

GaAs-IR-Lumineszenzdioden-Zeilen

GaAs Infrared Emitter Arrays

LD 260

LD 262 ... LD 269



Wesentliche Merkmale

- GaAs-IR-Lumineszenzdiode
- Zeilenbauform, lieferbar von 2 bis 10 Emitter pro Zeile
- Farbe: transparent
- Hohe Zuverlässigkeit
- Gruppiert lieferbar
- Gehäusegleich mit BPX 80-Serie
- Miniatur-Gehäuse

Anwendungen

- Miniaturlichtschranken für Gleich- und Wechsellichtbetrieb
- Barcodeleser
- Industrieelektronik
- „Messen/Steuern/Regeln“
- Sensorik
- Drehzahlsteuerung

Features

- GaAs infrared emitting diode
- Leadframe arrays, available from 2 to 10 Emitters per array
- Colour: transparent
- High reliability
- Available in bins
- Same package as BPX 80 series
- Miniature package

Applications

- Miniature photointerrupters
- Barcode readers
- Industrial electronics
- For control and drive circuits
- Sensor technology
- Speed controller

Typ Type	IRE pro Zeile per Row	Bestellnummer Ordering Code	Strahlstärkegruppierung ¹⁾ ($I_F = 50 \text{ mA}$, $t_p = 20 \text{ ms}$) Radiant intensity grouping ¹⁾ $I_e \text{ (mW/sr)}$
LD 262	2	Q62703-Q70	> 2.5 (typ. 5)
LD 263	3	Q62703-Q71	
LD 264	4	Q62703-Q72	
LD 265	5	Q62703-Q73	
LD 266	6	Q62703-Q74	
LD 267	7	Q62703-Q75	
LD 268	8	Q62703-Q76	
LD 269	9	Q62703-Q77	
LD 260	10	Q62703-Q78	

¹⁾ gemessen bei einem Raumwinkel $\Omega = 0.01 \text{ sr}$ / measured at a solid angle of $\Omega = 0.01 \text{ sr}$

Grenzwerte ($T_A = 25\text{ °C}$)**Maximum Ratings**

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Betriebs- und Lagertemperatur Operating and storage temperature range	$T_{op}; T_{stg}$	- 40 ... + 80	°C
Sperrschichttemperatur Junction temperature	T_j	80	°C
Sperrspannung Reverse voltage	V_R	5	V
Durchlaßstrom Forward current	I_F	50	mA
Stoßstrom, $\tau \leq 10\text{ }\mu\text{s}$, $D = 0$ Surge current	I_{FSM}	1.6	A
Verlustleistung Power dissipation	P_{tot}	70	mW
Wärmewiderstand Thermal resistance	R_{thJA} R_{thJL}	750 650	K/W K/W

Kennwerte ($T_A = 25\text{ °C}$)**Characteristics**

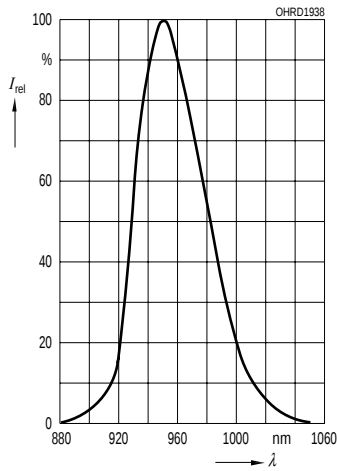
Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Wellenlänge der Strahlung Wavelength at peak emission $I_F = 50\text{ mA}$, $t_p = 20\text{ ms}$	λ_{peak}	950	nm
Spektrale Bandbreite bei 50% von I_{max} Spectral bandwidth at 50% of I_{max} $I_F = 50\text{ mA}$, $t_p = 20\text{ ms}$	$\Delta\lambda$	55	nm
Abstrahlwinkel Half angle	φ	± 15	Grad deg.
Aktive Chipfläche Active chip area	A	0.25	mm ²
Abmessungen der aktiven Chipfläche Dimension of the active chip area	$L \times B$ $L \times W$	0.5×0.5	mm
Abstand Chipoberfläche bis Linsenscheitel Distance chip surface to lens top	H	1.3 ... 1.9	mm

Kennwerte ($T_A = 25\text{ °C}$)**Characteristics** (cont'd)

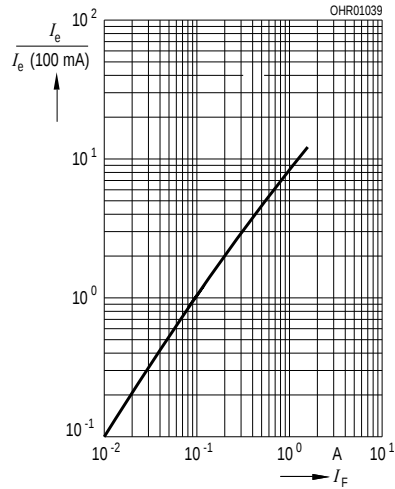
Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Schaltzeiten, I_e von 10% auf 90% und von 90% auf 10%, bei $I_F = 50\text{ mA}$, $R_L = 50\text{ }\Omega$ Switching times, I_e from 10% to 90% and from 90% to 10%, $I_F = 50\text{ mA}$, $R_L = 50\text{ }\Omega$	t_r , t_f	1	μs
Kapazität, $V_R = 0\text{ V}$ Capacitance	C_o	40	pF
Durchlaßspannung, $I_F = 50\text{ mA}$, $t_p = 20\text{ }\mu\text{s}$ Forward voltage	V_F	1.25 (≤ 1.4)	V
Sperrstrom, $V_R = 5\text{ V}$ Reverse current	I_R	0.01 (≤ 1)	μA
Gesamtstrahlungsfluß, $I_F = 50\text{ mA}$, $t_p = 20\text{ ms}$ Total radiant flux	Φ_e	9	mW
Temperaturkoeffizient von I_e bzw. Φ_e , $I_F = 50\text{ mA}$ Temperature coefficient of I_e or Φ_e , $I_F = 50\text{ mA}$	TC_I	- 0.55	%/K
Temperaturkoeffizient von V_F , $I_F = 50\text{ mA}$ Temperature coefficient of V_F , $I_F = 50\text{ mA}$	TC_V	- 1.5	mV/K
Temperaturkoeffizient von λ_{peak} , $I_F = 50\text{ mA}$ Temperature coefficient of λ_{peak} , $I_F = 50\text{ mA}$	TC_λ	0.3	nm/K
Strahlstärke, $I_F = 50\text{ mA}$, $t_p = 20\text{ ms}$ Radiant intensity	I_e	typ. 5 (≥ 2)	mW/sr

Relative Spectral Emission

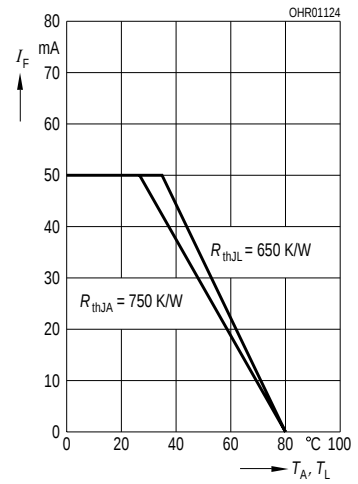
$$I_{\text{rel}} = f(\lambda)$$



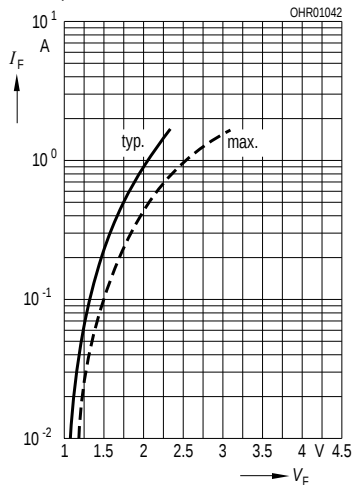
$$\text{Radiant Intensity } \frac{I_e}{I_e 100 \text{ mA}} = f(I_F)$$

Single pulse, $t_p = 20 \mu\text{s}$ **Max. Permissible Forward Current**

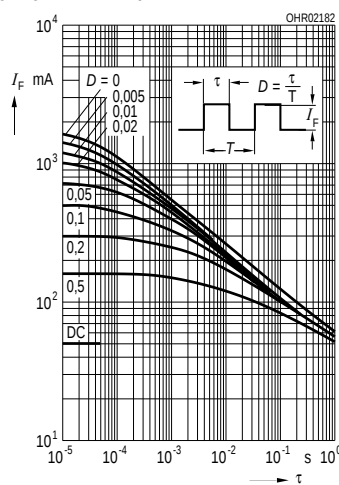
$$I_F = f(T_A)$$

**Forward Current**

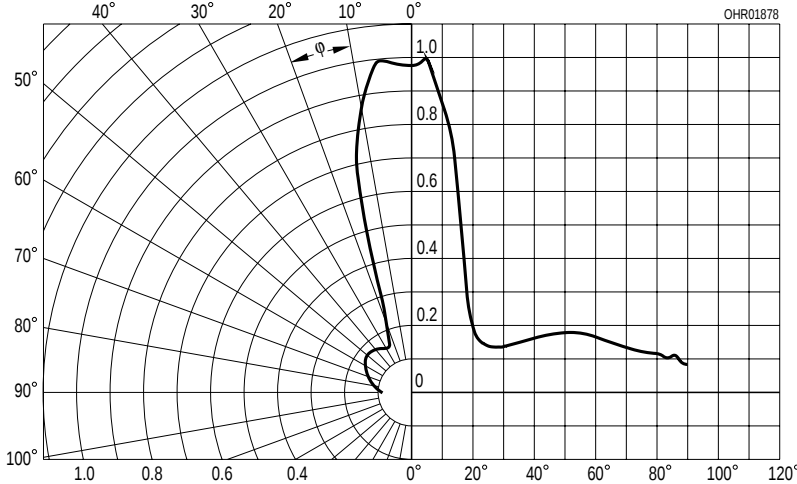
$$I_F = f(V_F), \text{ single pulse, } t_p = 20 \mu\text{s}$$

**Permissible Pulse Handling**

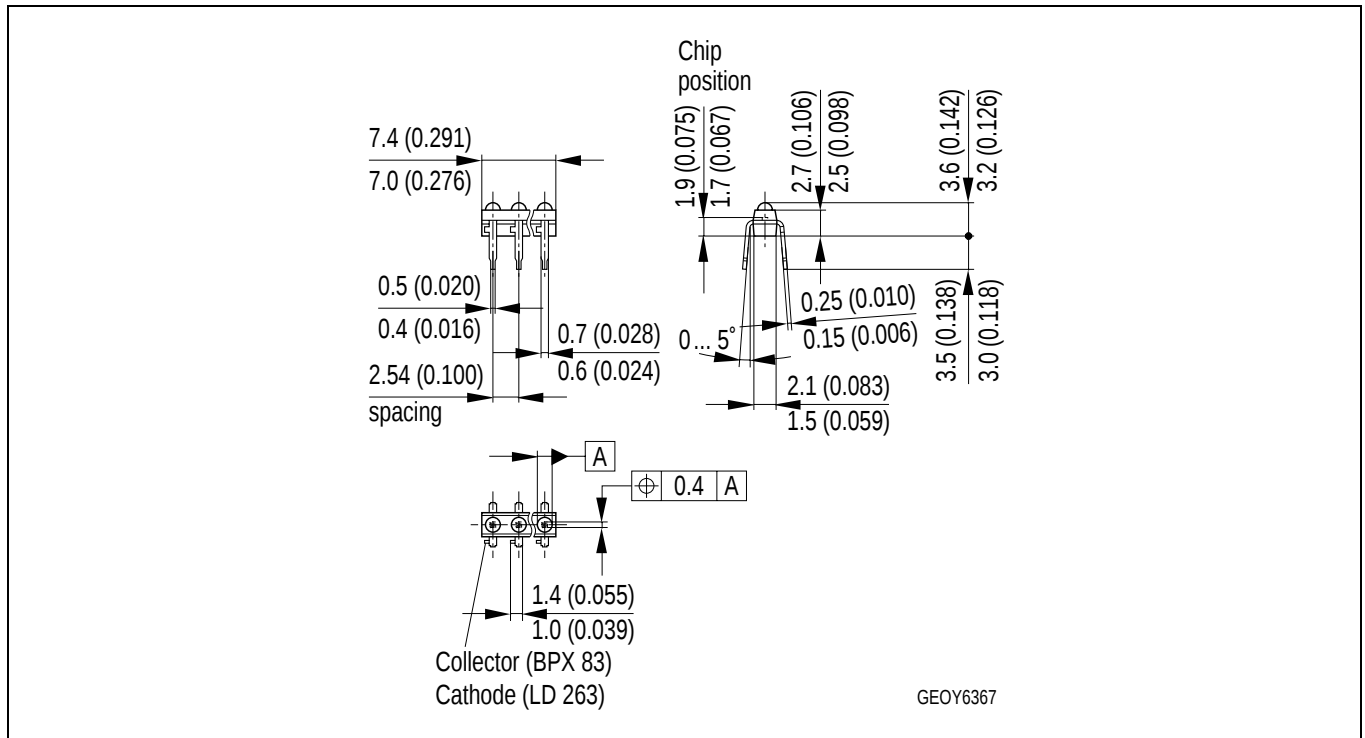
$$\text{Capability } I_F = f(\tau), T_C = 25^\circ\text{C}, \text{ duty cycle } D = \text{parameter}$$

**Radiation Characteristics**

$$I_{\text{rel}} = f(\varphi)$$



Maßzeichnung Package Outlines



Maße werden wie folgt angegeben: mm (inch) / Dimensions are specified as follows: mm (inch).

Typ Type	IRED pro Zeile per Row	Maß „A“ Dimension “A”		Bestellnummer Ordering Code
		min.	max.	
LD 262	2	4.5	4.9	Q62703-Q70
LD 263	3	7	7.4	Q62703-Q71
LD 264	4	9.6	10	Q62703-Q72
LD 265	5	12.1	12.5	Q62703-Q73
LD 266	6	14.6	15	Q62703-Q74
LD 267	7	17.2	17.6	Q62703-Q75
LD 268	8	19.7	20.1	Q62703-Q76
LD 269	9	22.3	22.7	Q62703-Q77
LD 260	10	24.8	25.2	Q62703-Q78

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Attention please!

The information describes the type of component and shall not be considered as assured characteristics. Terms of delivery and rights to change design reserved. Due to technical requirements components may contain dangerous substances. For information on the types in question please contact our Sales Organization.

Packing

Please use the recycling operators known to you. We can also help you – get in touch with your nearest sales office. By agreement we will take packing material back, if it is sorted. You must bear the costs of transport. For packing material that is returned to us unsorted or which we are not obliged to accept, we shall have to invoice you for any costs incurred.

Components used in life-support devices or systems must be expressly authorized for such purpose! Critical components¹, may only be used in life-support devices or systems² with the express written approval of OSRAM OS.

¹ A critical component is a component used in a life-support device or system whose failure can reasonably be expected to cause the failure of that life-support device or system, or to affect its safety or effectiveness of that device or system.

² Life support devices or systems are intended (a) to be implanted in the human body, or (b) to support and/or maintain and sustain human life. If they fail, it is reasonable to assume that the health of the user may be endangered.