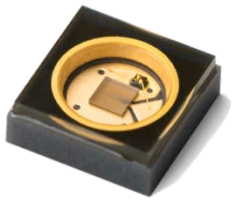
Engineering Sample Datasheet

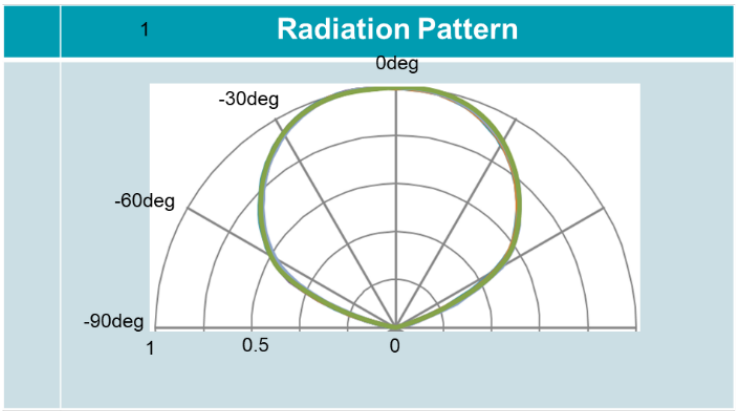
Optan 235 nm LEDs



Crystal IS UVC LEDs leverage a proprietary lattice matched Aluminum Nitride technology to enable cost effective on-line distributed sensing and monitoring of today's critical environmental parameters. With field proven reliability and industry leading lifetime, Optan devices are the choice of professionals and innovators developing and deploying municipal and industrial process controls. Optan devices are offered in selected wavelength ranges and at powers ideally suited for the most frequent measurements in spectroscopy and grab sampling.

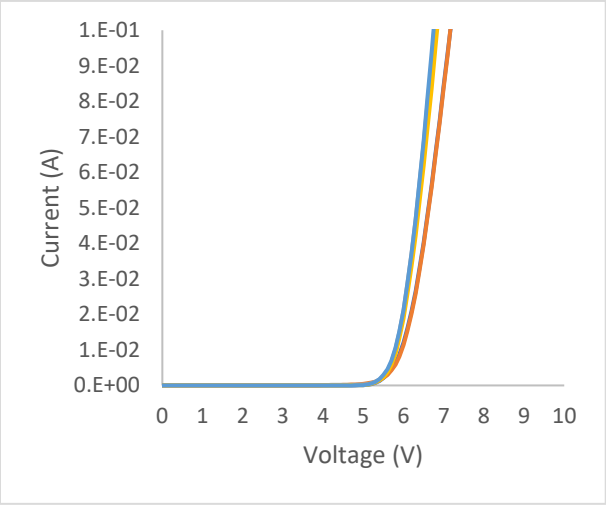
Parameter	Symbol	Specification	Units
Forward Current @ 20mA	I_f	20	mA
Forward Voltage @ 20mA	V_f	<9	V
Peak Wavelength @ 20mA	λ_p	228-238	nm
Optical Output @ 20mA	Φ	50-400	µW
Dimensions		3.5 mm x 3.5 mm	mm
Operating Ambient Temperature	T_a	-5 to 50	°C
Storage Temperature	T_{st}	-40 to 85	°C

Typical Radiation Pattern

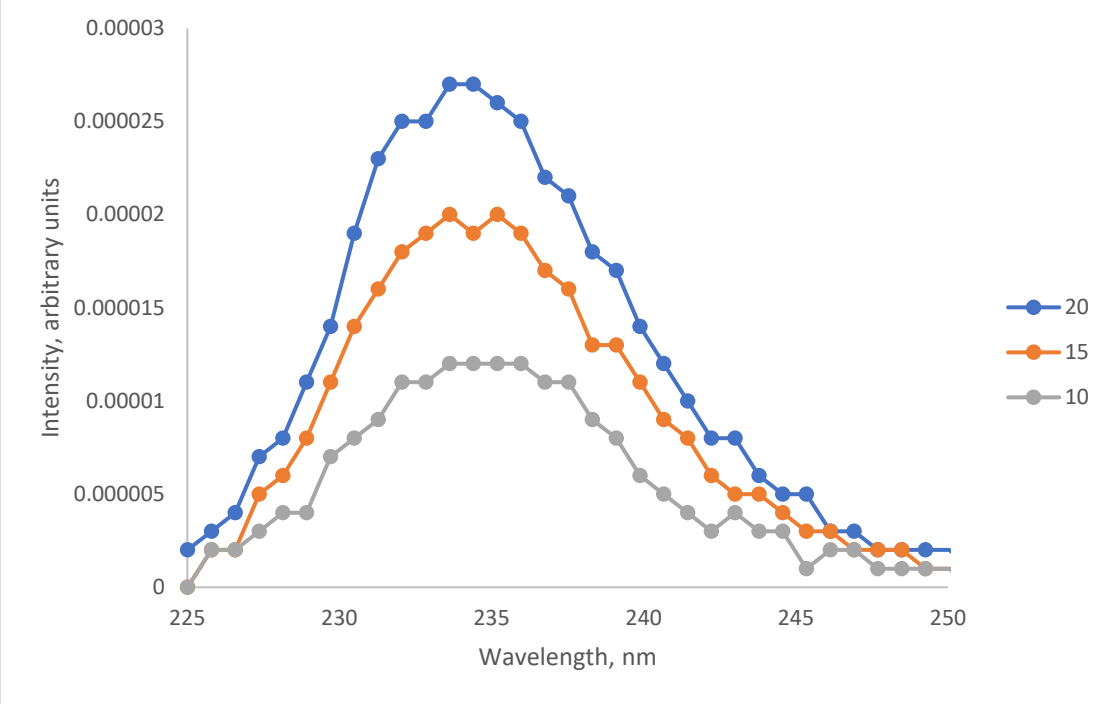


120 degree viewing angle

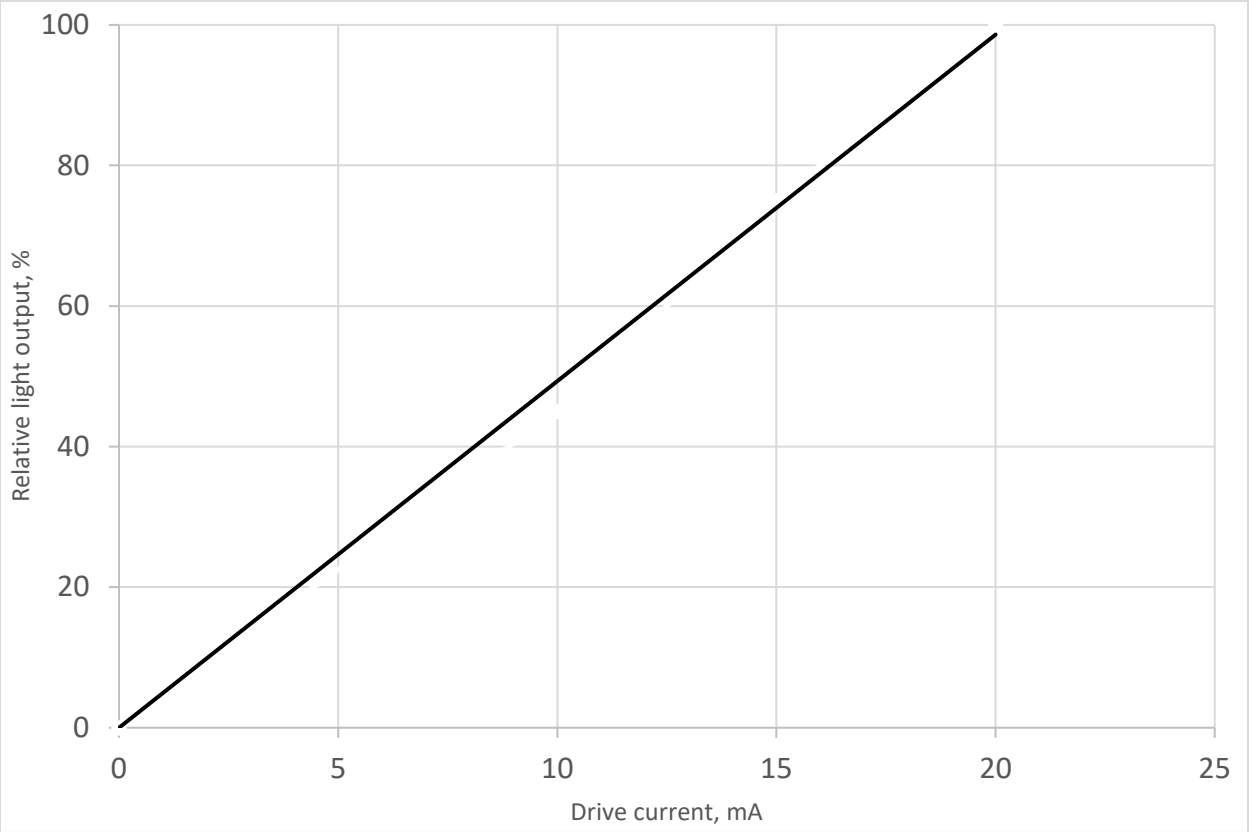
Typical Electrical Characteristics



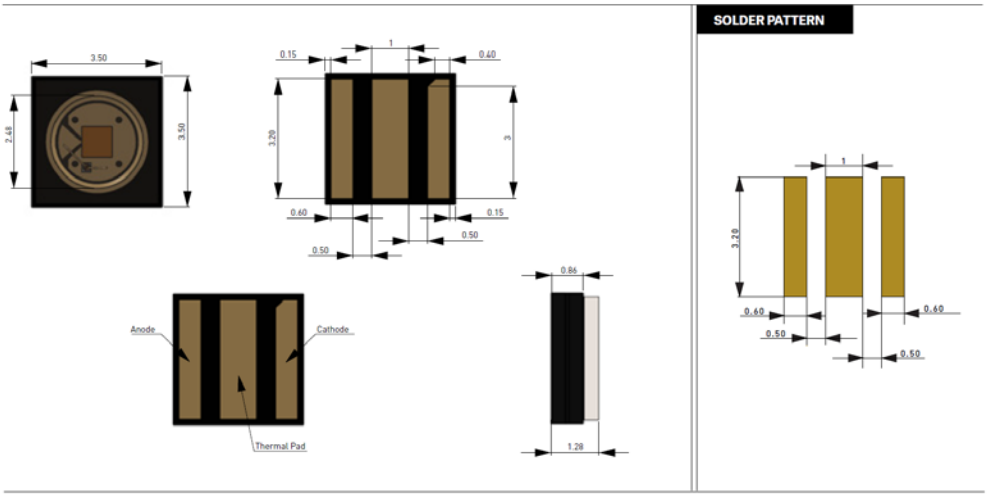
Typical Spectral Characteristics Over Current (Drive currents; 10, 15, 20 mA)



Typical Light Output Over Current



Mechanical Dimensions

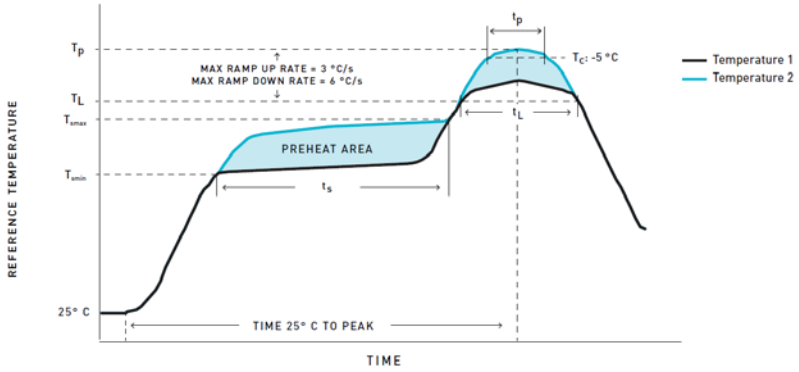


All dimensions are in millimeters. Unless noted otherwise, all dimensions have a tolerance of ± 0.05 mm.

Recommended Soldering Guidelines

The recommended solder reflow profile for Optan UVC LEDs follows the JEDEC standard J-STD-020D.
Hand soldering is not recommended for these devices.

FIGURE 1



Guidelines

Profile Feature	Pb-Free Assembly
Preheat/Soak	
> Temperature Min (T_{smin})	150 °C
> Temperature Max (T_{smax})	200 °C
> Maximum Time (t_s) from T_{smin} to T_{smax}	60–120 seconds
Ramp-up rate (T_L to T_p)	3 °C/second max.
Liquidous Temperature (T_L)	217 °C
Time (t_L) maintained above T_L	60–150 seconds
Maximum peak package body temperature (T_p)	260 °C
Time ($_{tp}$) within 5 °C of the specified temperature (T_c)	30 seconds
Ramp-down rate (T_p to T_L)	6 °C/second max.
Maximum Time 25 °C to peak temperature	8 minutes max.