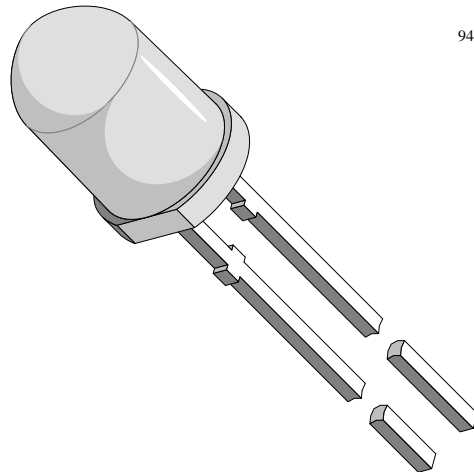


## High Intensity LED, $\varnothing$ 5 mm Untinted Non-Diffused

Color	Type	Technology	Angle of Half Intensity $\pm\varphi$
Soft orange	TLHF5800	AllnGaP on GaAs	4°

### Description

This device has been designed to meet the increasing demand for extremely bright orange LEDs. It is housed in a 5 mm untinted non-diffused plastic package. The very small viewing angle of this device provides a very high luminous intensity.



94 8631

### Features

- AllnGaP technology
- 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

### Applications

Status lights  
OFF / ON indicator  
Lightpipe  
Outdoor display  
Medical instruments  
Maintenance lights  
Legend lights

## Absolute Maximum Ratings

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

### TLHF5800

Parameter	Test Conditions	Type	Symbol	Value	Unit
Reverse voltage			$V_R$	5	V
DC forward current	$T_{amb} \leq 65^{\circ}\text{C}$		$I_F$	30	mA
Surge forward current	$t_p \leq 10 \mu\text{s}$		$I_{FSM}$	0.1	A
Power dissipation	$T_{amb} \leq 65^{\circ}\text{C}$		$P_V$	80	mW
Junction temperature			$T_j$	100	$^{\circ}\text{C}$
Operating temperature range			$T_{amb}$	-20 to +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		$T_{sd}$	260	$^{\circ}\text{C}$
Thermal resistance junction/ambient			$R_{thJA}$	350	K/W

## Optical and Electrical Characteristics

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

### Soft orange (TLHF5800)

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Luminous intensity	$I_F = 20 \text{ mA}$ , $I_{Vmin}/I_{Vmax} \geq 0.5$		$I_V$	1000	3500		mcd
Dominant wavelength	$I_F = 10 \text{ mA}$		$\lambda_d$	598	605	611	nm
Peak wavelength	$I_F = 10 \text{ mA}$		$\lambda_p$		610		nm
Angle of half intensity	$I_F = 10 \text{ mA}$		$\phi$		$\pm 4$		deg
Forward voltage	$I_F = 20 \text{ mA}$		$V_F$		2	2.6	V
Reverse voltage	$I_R = 10 \mu\text{A}$		$V_R$	5			V
Junction capacitance	$V_R = 0$ , $f = 1 \text{ MHz}$		$C_j$		15		pF

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

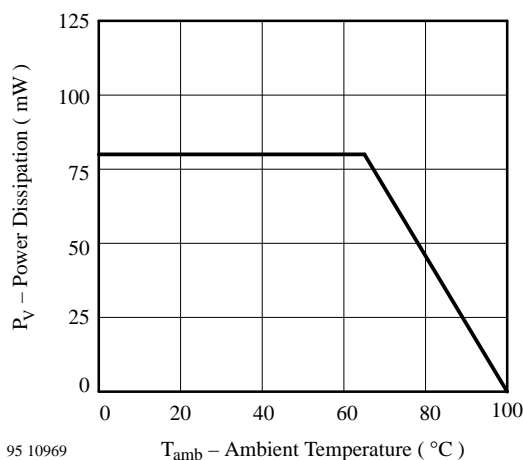


Figure 1. Power Dissipation vs. Ambient Temperature

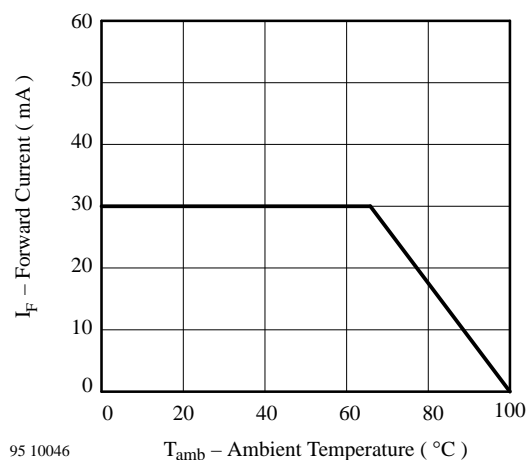
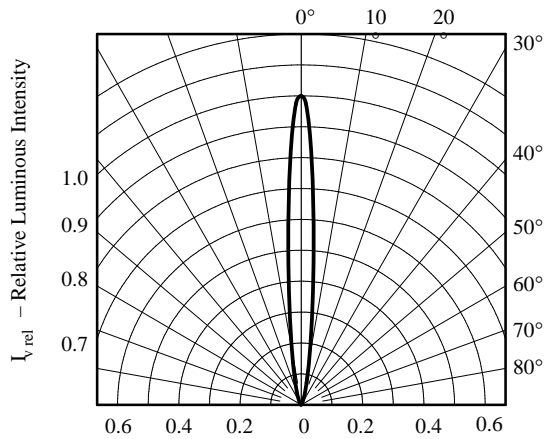
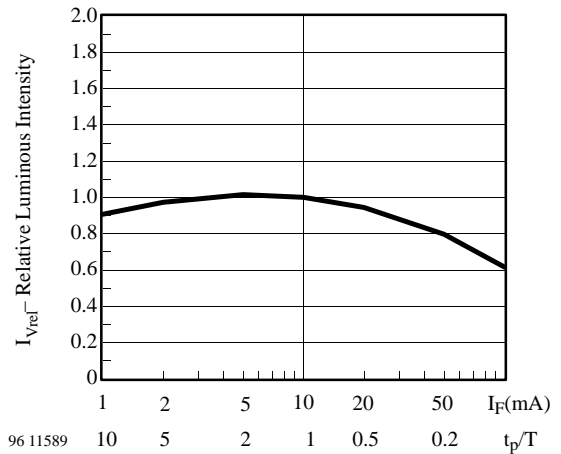


Figure 2. Forward Current vs. Ambient Temperature



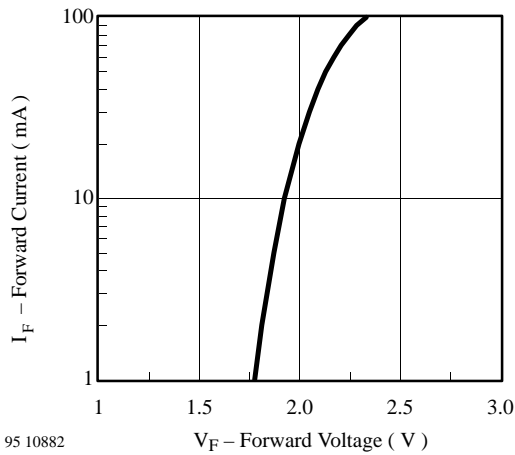
95 10022

Figure 3. Rel. Luminous Intensity vs. Angular Displacement



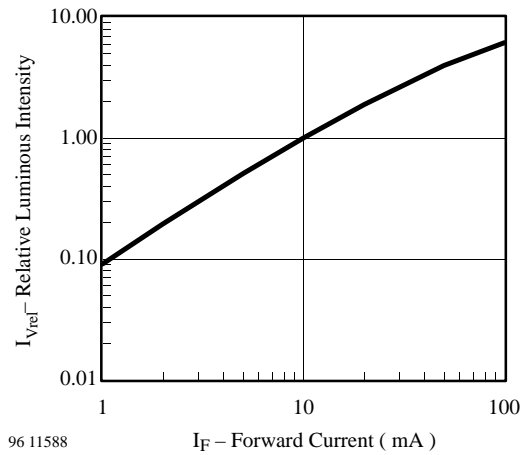
96 11589

Figure 6. Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle



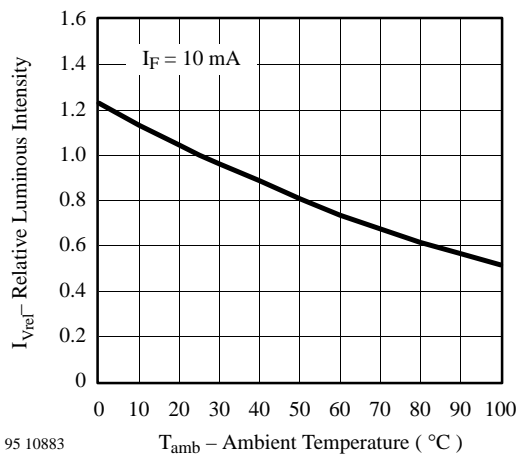
95 10882

Figure 4. Forward Current vs. Forward Voltage



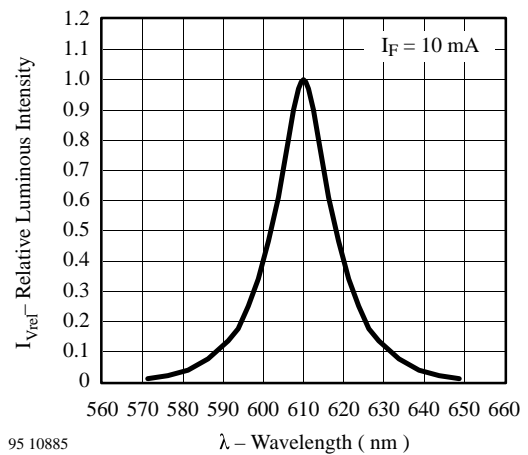
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Figure 7. Relative Luminous Intensity vs. Forward Current



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Figure 5. Rel. Luminous Intensity vs. Ambient Temperature

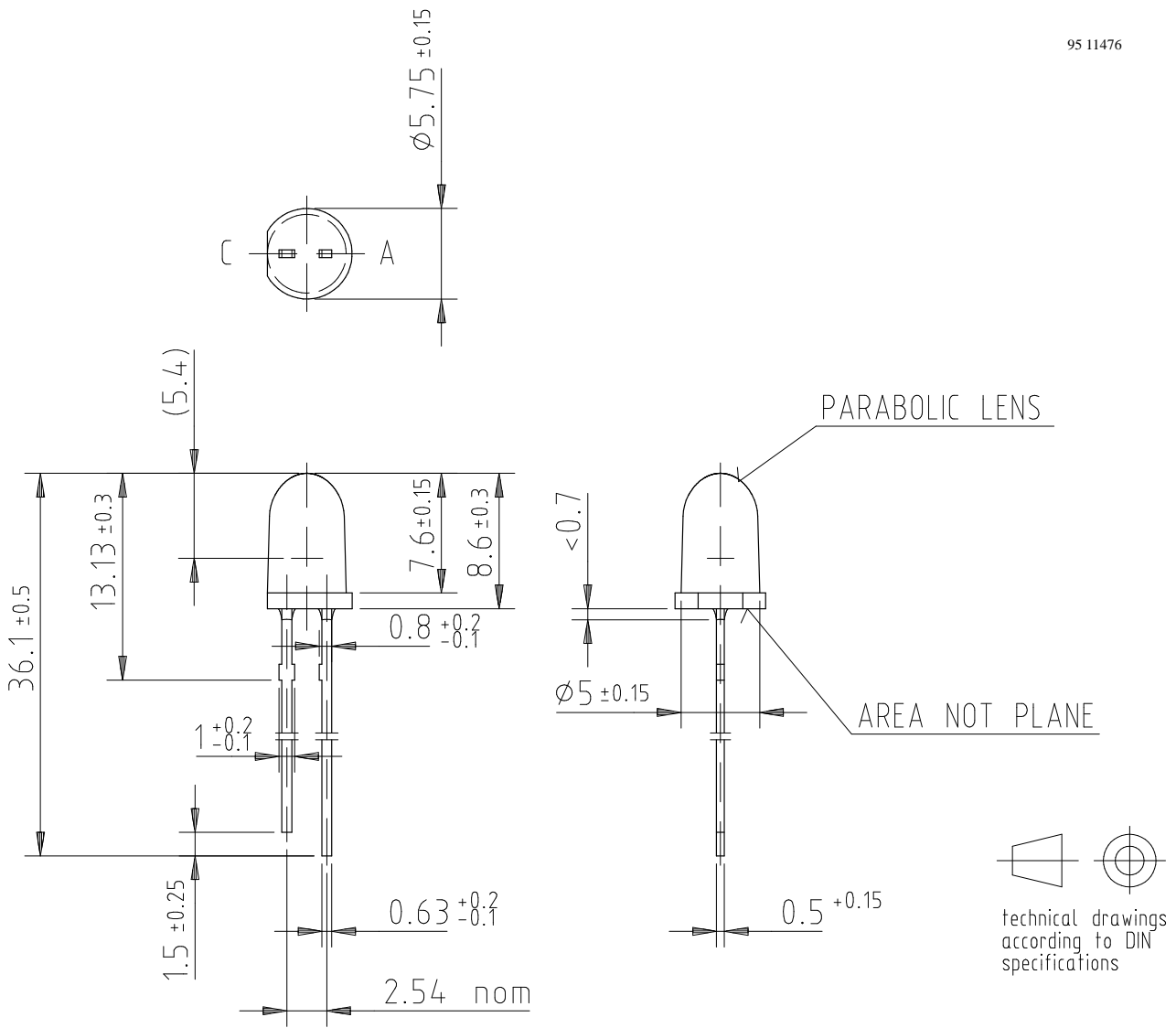


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Figure 8. Relative Luminous Intensity vs. Wavelength

## Dimensions in mm

95 11476



## Ozone Depleting Substances Policy Statement

It is the policy of **TEMIC TELEFUNKEN microelectronic 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.

**TEMIC TELEFUNKEN microelectronic GmbH** semiconductor division 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.

**TEMIC** 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 TEMIC products for any unintended or unauthorized application, the buyer shall indemnify TEMIC 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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