ROITHNER LASERTECHNIK GmbH
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rev 1.0 02.04.2015

EPD-525-0-1.4

- Selective Photodiode
- Sensitivity Range: 410-580 nm
- Active Area: 1.79 mm²
- Package: TO-18 with cap

Description

EPD-525-0-1.4 is a selective photodiode based on GaP with an active area of 1.79 mm², mounted in hermetically sealed TO-18 package with cap.
The PD is specified with a sensitivity range of 410 – 580 nm, and a peak at 525 nm.

Maximum Ratings (T_{CASE}=25°C)

Parameter	Symbol	Values Min.	Values Max.	Unit
Temperature Coefficient of I_D *	$T_{C(I_{PH})}$		4.7	%/K
Operating Temperature	T_{CASE}	- 40	+ 125	°C
Storage Temperature	T_{STG}	- 40	+ 125	°C

** T = -40 … +120°C*

Optical and Electrical Characteristics (T_{CASE}=25°C)

Parameter	Symbol	Conditions	Values Min.	Values Typ.	Values Max.	Unit
Active Area	A			1.79		mm²
Peak Sensitivity Wavelength	λ_P	V_R=0V		525		nm
Dark Current	I_D	V_R=5V		5	30	pA
Responsivity at λ_P	S_λ	V_R=0V		0.08		A/W
Sensitivity Range at 1% *	λ_{min}, λ_{max}	V_R=0V	410		580	nm
Spectral Bandwidth at 50%	$\Delta\lambda_{0.5}$	V_R=0V		75		nm
Shunt Resistance	R_{TH}	V_R=10mV		200		GΩ
Noise Equivalent Power	NEP	*λ=525nm*		10.6×10^{-14}		$W/\sqrt{Hz}$
Specific Detectivity	D*	*λ=525nm*		1.26×10^{13}		$cm \cdot \sqrt{Hz} \cdot W^{-1}$
Junction Capacitance	C_J	V_R=0V		180		pF
Switching Time (R_L = 50Ω)	t_r, t_f	V_R=1V		35		ns

** for information only*

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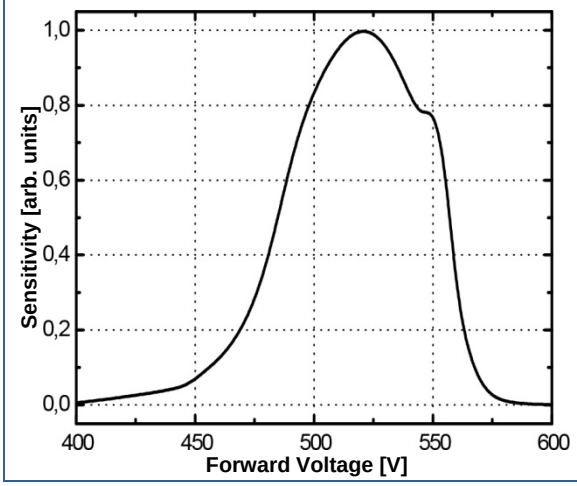
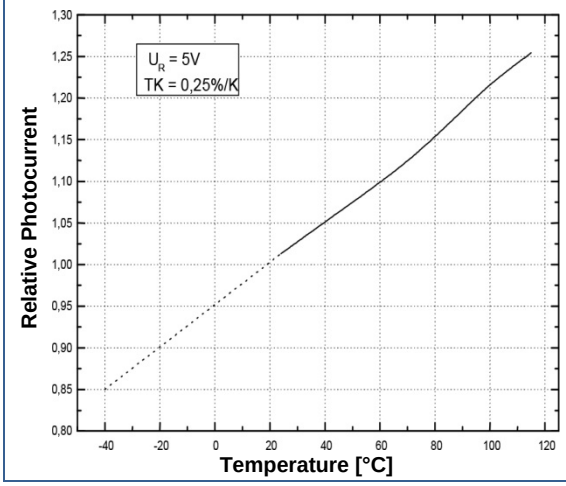
Typical Performance Curves

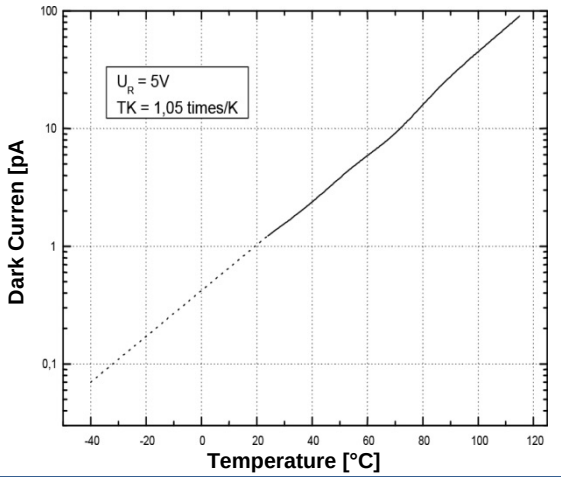
Optical Responsivity (typical)



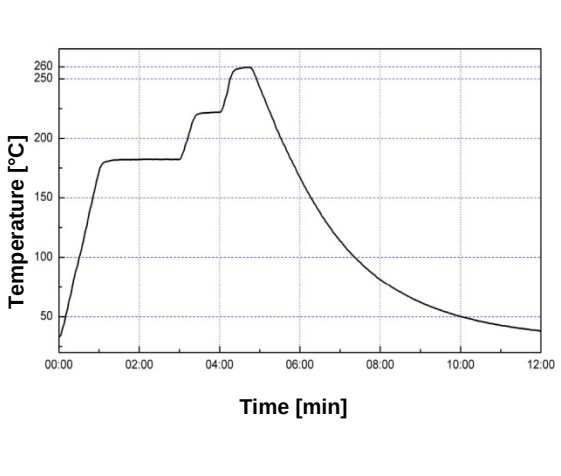
Relative Photocurrent vs. Temperature



Dark Current vs. Temperature



Allowed Soldering Profile



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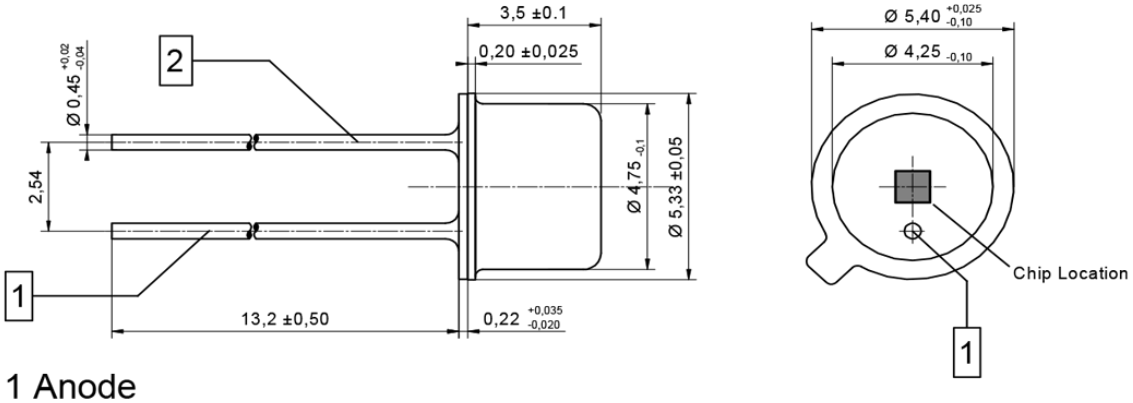
Outline Dimensions

EPD-525-0-1.4 **TO-18**



1 Anode

2 Cathode

All Dimensions in mm

Precautions

Operation:

- Check your connection circuits before turning on the PD.
- Mind the PD polarity..
- DO NOT connect the PD to the multimeter.

Soldering:

- Do avoid overheating of the PD
- Do avoid electrostatic discharge (ESD)
- Do avoid mechanical stress, shock, and vibration
- Do only use non-corrosive flux
- Do not apply current to the PD until it has cooled down to room temperature after soldering

Static Electricity:

PDs are **sensitive to electrostatic discharge (ESD)**. Precautions against ESD must be taken when handling or operating these PDs. Surge voltage or electrostatic discharge can result in complete failure of the device.