

MarkTech Optoelectronics

UV Detectors

Winter 2023 Catalog

Product	Active Area	Peak Wavelength	Spectral Range	Package
MTD2800UV	0.1 mm ²	265	210 ~ 355	TO-52 Metal Can Flat Lens (2 pin)

Peak Sensitivity Wavelength: 265nm

The MTD2800UV is a highly reliable low cost SiC photodiode with high spectral sensitivity in the UV range (210nm-355nm), mounted in a hermetically sealed TO-52 package with UV-glass window.

FEATURES

- > Optional with insulated mounting of the photodiode
- > High temperature option for operating up to 150°C
- > RoHS and WEEE compliant

APPLICATIONS

- > Universal measurements in the UV range
- > Sterilization lamp monitoring
- > Flame monitoring

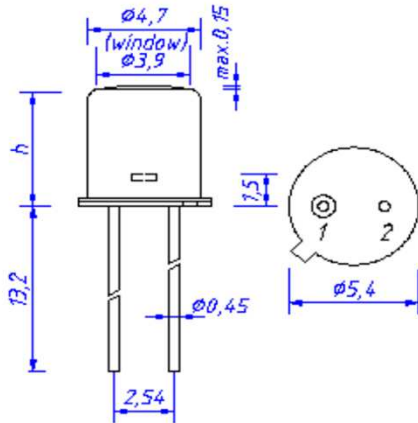
Absolute Maximum Ratings (Ta=25°C)



ITEMS	SYMBOL	RATINGS	UNIT
Active Area Size	A	0.365 x 0.365	mm ²
Active Area	A	0.1	mm ²
Reverse Voltage	Vr	20	V
Operating Temperature Range	Topr	-40 to 125	°C
Storage Temperature Range	Tstg	-40 to 125	°C
Temperature Coefficient, Tk<0.06%/K	Tc	150	°C
Lead Soldering Temperature,3 Sec	Tls	260	°C

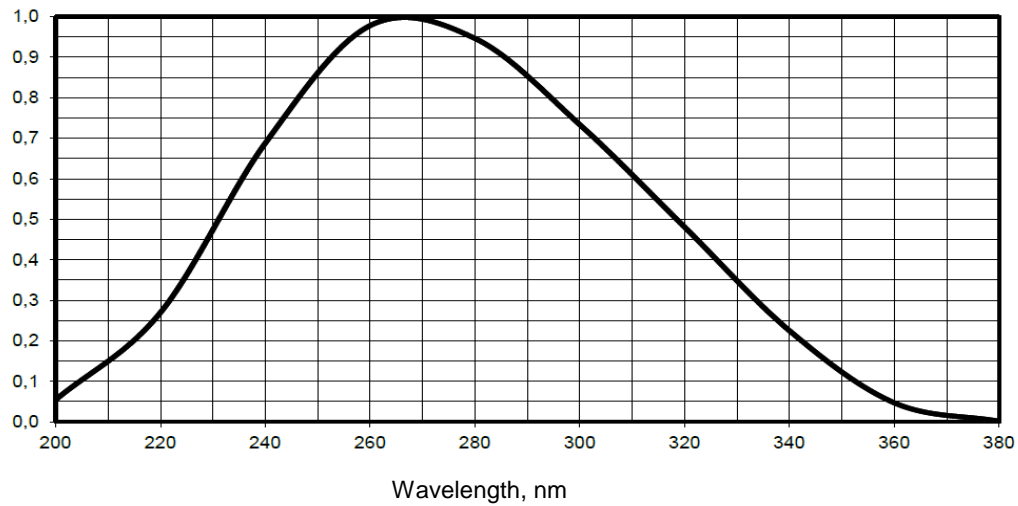
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Dark Current	ID	VR=1V	--	10	--	fA
Peak Sensitivity Wavelength	λp	VR=0V	--	265	--	nm
Responsivity at λp	Sλ	VR=0V	--	0.18	--	A/W
Responsivity at λ=254nm	Sλ	VR=0V	--	0.16	--	A/W
Sensitivity Range at 0.1 Smax	λmin, λmax	VR=0V	210	--	355	nm
Junction Capacitance	Cj	VR=0V	--	30	--	pF
Acceptance Angle	φ	VR=0V	--	+/-40	--	deg

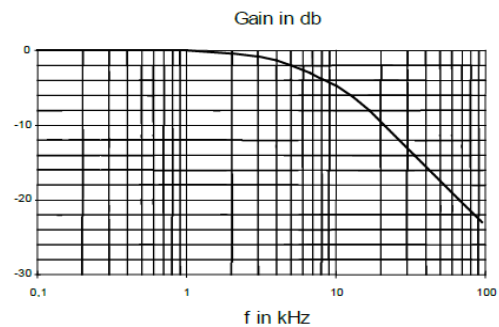
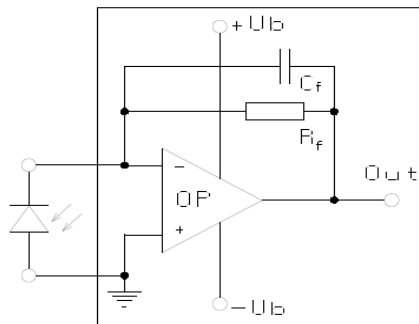


1 - anode, 2 - cathode + case, $h=3.7$ mm

Relative spectral sensitivity



application example



The application example shows a typical circuit R_f is responsible for the gain of the circuit C_f compensates the reverse junction capacitance of the photodiode and the input capacitance of the OP-amp. The exact value of C_f depends on R_f , used OP-amp and capacitance of the circuit. A typical value is 1pF.

The chart shows dependence of amplitude of the application circuit with OP-amp = AD795, $R_f = 10 \text{ M}\Omega$ and $C_f = 1\text{pF}$.