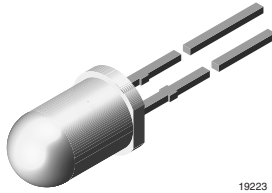


High Intensity LED, Ø 5 mm Clear Package



DESCRIPTION

This LED contains the double heterojunction (DH) GaAlAs on GaAs technology.

This deep red LED can be utilized over a wide range of drive current. It can be DC or pulse driven to achieve desired light output.

A clear 5 mm package is used to provide an extremely high light intensity of more than 2000 mcd at a very narrow viewing angle.

PRODUCT GROUP AND PACKAGE DATA

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

FEATURES

- Exceptional brightness ($I_{Vtyp} = 2500 \text{ mcd}$ at $I_F = 20 \text{ mA}$)
- Narrow viewing angle ($\varphi = \pm 4^\circ$)
- Low forward voltage
- 5 mm (T-1 $\frac{3}{4}$ ") clear package
- Very high intensity even at low drive currents
- Deep red color
- Categorized for luminous intensity
- Outstanding material efficiency
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC


RoHS
COMPLIANT

APPLICATIONS

- Bright ambient lighting conditions
- Battery powered equipment
- Indoor and outdoor information displays
- Portable equipment
- Telecommunication indicators
- General use

PARTS TABLE

PART	COLOR, LUMINOUS INTENSITY	TECHNOLOGY
TLDR5800	Red, $I_V \geq 1000 \text{ mcd}$	GaAlAs on GaAs
TLDR5800-AS12Z	Red, $I_V \geq 1000 \text{ mcd}$	GaAlAs on GaAs

ABSOLUTE MAXIMUM RATINGS ¹⁾ TLDR5800

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage ²⁾		V_R	6	V
DC Forward current		I_F	50	mA
Surge forward current	$t_p \leq 10 \mu\text{s}$	I_{FSM}	1	A
Power dissipation		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	$t \leq 5 \text{ s}$, 2 mm from body	T_{sd}	260	$^\circ\text{C}$
Thermal resistance junction/ambient		R_{thJA}	350	K/W

Note:

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

²⁾ Driving the LED in reverse direction is suitable for a short term application

OPTICAL AND ELECTRICAL CHARACTERISTICS ¹⁾ TLDR5800, RED						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Luminous intensity	$I_F = 20 \text{ mA}$	I_V	1000	2500		mcd
Dominant wavelength	$I_F = 20 \text{ mA}$	λ_d		648		nm
Peak wavelength	$I_F = 20 \text{ mA}$	λ_p		650		nm
Angle of half intensity	$I_F = 20 \text{ mA}$	φ		± 4		deg
Forward voltage	$I_F = 20 \text{ mA}$	V_F		1.8	2.2	V
Reverse current	$V_R = 6 \text{ V}$	I_R			10	μA
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

LUMINOUS INTENSITY CLASSIFICATION		
GROUP STANDARD	LUMINOUS INTENSITY (mcd)	
	MIN.	MAX.
EE	1000	2000
FF	1350	2700
GG	1800	3600
HH	2400	4800
II	3200	6400
KK	4300	8600
LL	5750	11 500
MM	7500	15 000
NN	10 000	20 000

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 in 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 on any one bag.

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

TYPICAL CHARACTERISTICS

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

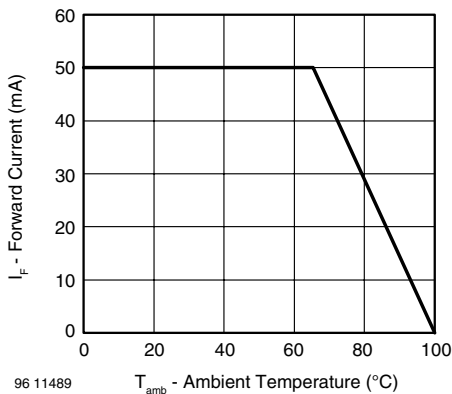


Figure 1. Forward Current vs. Ambient Temperature for AlInGaP

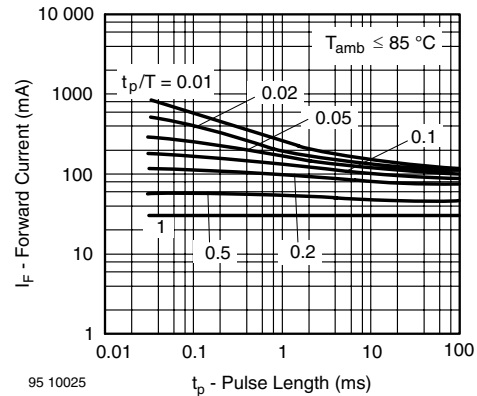


Figure 2. Forward Current vs. Pulse Length

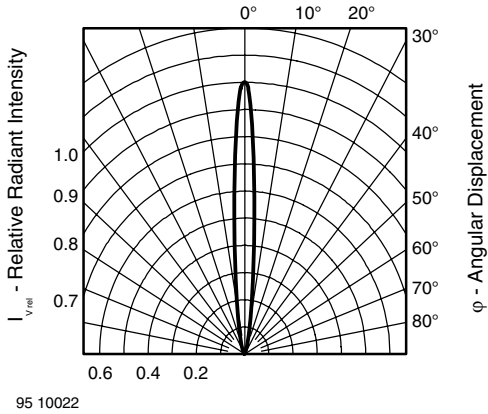


Figure 3. Rel. Luminous Intensity vs. Angular Displacement

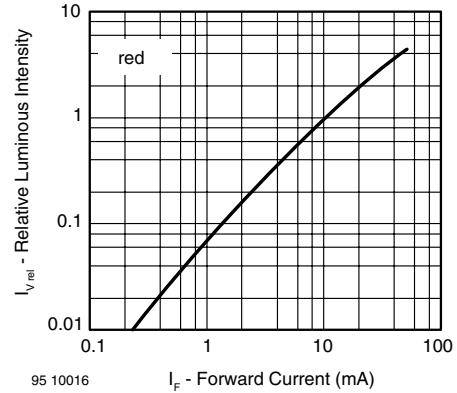


Figure 6. Relative Luminous Intensity vs. Forward Current

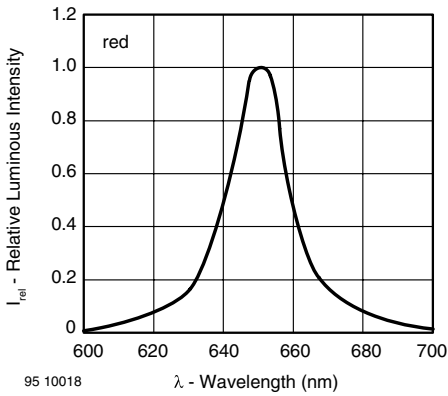


Figure 4. Relative Intensity vs. Wavelength

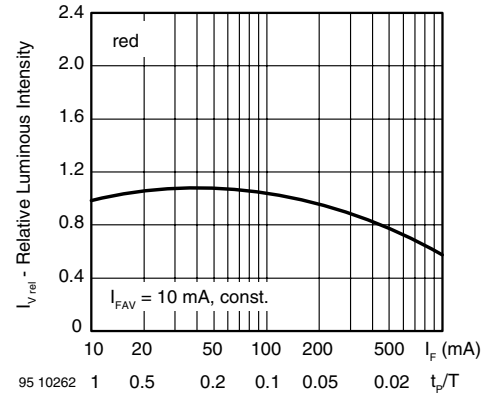


Figure 7. Rel. Lumin. Intensity vs. Forw. Current/Duty Cycle

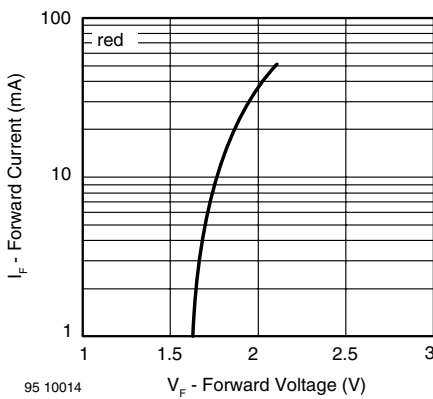


Figure 5. Forward Current vs. Forward Voltage

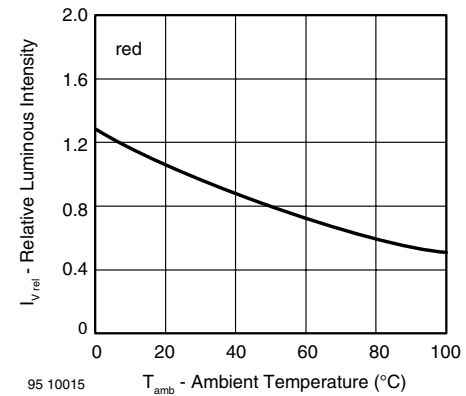
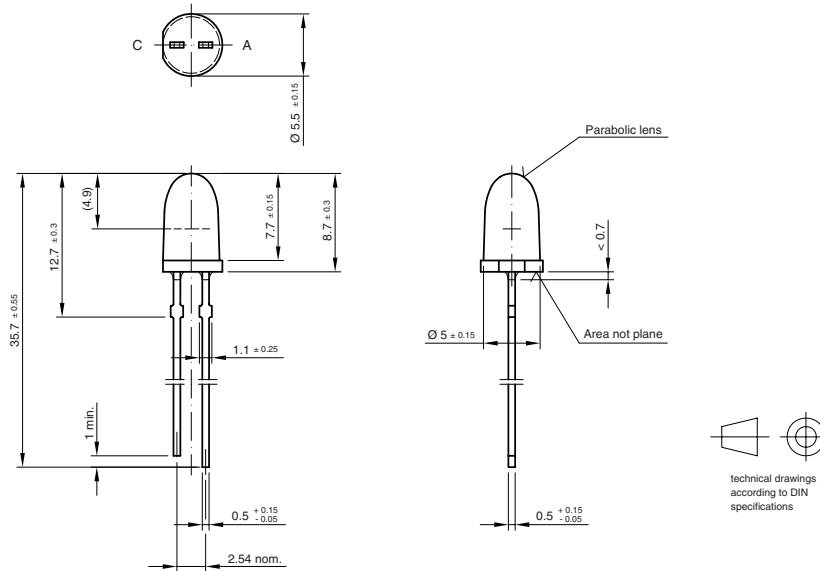


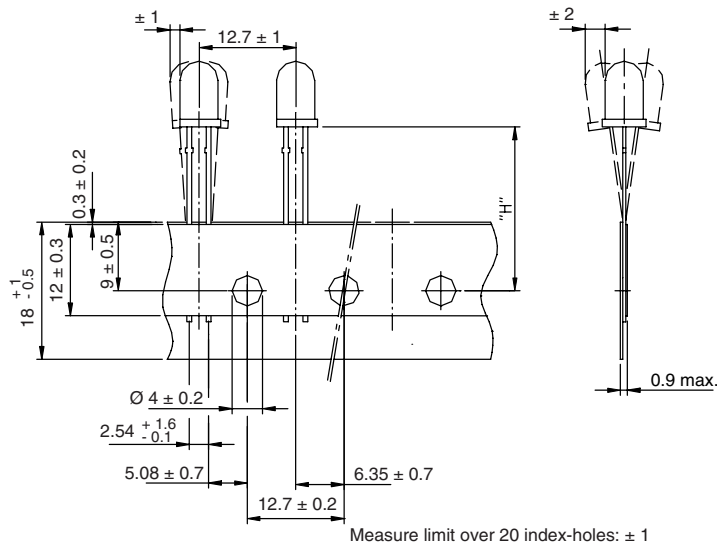
Figure 8. Rel. Luminous Intensity vs. Ambient Temperature

PACKAGE DIMENSIONS



Drawing-No.: 6.544-5310.01-4
 Issue: 4; 19.05.09
 95 11476

TAPE DIMENSIONS



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

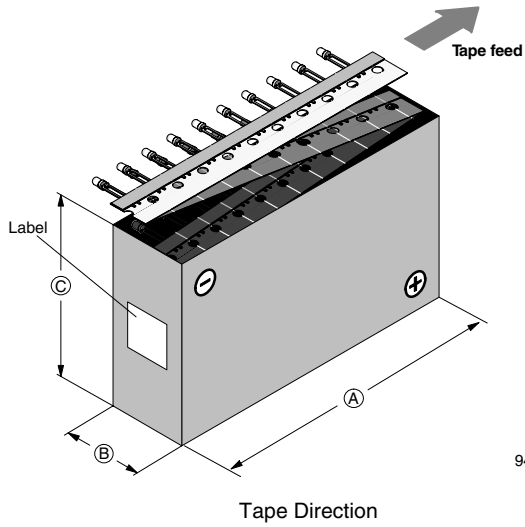
94 8172

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

Explanation

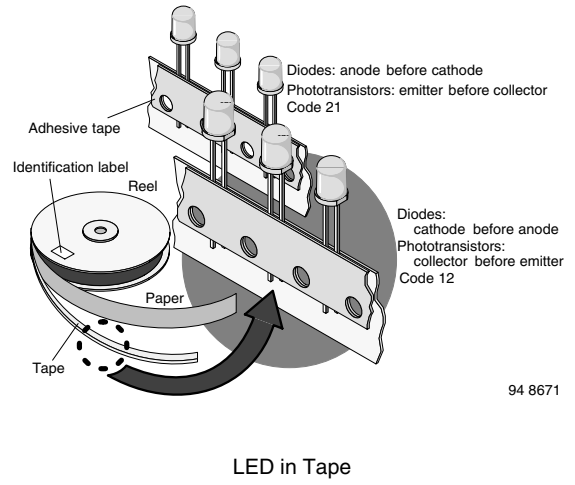
12 - cathode leaves first
 21 - anode leaves first

AMMOPACK



94 8667-1

TAPE



94 8671



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: org@lifeelectronics.ru