

NPN-Silizium-Fototransistor
Silicon NPN Phototransistor
Lead (Pb) Free Product - RoHS Compliant

LPT 80 A



Wesentliche Merkmale

- Speziell geeignet für Anwendungen im Bereich von 470 nm bis 1080 nm
- Sidelooker im Kunststoffgehäuse
- Hohe Empfindlichkeit
- Passend zu IRED IRL 80 A, IRL 81 A

Features

- Especially suitable for applications from 470 nm to 1080 nm
- Sidelooker in plastic package
- High sensitivity
- Matches IR emitter IRL 80 A, IRL 81 A

Anwendungen

- Fertigungs- und Kontrollanwendungen der Industrie
- Lichtschranken

Applications

- A variety of manufacturing and monitoring applications
- Photointerrupters

Typ Type	Bestellnummer Ordering Code	Gehäuse Package
LPT 80 A	Q68000A7852	Klares Kunststoffgehäuse, Lötspieße im 2.54-mm-Raster ($\frac{1}{10}$ "), Kollektorkennzeichnung: Längerer Lötspieß Clear plastic miniature package, 2.54 mm ($\frac{1}{10}$ ") lead spacing, collector marking: long solder lead

Grenzwerte
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
Kollektor-Emitterspannung Collector-emitter voltage	V_{CE}	30	V
Kollektorstrom Collector current	I_C	50	mA
Kollektorspitzenstrom, $\tau = 10 \mu s$ Collector surge current	I_{CS}	100	mA
Emitter-Kollektorspannung Emitter-collector voltage	V_{EC}	7	V
Verlustleistung, $T_A = 25 \text{ °C}$ Total power dissipation	P_{tot}	100	mW
Wärmewiderstand Thermal resistance	R_{thJA}	750	K/W

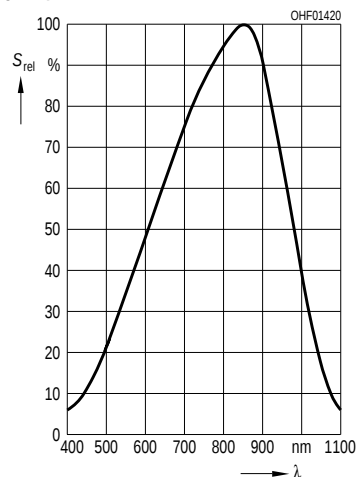
Kennwerte ($T_A = 25\text{ °C}$, $\lambda = 950\text{ nm}$)

Characteristics

Bezeichnung Parameter	Symbol Symbol	Wert Value	Einheit Unit
Wellenlänge der max. Fotoempfindlichkeit Wavelength of max. sensitivity	$\lambda_{S\text{ max}}$	850	nm
Spektraler Bereich der Fotoempfindlichkeit $S = 10\%$ von S_{max} Spectral range of sensitivity $S = 10\%$ of S_{max}	λ	430 ... 1070	nm
Abmessung der Chip-Fläche Dimensions of chip area	$L \times B$ $L \times W$	0.55×0.55	mm $\times$ mm
Halbwinkel Half angle	φ	± 35	Grad deg.
Kapazität, $V_{\text{CE}} = 5\text{ V}$, $f = 1\text{ MHz}$, $E = 0$ Capacitance	C_{CE}	3.3	pF
Dunkelstrom, $V_{\text{CE}} = 5\text{ V}$ Dark current	I_{R}	3 (< 50)	nA
Fotostrom Photocurrent $E_e = 0.5\text{ mW/cm}^2$, $V_{\text{CE}} = 5\text{ V}$, $\lambda = 950\text{ nm}$ $E_v = 1000\text{ lx}$, Normlicht/standard light A, $V_{\text{CE}} = 5\text{ V}$	I_{PCE} I_{PCE}	 > 0.25 3.2	 mA
Anstiegs- und Abfallzeit Rise and fall time $R_L = 1\text{ k}\Omega$, $V = 5\text{ V}$, $\lambda = 950\text{ nm}$, $I_C = 1\text{ mA}$	t_r, t_f	10	μs
Kollektor-Emitter-Sättigungsspannung Collector-emitter saturation voltage $I_C = I_{\text{PCE min}} \times 0.8$, $E_e = 0.5\text{ mW/cm}^2$	V_{CEsat}	150	mV

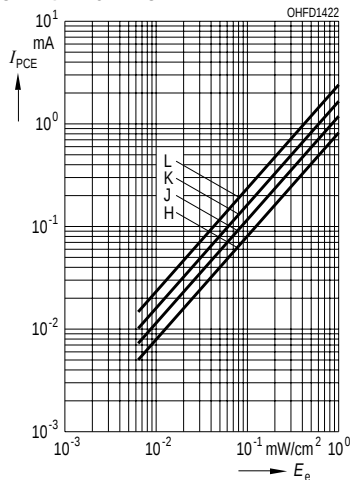
Relative Spectral Sensitivity

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



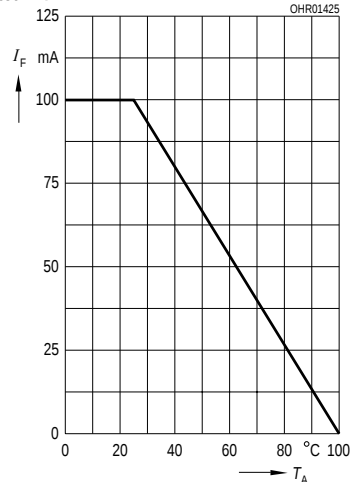
Photocurrent

$$I_{\text{PCE}} = f(E_e), V_{\text{CE}} = 5 \text{ V}$$



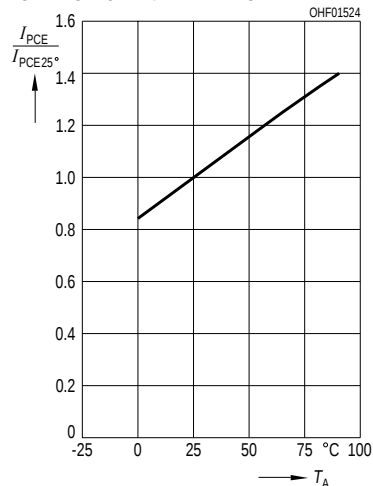
Total Power Dissipation

$$P_{\text{tot}} = f(T_A)$$



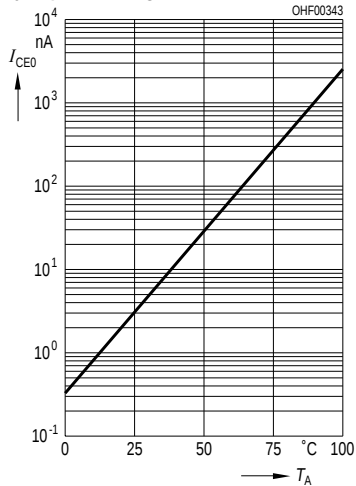
Photocurrent

$$I_{\text{PCE}}/I_{\text{PCE}25^\circ} = f(T_A), V_{\text{CE}} = 5 \text{ V}$$



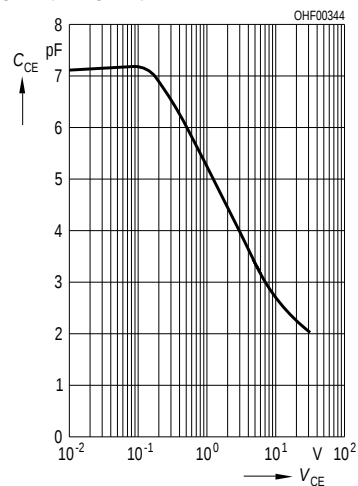
Dark Current

$$I_{\text{CE0}} = f(T_A), V_{\text{CE}} = 5 \text{ V}, E = 0$$



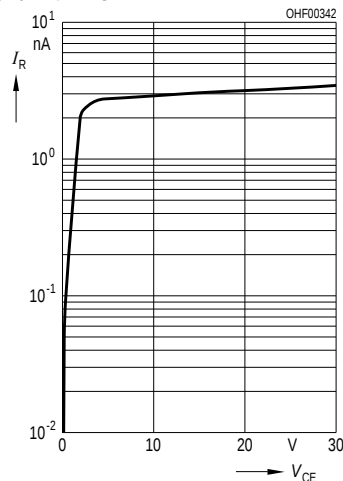
Capacitance

$$C_{\text{CE}} = f(V_{\text{CE}}), f = 1 \text{ MHz}, E = 0$$



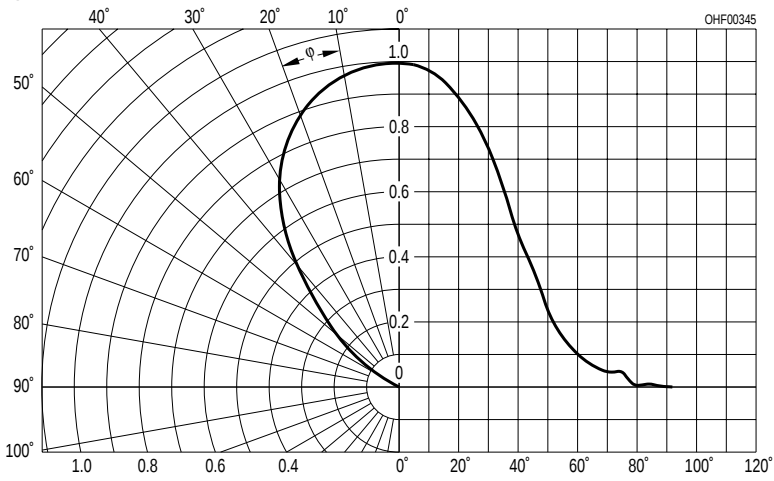
Dark Current

$$I_{\text{CE0}} = f(V_{\text{CE}}), E = 0$$

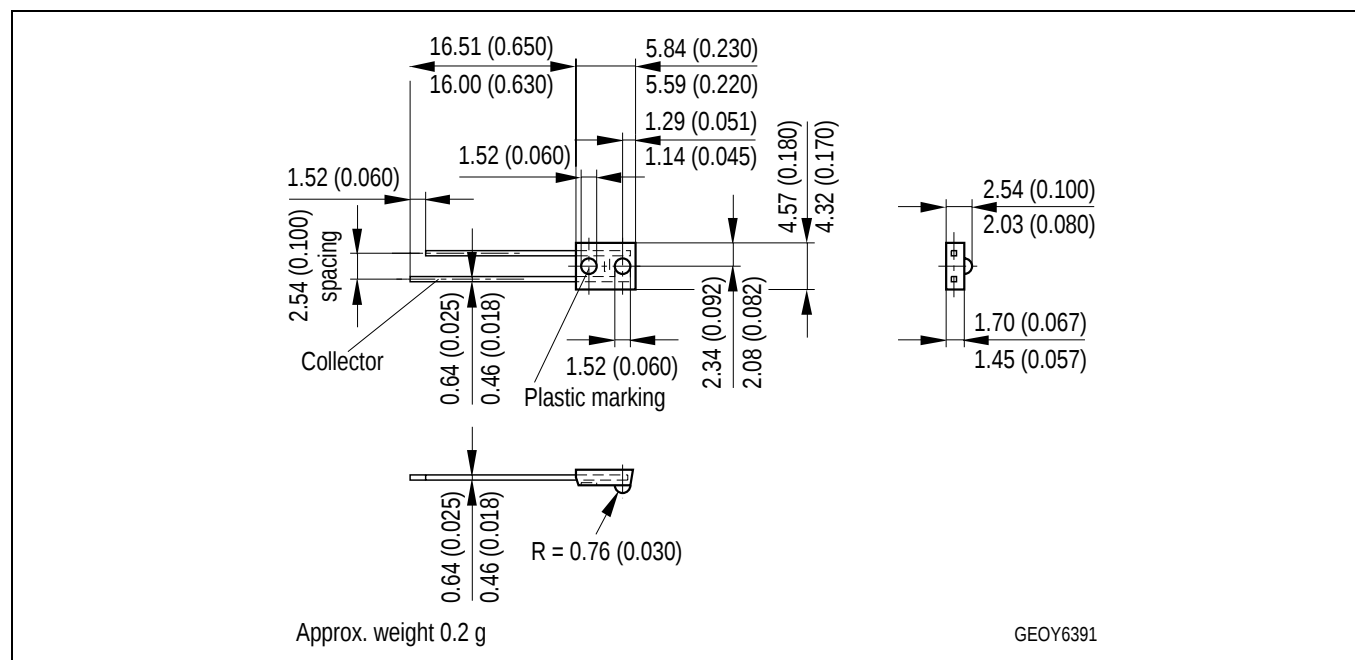


Directional Characteristics

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



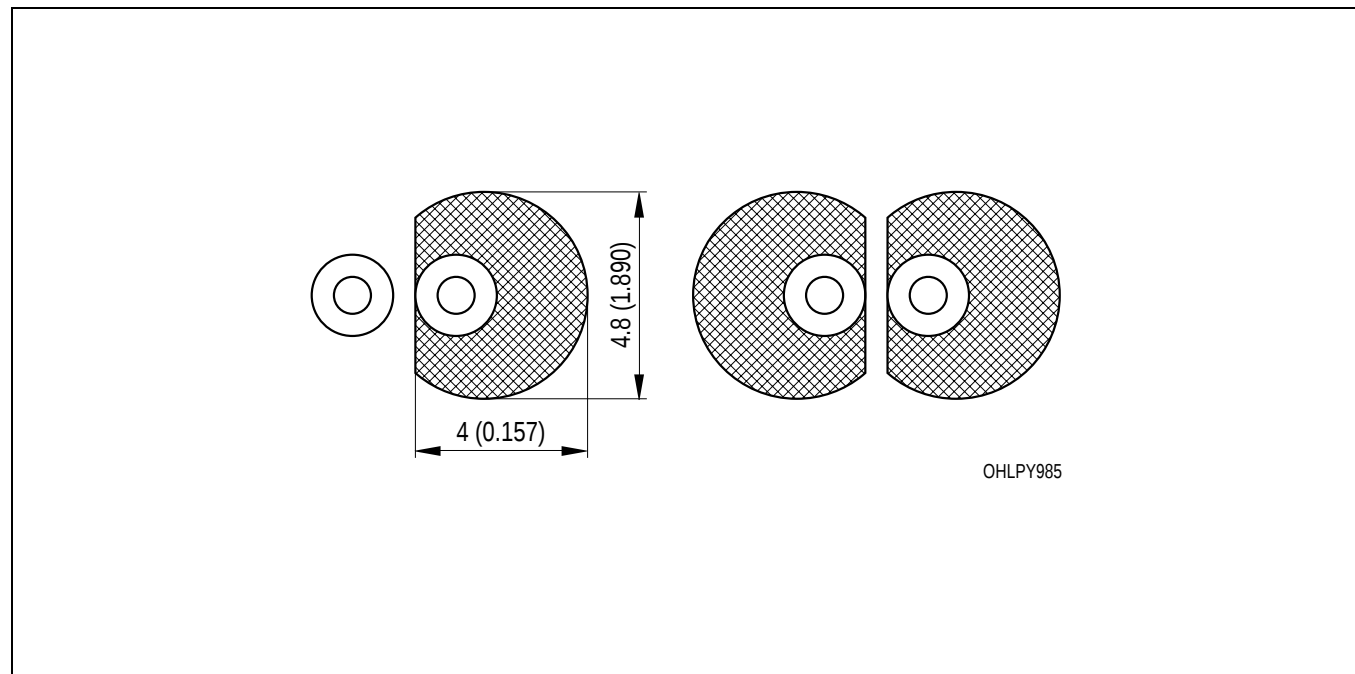
Maßzeichnung Package Outlines



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

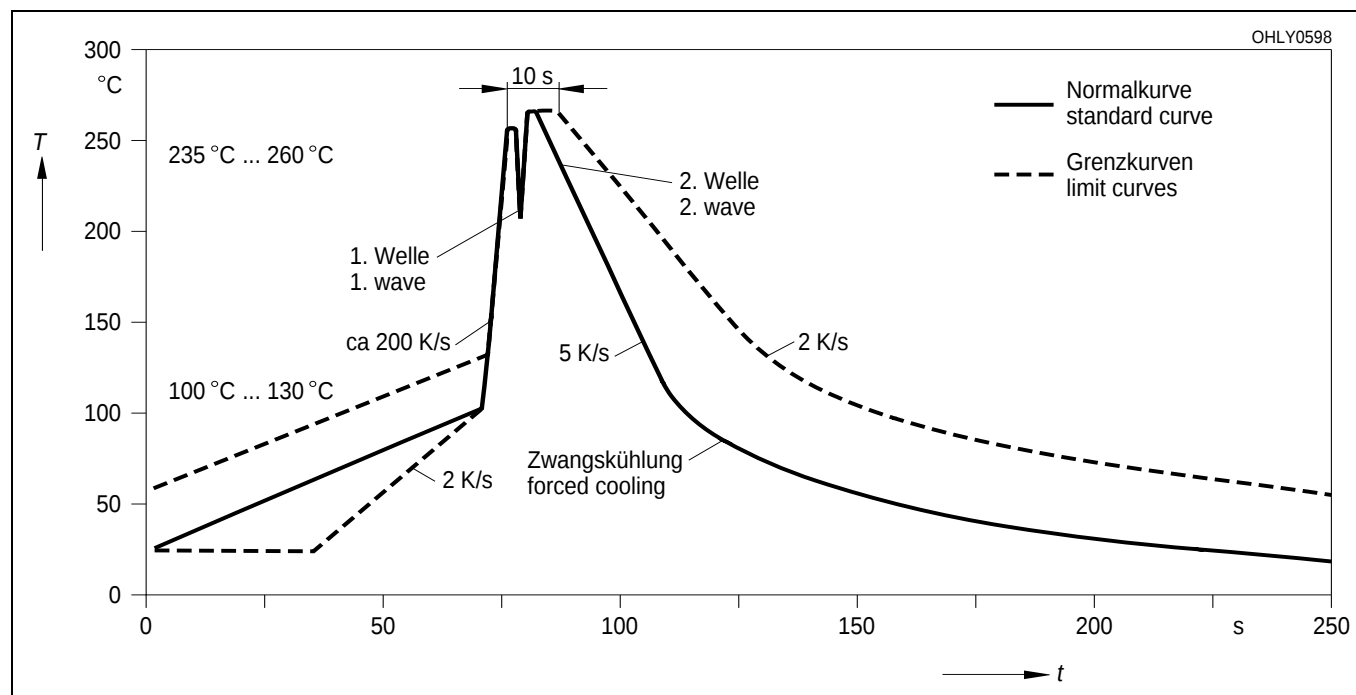
Empfohlenes Lötpad design Wellenlöten (TTW)

Recommended Solder Pad TTW Soldering



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

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



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