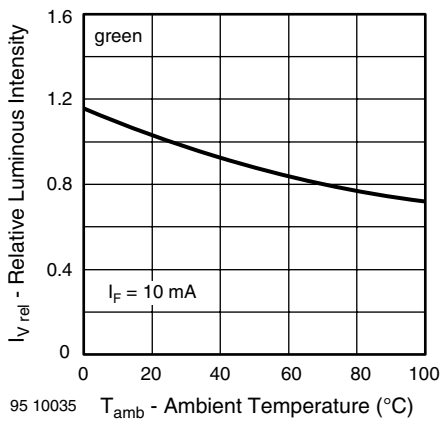


Figure 5. Rel. Luminous Intensity vs. Ambient Temperature

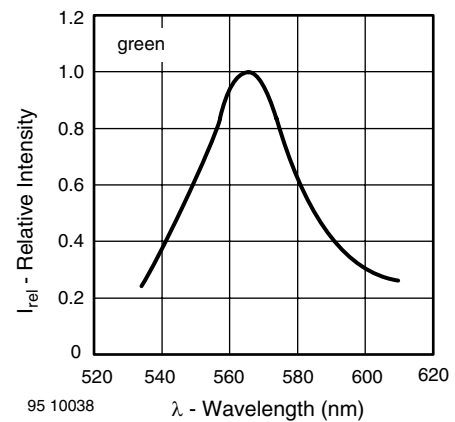
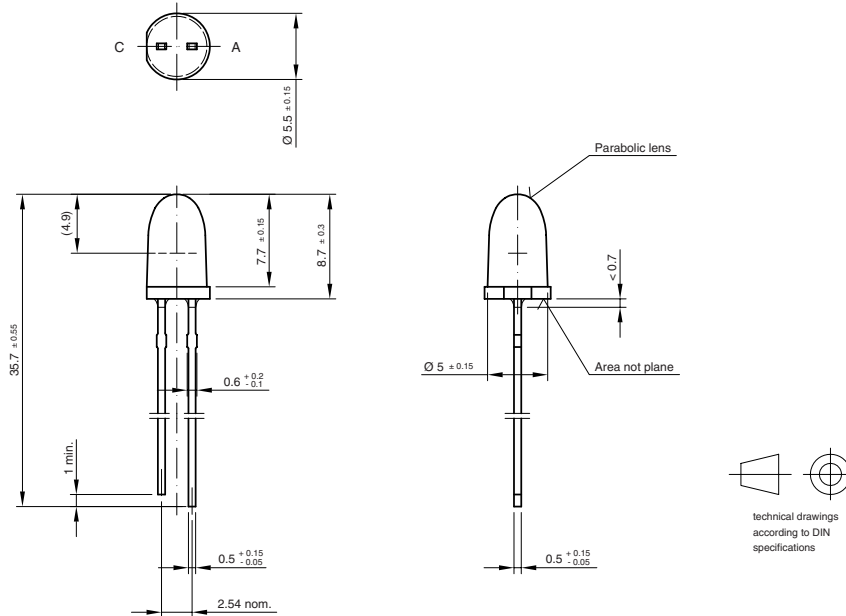


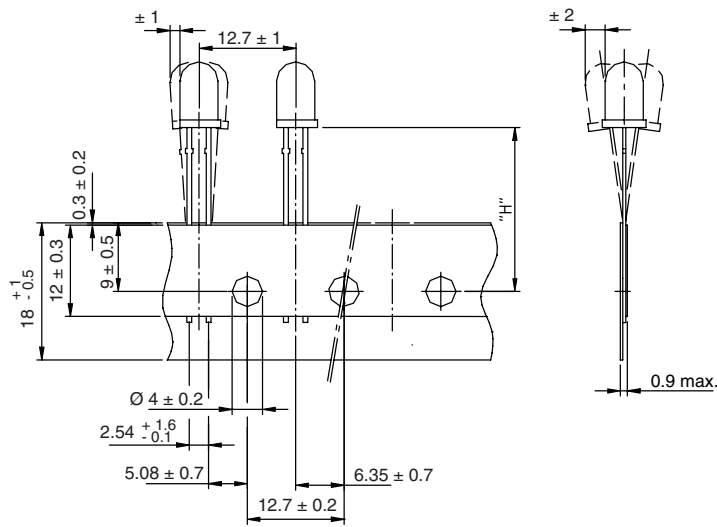
Figure 8. Relative Intensity vs. Wavelength

PACKAGE DIMENSIONS in millimeters



Drawing-No.: 6.544-5311.01-4
 Issue: 4; 19.05.09
 20243

TAPE DIMENSIONS in millimeters



Quantity per:	Reel (Mat.-no. 1764)
	1000

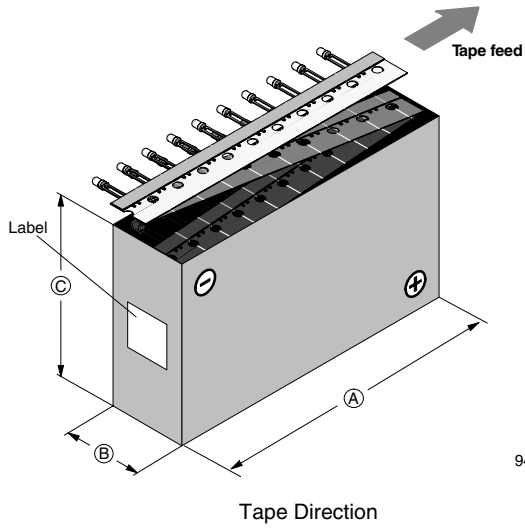
94 8172

Option	Dim. "H" $\pm 0.5 \text{ mm}$
AS	17.3

Explanation

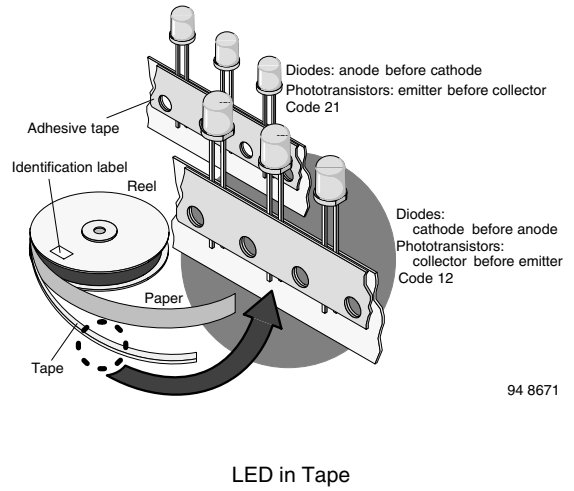
12 - cathode leaves first

AMMOPACK



94 8667-1

TAPE



94 8671

LED in Tape



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