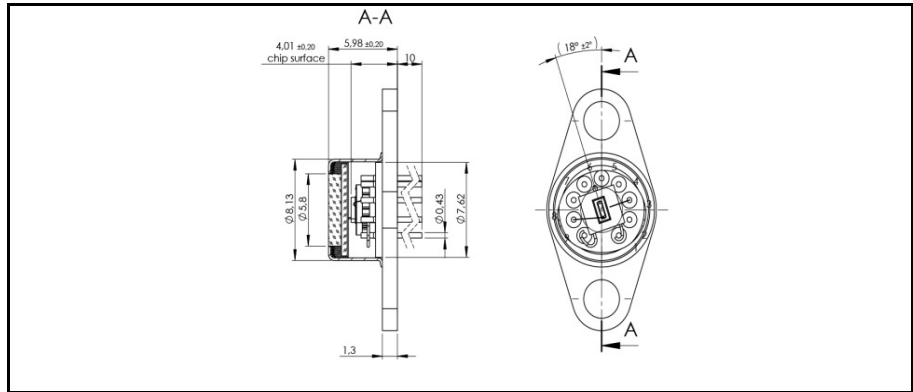
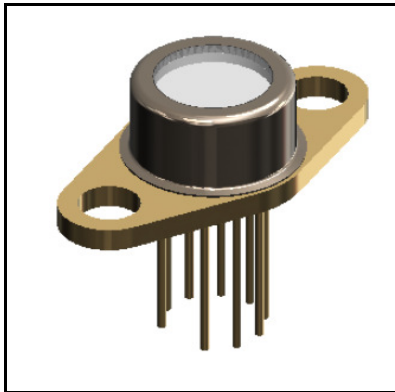


Preliminary

Features

- 7 mm² PIN detector
- Low dark current
- High shunt resistance
- High sensitivity
- TEC submount

Description

Square active area PIN photodiode with 7 mm² active area. Metal can type hermetic TO package with thermoelectric sub-mount, NTC temperature sensor, and clear glass window.

Application

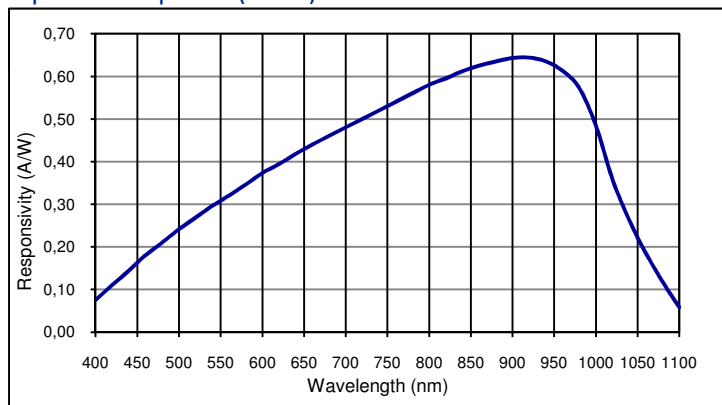
- Precision photometry
- Bar code readers
- Medical equipment
- Pulsed light sensor

RoHS

2002/95/EC


Absolute maximum ratings

Symbol	Parameter	Min	Max	Unit
T _{STG}	Storage temp	-60	100	°C
T _{OP}	Operating temp	-20	85	°C
V _{max}	Max reverse voltage		30	V
I _{PEAK}	Peak DC current		10	mA
T _{DEW}	Dew point	-20		°C

Spectral response (23 °C)

Electro-optical characteristics @ 23 °C

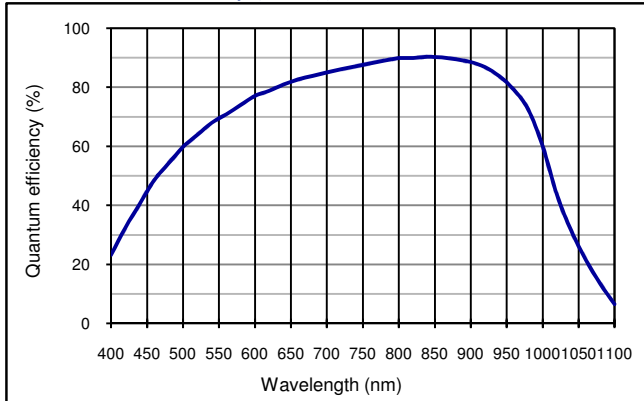
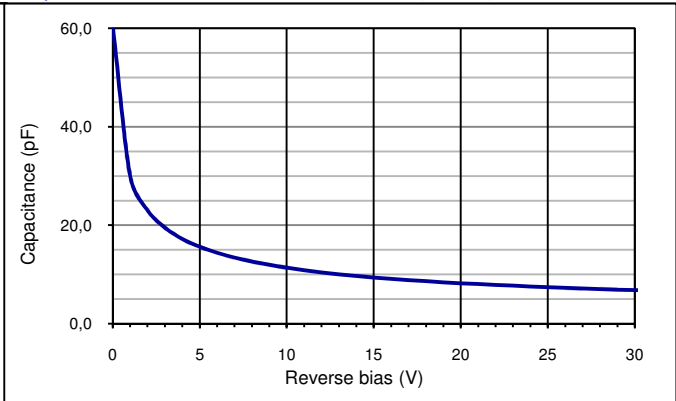
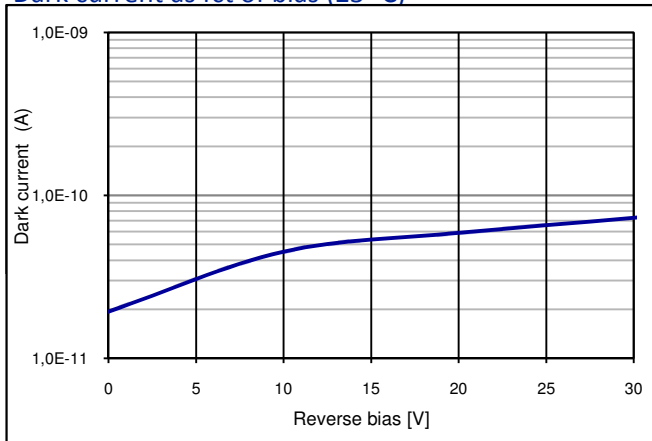
Symbol	Characteristic	Test Condition	Min	Typ	Max	Unit
	Active area		2660 x 2660			µm
	Active area		7.1			mm ²
I _D	Dark current	V _R = 10 V		0.1		nA
C	Capacitance	V _R = 0 V		65		pF
		V _R = 10 V		12		pF
	Responsivity	λ = 632 nm		0.4		A/W
		λ = 900 nm		0.64		A/W
t _R	Rise time	V _R = 0 V; λ = 850 nm; R _L = 50 Ω		2000		ns
		V _R = 10 V; λ = 850 nm; R _L = 50 Ω		15		ns
		V _R = 80 V; λ = 850 nm; R _L = 50 Ω		6		ns
	Shunt Resistance	V _R = 10 mV		2000		MΩ
	N.E.P.	V _R = 10 V; λ = 900 nm		8.8 E-15		W/√Hz
V _{BR}	Breakdown voltage	I _R = 2 µA	30			V

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USA:

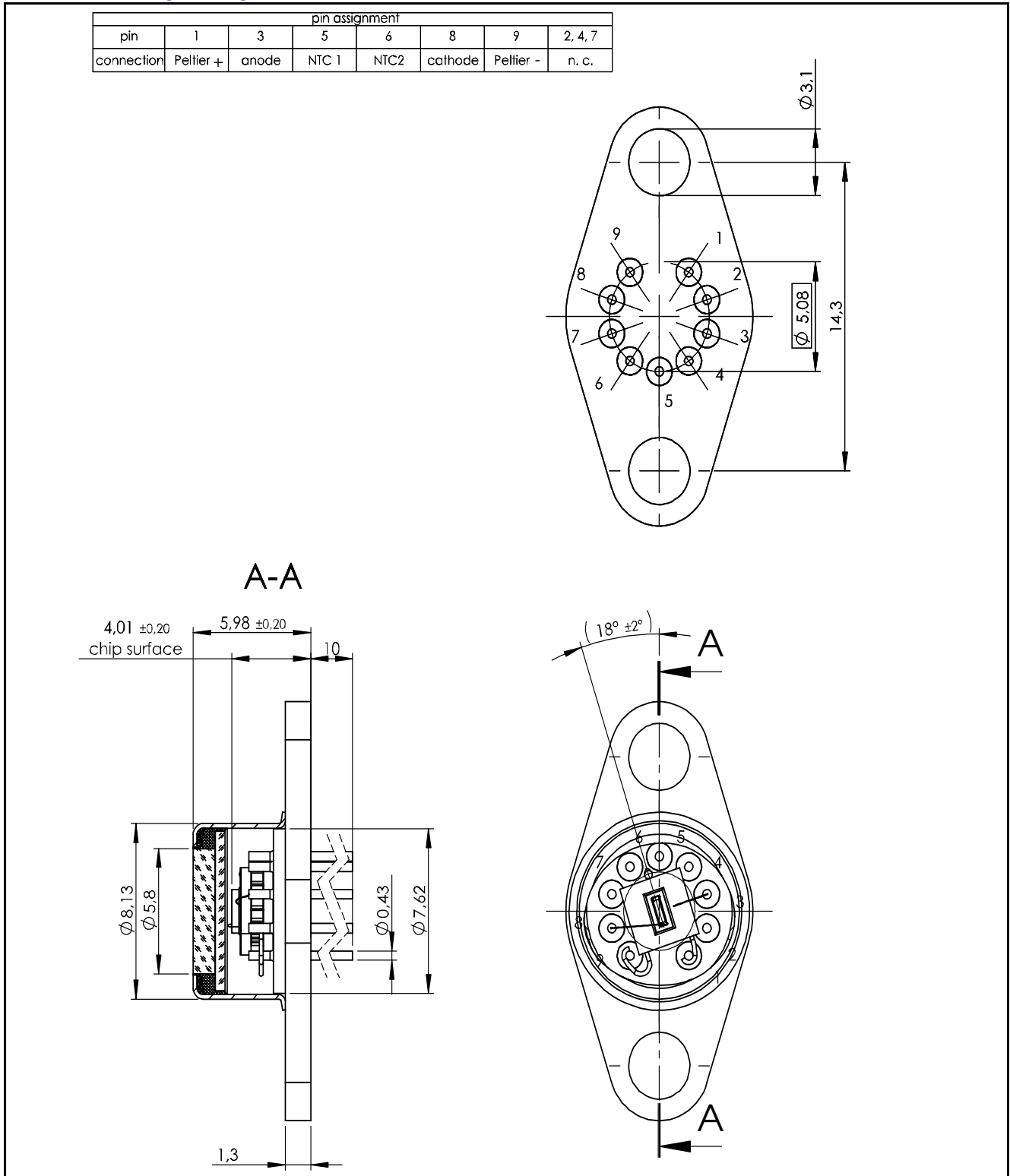

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Preliminary
Quantum efficiency (23 °C)

Capacitance as fct of reverse bias (23 °C)

Dark current as fct of bias (23 °C)

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Preliminary
Technical Drawing, Package: TO5i

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Thermoelectric Submount

Symbol	Characteristic	min	typ	max	Unit
Dtmax	Maximum temperature difference at I = I _{max}		30	65	K
Qmax	Maximum heat pumping capacity at I = I _{max}			0,97	W
I _{max}	Maximum current			1,3	A
U _{max}	Maximum voltage drop			1,28	V
R _t	Header thermal resistance		4,75		K/W

Temperature Sensor (NTC)

Temp		Resistance [kΩ]			R(T _N)	Temp		Resistance [kΩ]		
[°C]	[K]	min	typ	max		[°C]	[K]	min	typ	max
102	375	0,66	0,68	0,69		17	290	10,78	11,36	11,94
97	370	0,75	0,77	0,79		12	285	13,37	14,13	14,88
92	365	0,86	0,88	0,90		7	280	16,73	17,71	18,70
87	360	0,98	1,01	1,04		2	275	21,09	22,38	23,69
82	355	1,13	1,17	1,20		-3	270	26,82	28,53	30,27
77	350	1,31	1,35	1,39		-8	265	34,42	36,70	39,04
72	345	1,51	1,56	1,61		-13	260	44,59	47,68	50,85
67	340	1,76	1,82	1,88		-18	255	58,37	62,58	66,92
62	335	2,06	2,14	2,21		-23	250	77,23	83,03	89,05
57	330	2,42	2,52	2,61		-28	245	103,35	111,45	119,88
52	325	2,86	2,98	3,09		-33	240	140,01	151,44	163,39
47	320	3,40	3,54	3,68		-38	235	192,12	208,47	225,65
42	315	4,06	4,23	4,41		-43	230	267,30	291,01	316,04
37	310	4,87	5,09	5,31		-48	225	377,38	412,29	449,31
32	305	5,88	6,16	6,44		-53	220	541,21	593,44	649,08
27	300	7,15	7,50	7,86		-58	215	789,30	868,78	953,87
20	293	9,50	10,00	10,50						

B [K]	3641,7	3605,7	3569,6
T_N [K]	293		

$$T = \frac{B \cdot T_N}{B + \ln\left(\frac{R_T}{R_N}\right) \cdot T_N}$$
Handling:

Please consider ESD protection while handling.

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

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