

# Ultraviolet selective thin film sensor

## UVD 18

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### *Features*

- Schottky-type photodiode
- Intrinsic visible blindness due to wide-bandgap semiconductor material
- Large photoactive area
- No focusing lens needed, therefore large usable incident angle
- No interference filter required
- Designed to operate in photovoltaic mode
- TO-18 metal package

### *Maximum Ratings*

Parameter	Symbol	Value	Unit
Operating temperature range	$T_{opt}$	0 ... +60	°C
Reverse voltage	$V_{Rmax}$	3	V
Forward current	$I_{Fmax}$	1	mA
Forward voltage ( dark )	$V_F$	900	mV
Total power dissipation at 25 °C	$P_{tot}$	1	mW

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### *General Characteristics*

( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	typ. Value	Unit
Active area	A	4.4	mm <sup>2</sup>
Active area dimensions	L x W	2.1 x 2.1	mm
Max. viewing angle	$\alpha$	100	degree
Shunt resistance (dark)	R <sub>p</sub>	40	M $\Omega$
Dark current	I <sub>d</sub>	30	pA
Open circuit voltage ( 200 $\mu\text{W} / \text{cm}^2$ ; $\lambda = 300\text{ nm}$ )	V <sub>0</sub>	120	mV
Short circuit current ( 200 $\mu\text{W} / \text{cm}^2$ ; $\lambda = 300\text{ nm}$ )	I <sub>0</sub>	150	nA
Breakdown voltage ( dark )	V <sub>BR</sub>	> 3	V

### *Spectral Characteristics*

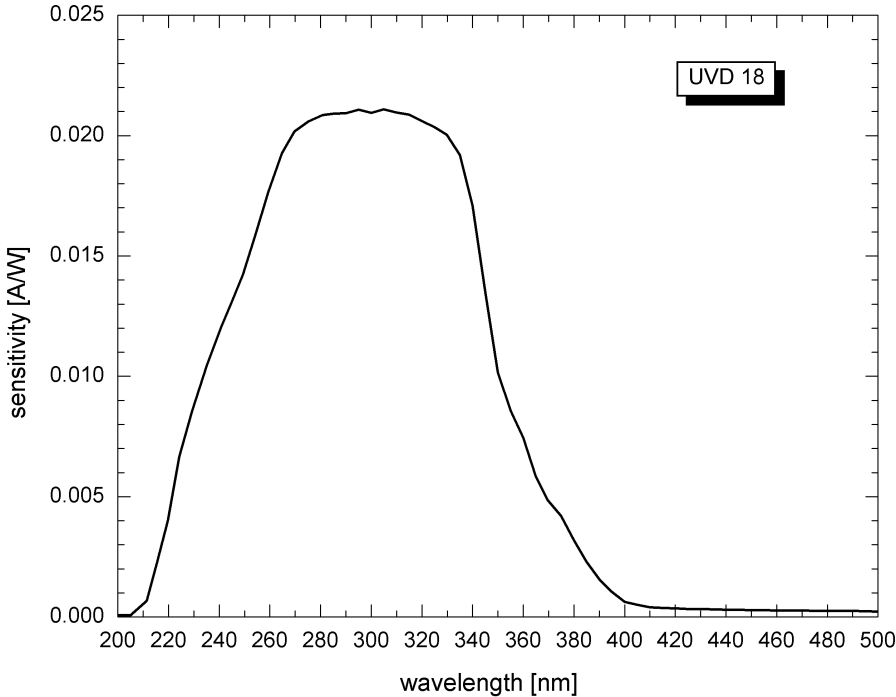
( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	typ. Value	Unit
Max. spectral sensitivity	S <sub>max</sub>	20	mA·W <sup>-1</sup>
Wavelength of max. spectral sensitivity	$\lambda_{S_{\max}}$	300	nm
Range of spectral sensitivity ( S = 10 % of S <sub>max</sub> )	-	215 – 387	nm

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### *Spectral Response*



### *Pin Layout*

