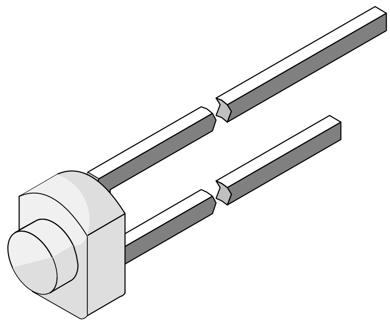
GaAs Infrared Emitting Diode in Miniature (T-¾) Package


94 8638

Description

CQY37N is a standard GaAs infrared emitting diode in a miniature top view plastic package.

Its clear lens provides a high radiant intensity without external optics.

The diode is case compatible to the BPW17N phototransistor, allowing the user to assemble his own optical interrupters.

Features

- Suitable for pulse operation
- Standard T-¾ lensed miniature package
- Angle of half intensity $\varphi = \pm 12$ °
- Peak wavelength λ_p = 950 nm
- Good spectral matching to Si photodetectors
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

Applications

- Radiation source in near infrared range

Absolute Maximum Ratings

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

Parameter	Test condition	Symbol	Value	Unit
Reverse Voltage		V_R	5	V
Forward current		I_F	100	mA
Surge Forward Current	$t_p \leq 100$ µs	I_{FSM}	2	A
Power Dissipation		P_V	170	mW
Junction Temperature		T_j	100	°C
Storage Temperature Range		T_{stg}	- 25 to + 100	°C
Soldering Temperature	$t \leq 3$ s	T_{sd}	245	°C
Thermal Resistance Junction/ Ambient		R_{thJA}	450	K/W

Electrical Characteristics

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

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Forward Voltage	I_F = 50 mA, $t_p \leq 20$ ms	V_F		1.3	1.6	V
Breakdown Voltage	I_R = 100 µA	$V_{(BR)}$	5			V
Junction capacitance	V_R = 0 V, f = 1 MHz, E = 0	C_j		50		pF

Optical Characteristics

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

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Radiant Intensity	I_F = 50 mA, $t_p \le$ 20 ms	I_e	2.2	5	11	mW/sr
Radiant Power	I_F = 50 mA, $t_p \le$ 20 ms	ϕ_e		10		mW
Temp. Coefficient of ϕ_e	I_F = 50 mA	$TK\phi_e$		- 0.8		%/K
Angle of Half Intensity		φ		± 12		deg
Peak Wavelength	I_F = 50 mA	λ_p		950		nm
Spectral Bandwidth	I_F = 50 mA	$\Delta\lambda$		50		nm
Rise time	I_F = 1.5 A, t_p/T = 0.01, $t_p \le$ 10 µs	t_r		400		ns
Fall Time	I_F = 1.5 A, t_p/T = 0.01, $t_p \le$ 10 µs	t_f		450		ns
Virtual Source Diameter		∅		1.2		mm

Typical Characteristics

(T_{amb} = 25 °C unless otherwise specified)

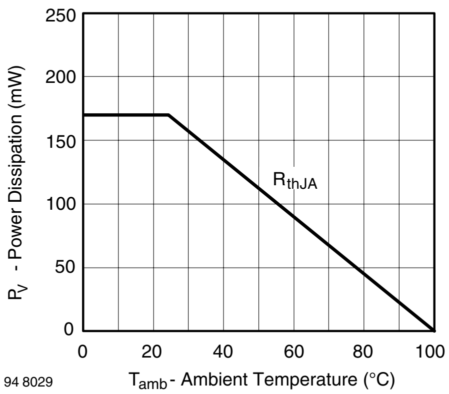


Figure 1. Power Dissipation vs. Ambient Temperature

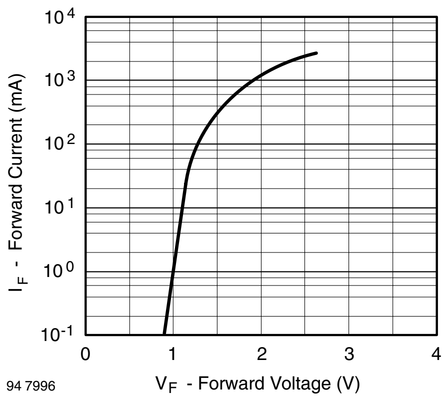


Figure 3. Forward Current vs. Forward Voltage

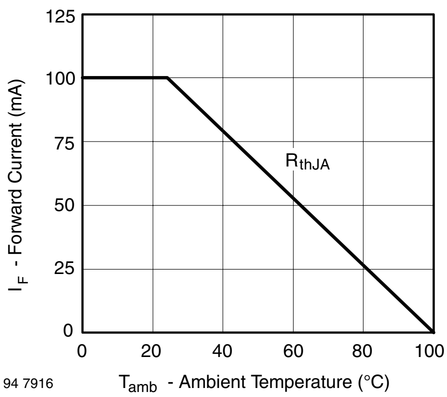


Figure 2. Forward Current vs. Ambient Temperature

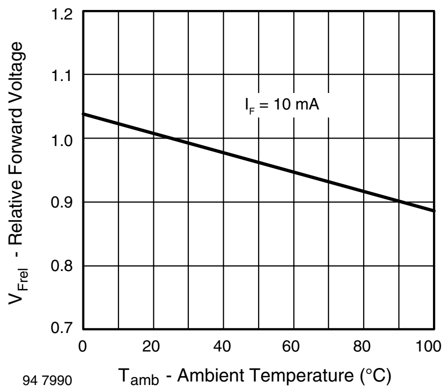


Figure 4. Relative Forward Voltage vs. Ambient Temperature

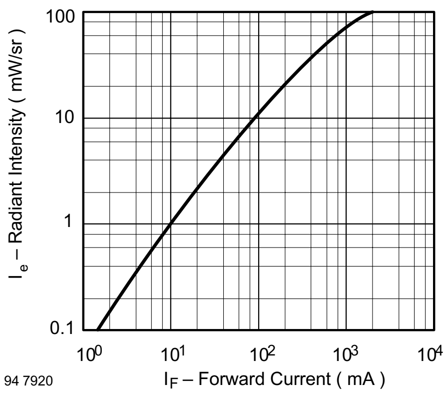


Figure 5. Radiant Intensity vs. Forward Current

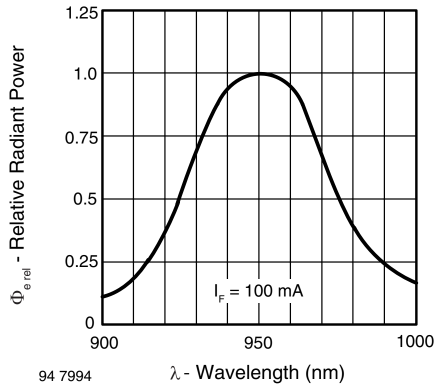


Figure 8. Relative Radiant Power vs. Wavelength

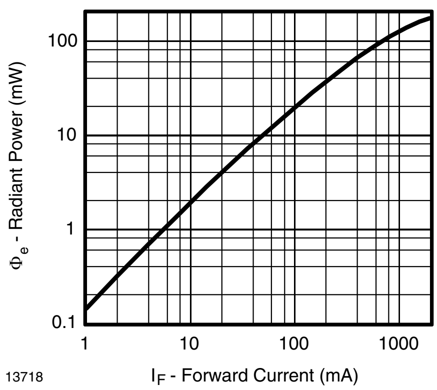


Figure 6. Radiant Power vs. Forward Current

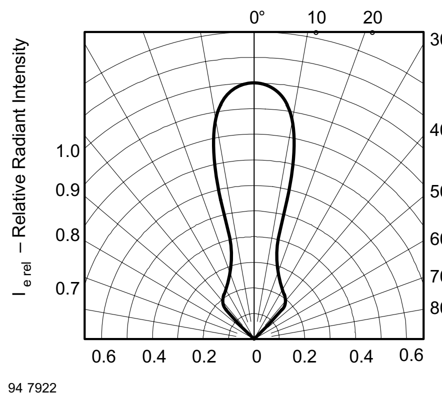


Figure 9. Relative Radiant Intensity vs. Angular Displacement

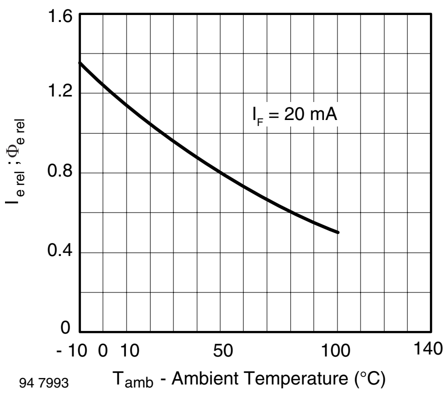
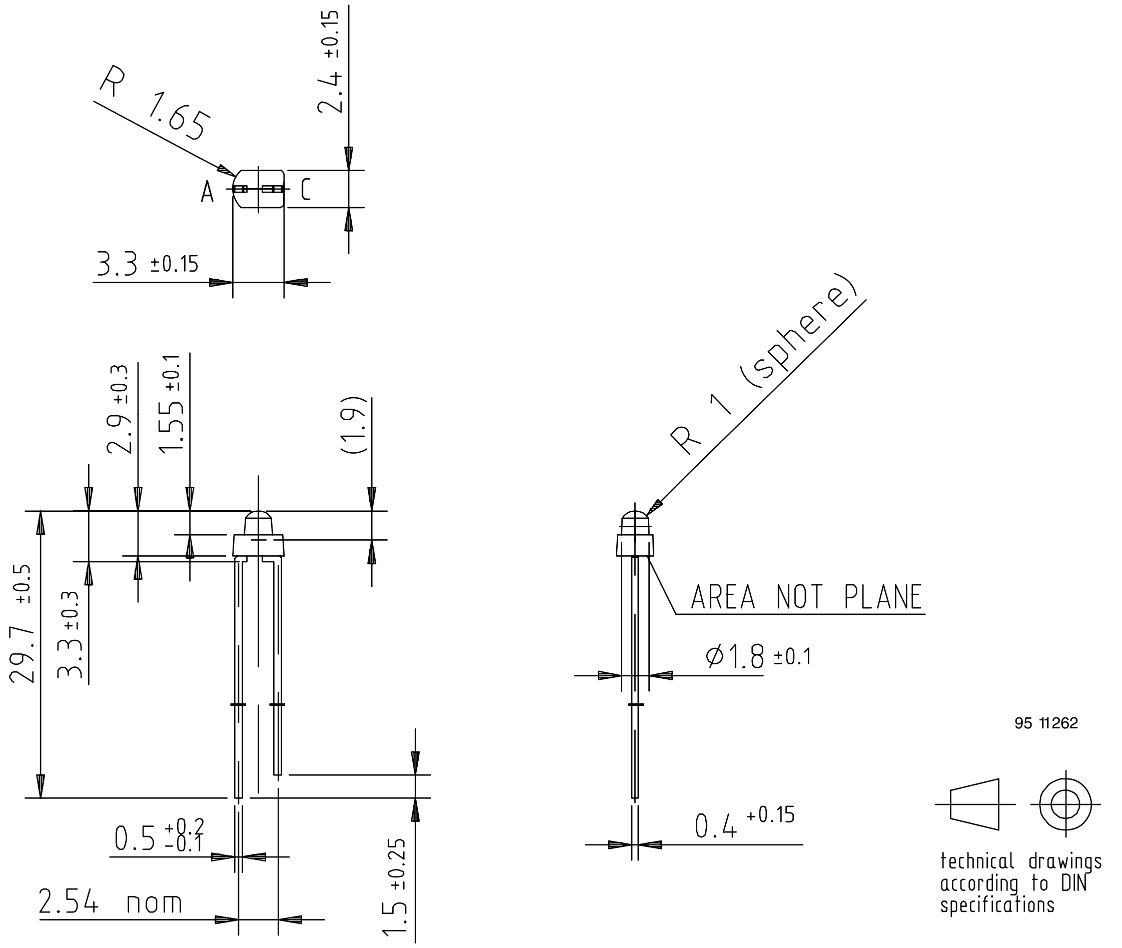


Figure 7. Rel. Radiant Intensity/Power vs. Ambient Temperature

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 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.

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.

Vishay Semiconductor GmbH, P.O.B. 3535, D-74025 Heilbronn, Germany

Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.

Стандарт
Электрон
Связь

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

Наши контакты:

Телефон: +7 812 627 14 35

Электронная почта: sales@st-electron.ru

Адрес: 198099, Санкт-Петербург, Промышленная ул, дом № 19, литера Н, помещение 100-Н Офис 331