GaAlAs-Infrarot-Sendediode
GaAlAs-Infrared Emitter
Lead (Pb) Free Product - RoHS Compliant

IRL 81 A



Wesentliche Merkmale

- GaAlAs-Lumineszenzdiode im nahen Infrarotbereich
- Rosa Kunststoff-Miniaturgehäuse, seitliche Abstrahlung
- Preisgünstig
- Lange Lebensdauer (Langzeitstabilität)
- Weiter Öffnungskegel (± 25°)
- Passend zu Fototransistor LPT 80 A

Features

- GaAlAs infrared emitting diode in the near infrared range
- Pink plastic package with lateral emission
- Cost-effective
- Long-term stability
- Wide beam (± 25°)
- Matches phototransistor LPT 80 A

Anwendungen

- Fertigungs- und Kontrollanwendungen der Industrie, die eine Unterbrechung des Lichtstrahls erfordern
- Lichtschranken

Applications

- For a variety of manufacturing and monitoring applications which require beam interruption
- Light barriers

Typ Type	Bestellnummer Ordering Code	Gehäuse Package
IRL 81 A	Q68000A8000	Hellrot eingefärbtes Kunststoffgehäuse, seitliche Abstrahlung, Anschlüsse im 2,54 mm-Raster Light-red colored plastic package, sidelooker, solder tabes 2.54 mm ($^1/_{10}$”)

Grenzwerte (T_A = 25 °C)
Maximum Ratings

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Betriebs- und Lagertemperatur Operating and storage temperature range	T_{op}; T_{stg}	– 40 … + 100	°C
Sperrspannung Reverse voltage	V_R	5	V
Durchlassstrom Forward current	I_F	100	mA
Verlustleistung Power dissipation	P_{tot}	200	mW
Wärmewiderstand Thermal resistance	R_{thJA}	375	K/W

Kennwerte (T_A = 25 °C)
Characteristics

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Wellenlänge der Strahlung bei I_{max} Wavelength of peak emission	λ_{peak}	880	nm
Spektrale Bandbreite bei 50% von I_{max} Spectral bandwidth at 50% of I_{max}	$\Delta\lambda$	80	nm
Abstrahlwinkel Half angle	φ	± 25	Grad deg.
Aktive Chipfläche Active chip area	A	0.09	mm^2
Abmessungen der aktiven Chipfläche Dimension of the active chip area	$L \times B$ $L \times W$	0.3 × 0.3	mm²
Schaltzeiten, I_e von 10% auf 90% und von 90% auf 10%, bei I_F = 100 mA, R_L = 50 Ω Switching times, I_e from 10% to 90% and from 90% to 10%, I_F = 100 mA, R_L = 50 Ω	t_r, t_f	0.6/0.5	µs
Kapazität Capacitance V_R = 0 V, f = 1 MHz	C_o	15	pF
Durchlassspannung, I_F = 20 mA Forward voltage	V_F	1.5 (≤ 2.0)	V

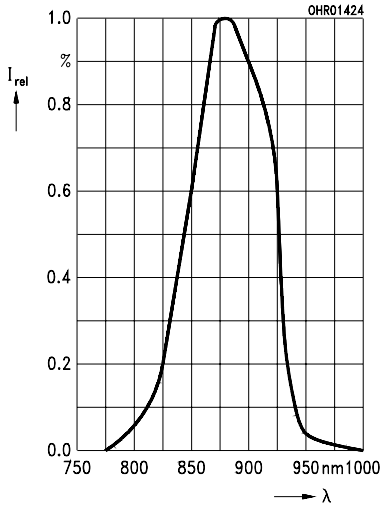
Kennwerte (T_A = 25 °C)
Characteristics (cont'd)

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Gesamtstrahlungsfluss, I_F = 20 mA Total radiant flux	Φ_e	5	mW
Sperrstrom Reverse current V_R = 5 V	I_R	0.01 (≤ 1)	µA
Temperaturkoeffizient von I_e bzw. Φ_e, I_F = 100 mA Temperature coefficient of I_e or Φ_e, I_F = 100 mA	TC_I	– 0.5	%/K
Temperaturkoeffizient von V_F, I_F = 100 mA Temperature coefficient of V_F, I_F = 100 mA	TC_V	– 2	mV/K
Temperaturkoeffizient von λ, I_F = 100 mA Temperature coefficient of λ, I_F = 100 mA	TC_λ	0.25	nm/K

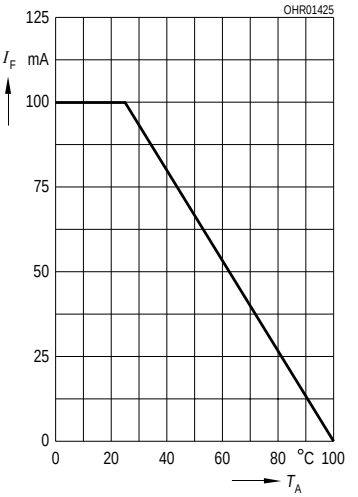
Strahlstärke I_e in Achsrichtung
gemessen bei einem Raumwinkel Ω = 0.01 sr
Radiant Intensity I_e in Axial Direction
at a solid angle of Ω = 0.01 sr

Bezeichnung Parameter	Symbol	Werte Values	Einheit Unit
Strahlstärke Radiant intensity I_F = 20 mA, t_p = 20 ms	$I_{e\ min}$ $I_{e\ typ}$	1.0 2.5	mW/sr mW/sr

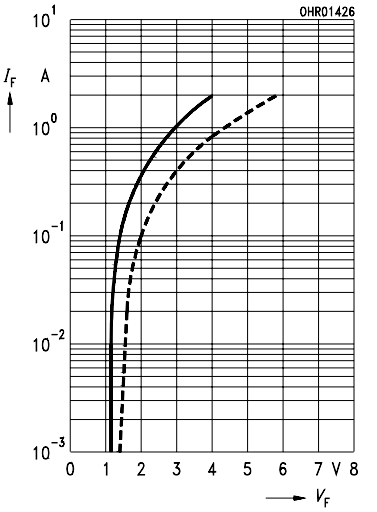
Relative Spectral Emission
$I_{rel} = f(\lambda)$



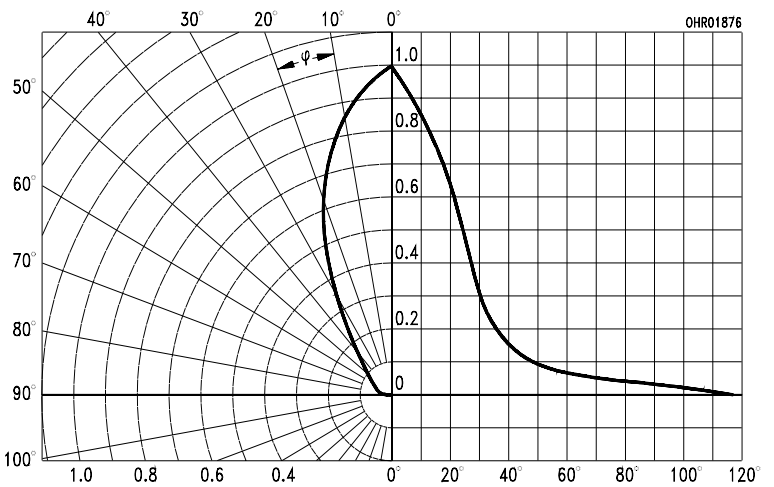
Max. Forward Current
$I_F = f(T_A)$



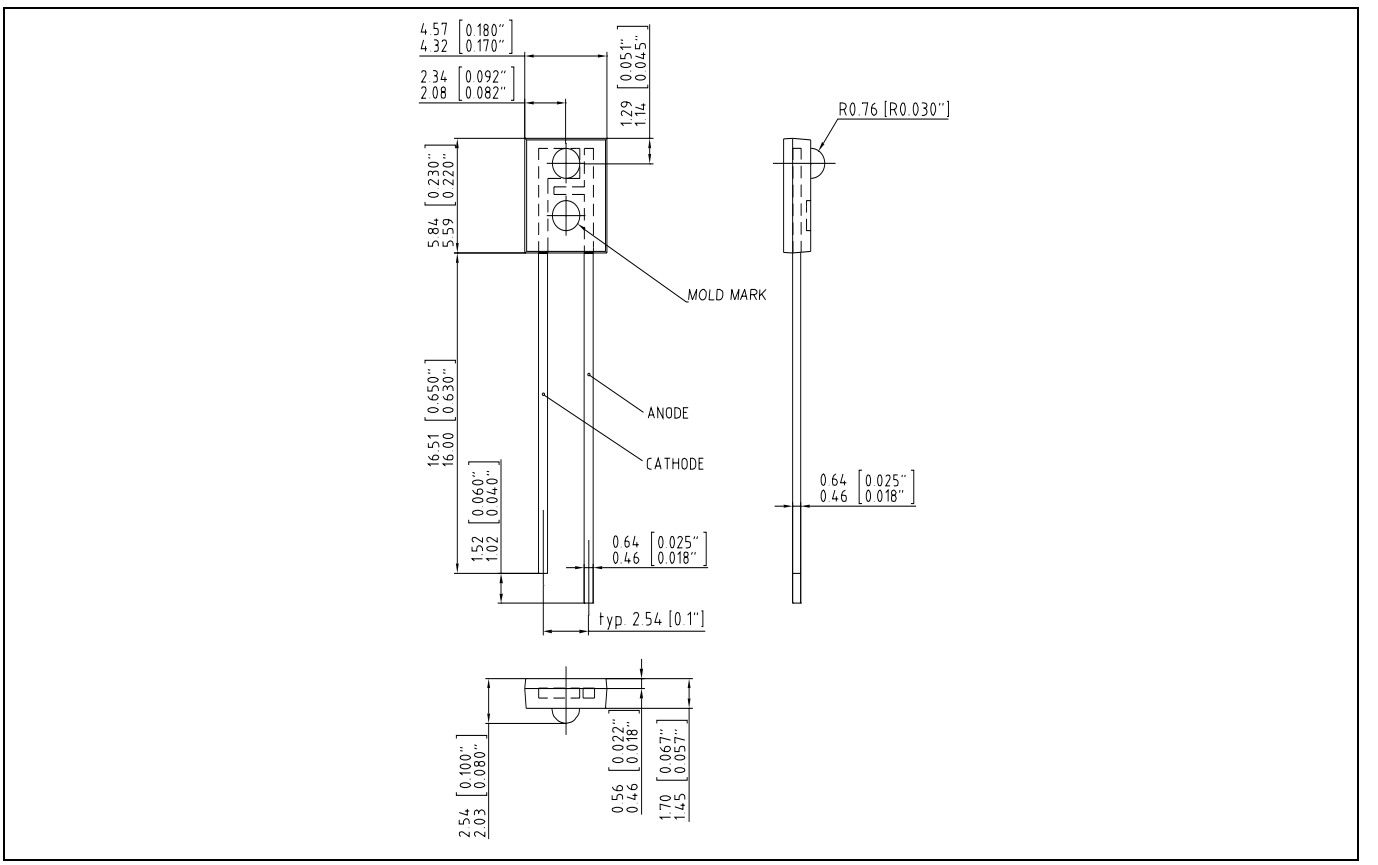
Forward Current
$I_F = f(V_F)$



Directional Characteristics
$I_{rel} = f(\varphi)$

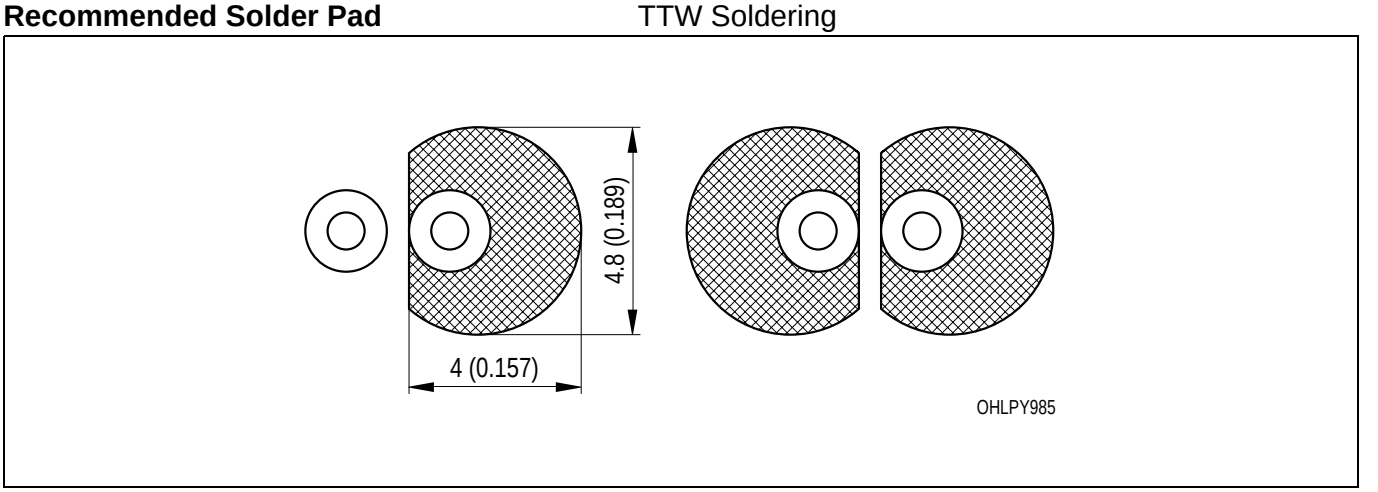


Maßzeichnung
Package Outlines



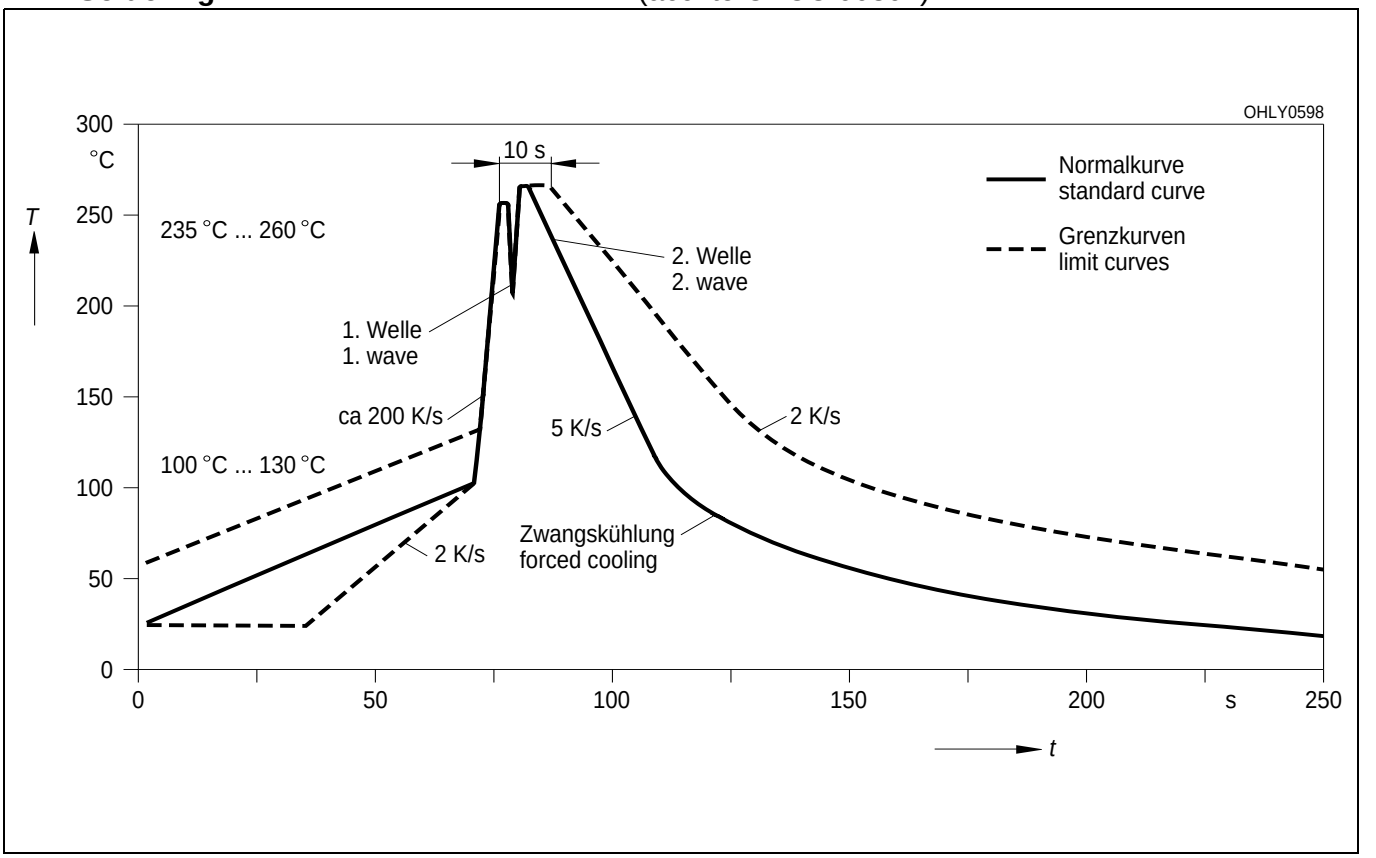
Maße in mm (inch) / Dimensions in mm (inch).
Approx. weight 0.2g

Empfohlenes Lötpaddesign Wellenlöten (TTW)
Recommended Solder Pad TTW Soldering



Maße in mm (inch) / Dimensions in mm (inch).

Wellenlöten (TTW) (nach CECC 00802)
TTW Soldering (acc. to CECC 00802)



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