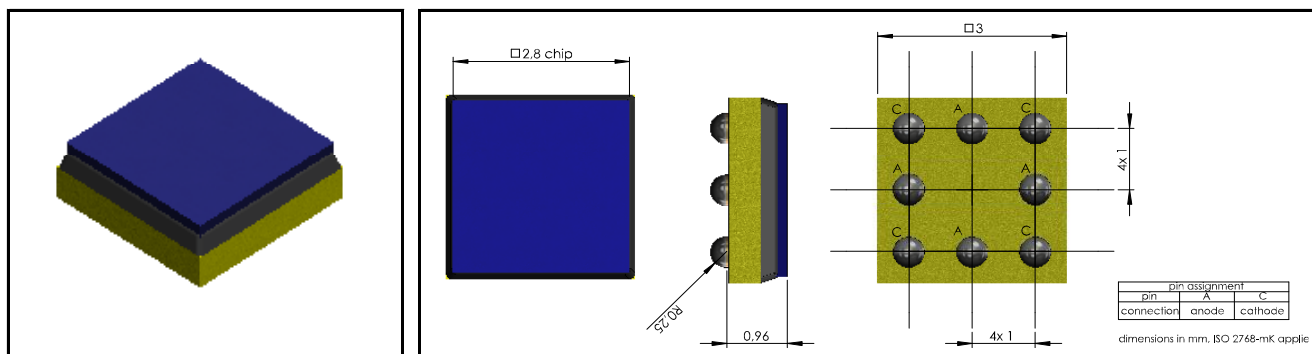




Features

- Single element PIN-Diode
- High QE in the visible spectrum
- Flip chip design for flat surface
- Chip size package
- Reflow solderable, MSL1

Description

Backside illuminated PIN photodiode optimized for CsI:Tl scintillator luminescence detection. BGA package with flat surface flip chip design.

Application

- X-ray inspection
- Photometry
- Array assemblies

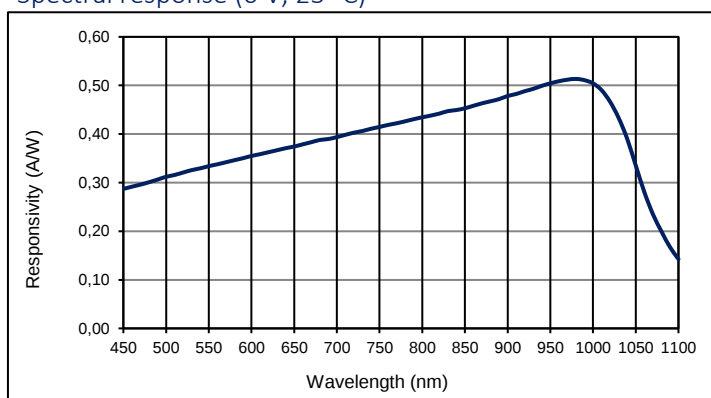
RoHS

2011/65/EU

Absolute maximum ratings

Symbol	Parameter	Min	Max	Unit
T_{STG}	Storage temp	-20	80	°C
T_{OP}	Operating temp	-10	60	°C
$V_{R(OP)}$	Operating voltage	-	10	V
I_{PEAK}	Peak DC current		10	mA

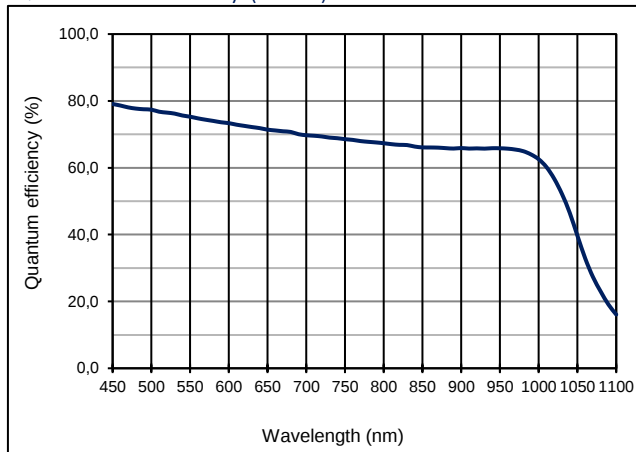
Spectral response (0 V, 23 °C)



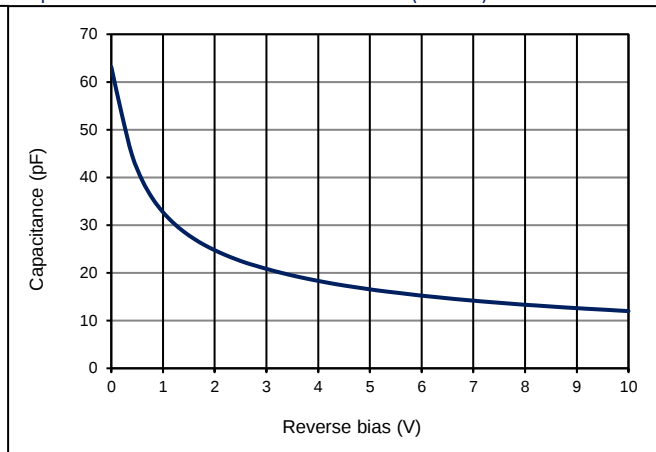
Electro-optical characteristics @ 23 °C

Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	No of elements			1		
	Chip area			2800 x 2800		μm
	Diode area			6.211		mm ²
I_D	Dark current	$U_R = 10 \text{ mV}$; per element		15	100	pA
		$U_R = 10 \text{ V}$; per element		250	2000	pA
C	Capacitance	$U_R = 0 \text{ V}$; per element		65	80	pF
		$U_R = 10 \text{ V}$; per element		12		pF
	Responsivity	$U_R = 0 \text{ V}$; $\lambda = 490 \text{ nm}$		0.30		A/W
		$U_R = 0 \text{ V}$; $\lambda = 540 \text{ nm}$		0.33		A/W
t_R	Rise time	$U_R = 0 \text{ V}$; $\lambda = 540 \text{ nm}$; $R_L = 50 \Omega$		25		μs
R_{Sh}	Shunt resistance	$U_R = 10 \text{ mV}$	100	666		MΩ
V_{BR}	Breakdown voltage	$I_R = 2 \mu\text{A}$	10	15		V
	N.E.P.	$V_R = 10 \text{ mV}$; $\lambda = 540 \text{ nm}$		6.6 E-15	1.7 E-14	W/Hz

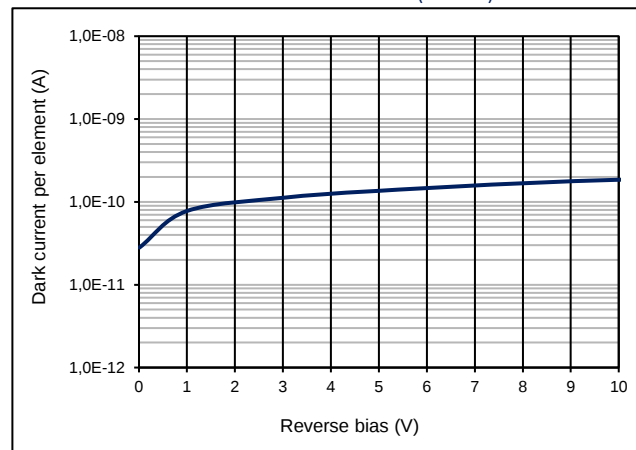
Quantum efficiency (23 °C)



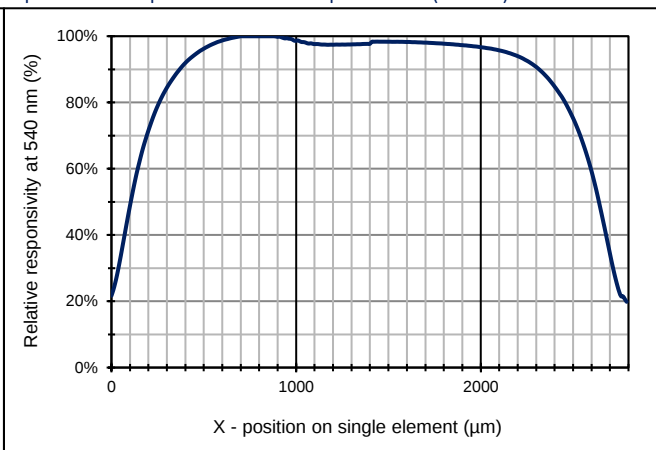
Capacitance as fct of reverse bias (23 °C)



Dark current as fct of reverse bias (23 °C)



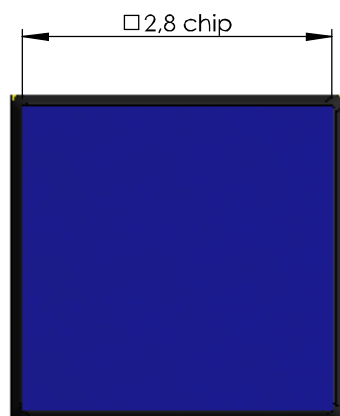
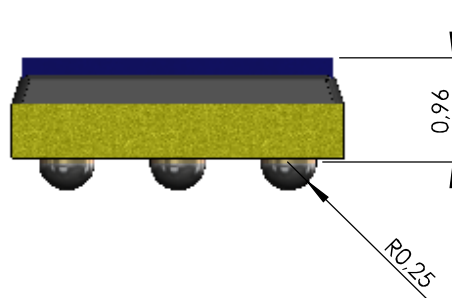
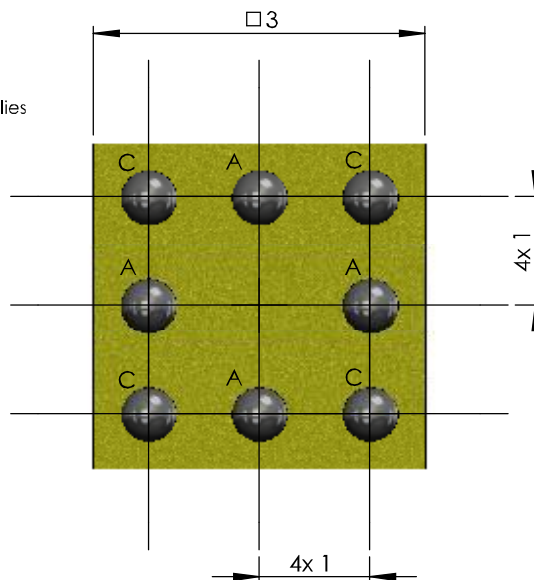
Spectral response as fct of position (23 °C)



Technical Drawing Package:

pin assignment		
pin	A	C
connection	anode	cathode

dimensions in mm, ISO 2768-mK applies



Handling: Please refer to document "Instructions for handling and processing"

Disclaimer: Due to our strive for continuous improvement, specifications are subject to change within our PCN policy according to JESD46C.