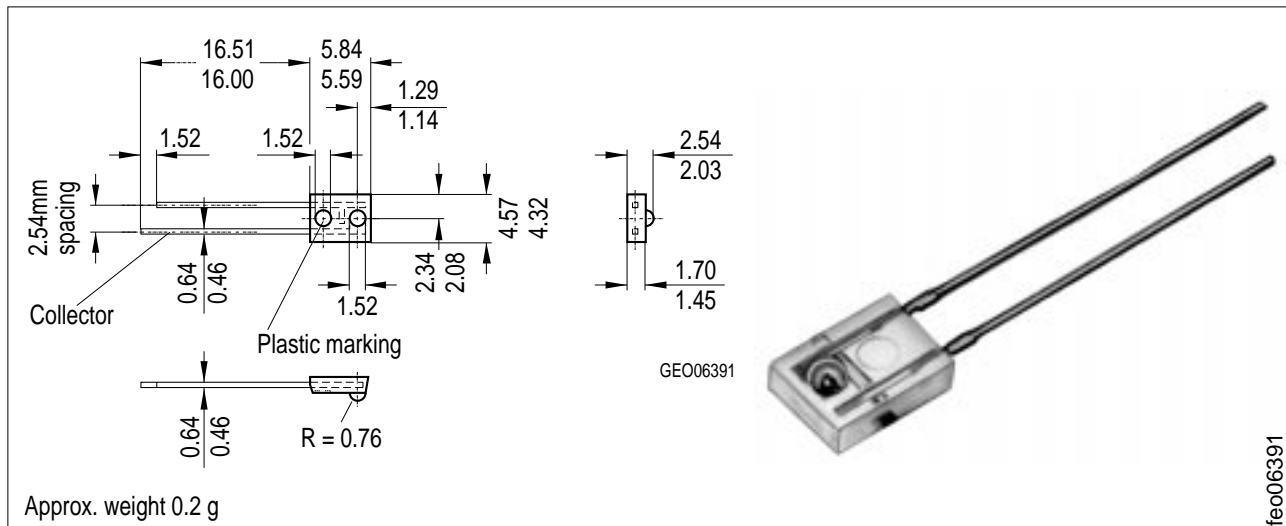


NPN-Silizium-Fototransistor Silicon NPN Phototransistor

LPT 80 A



Maße in mm, wenn nicht anders angegeben/Dimensions in mm, unless otherwise specified

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

Anwendungen

- Fertigungs- und Kontrollanwendungen der Industrie
- Lichtschranken

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

Applications

- A variety of manufacturing and monitoring applications
- Photointerrupters

Typ Type	Bestellnummer Ordering Code	Gehäuse Package
LPT 80 A	Q68000-A7852	Klares Kunststoffgehäuse, Lötspieße im 2.54-mm-Raster ($1/10''$), Kollektorkennzeichnung: Längerer Lötspieß Clear plastic miniature package, 2.54 mm ($1/10''$) lead spacing, collector marking: long solder lead
LPT 80 A-H	on request	
LPT 80 A-J	on request	
LPT 80 A-K	on request	
LPT 80 A-L	on request	

Grenzwerte
Maximum Ratings

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

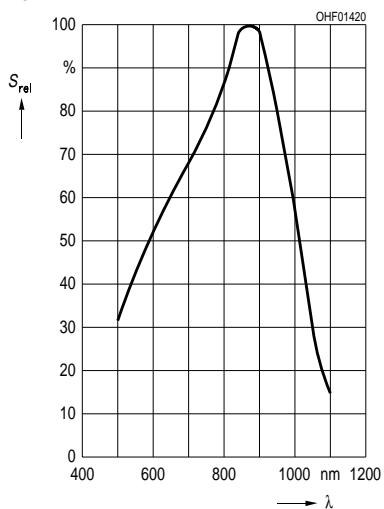
Characteristics

Bezeichnung Description	Symbol Symbol	Wert Value	Einheit Unit
Wellenlänge der max. Fotoempfindlichkeit Wavelength of max. sensitivity	$\lambda_{S\max}$	850	nm
Spektraler Bereich der Fotoempfindlichkeit S=10% von Smax Spectral range of sensitivity S=10% of Smax	λ	430 ... 1070	nm
Abmessung der Chip-Fläche Dimensions of chip area	$L \times B$ $L \times W$	0.55 x 0.55	mm x mm
Halbwinkel Half angle	φ	± 35	Grad deg.
Kapazität, $V_{CE} = 5\text{ V}$, $f = 1\text{ MHz}$, $E = 0$ Capacitance	C_{CE}	3.3	pF
Dunkelstrom, $V_{CE} = 5\text{ V}$ Dark current	I_R	3 (< 50)	nA

Bezeichnung Description	Symbol Symbol	Wert Value				Einheit Unit
		H	J	K	L	
Fotostrom Photocurrent $E_e = 0.5\text{ mW/cm}^2$, $V_{CE} = 5\text{ V}$, $\lambda = 950\text{ nm}$ $E_v = 1000\text{ lx}$, Normlicht/ standard light A, $V_{CE} = 5\text{ V}$	I_{PCE} I_{PCE}	0.25...0.5 1.3	0.40...0.80 2.1	0.63...1.25 3.2	1.0...2.0 4.6	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	6	8	10	12	μs
Kollektor-Emitter- Sättigungsspannung Collector-emitter saturation voltage $I_C = I_{PCE\min} \times 0.8$, $E_e = 0.5\text{ mW/cm}^2$	V_{CEsat}	150	150	150	150	mV

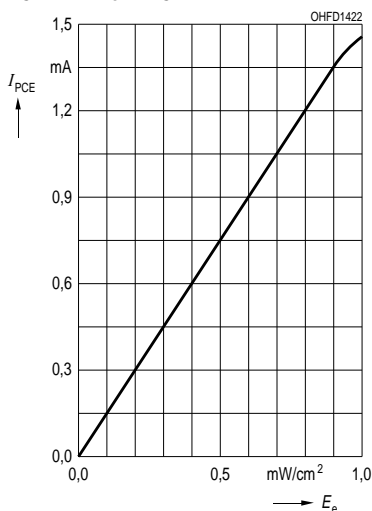
Relative spectral sensitivity

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



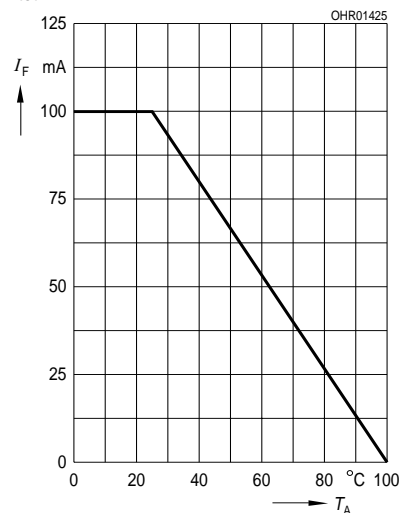
Photocurrent

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



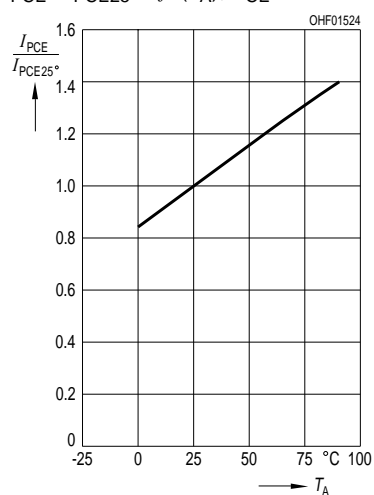
Total power dissipation

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



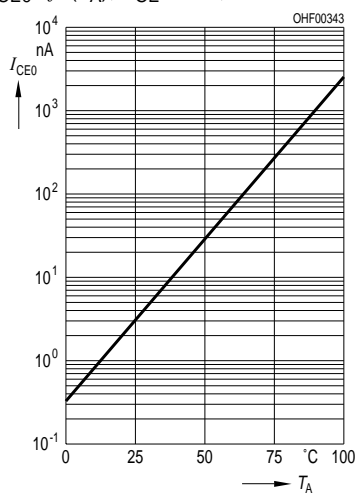
Photocurrent

$$I_{PCE} / I_{PCE25^\circ} = f(T_A), V_{CE} = 5 \text{ V}$$



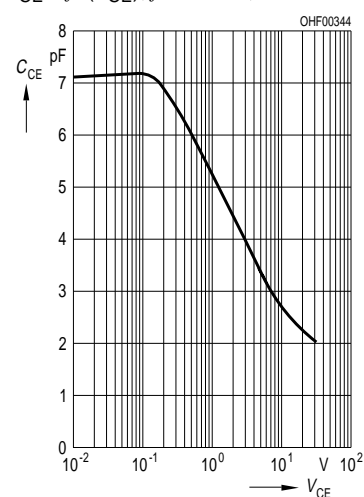
Dark current

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



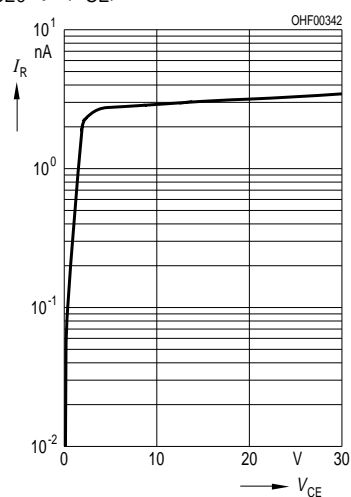
Capacitance

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



Dark current

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



Directional characteristics

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

