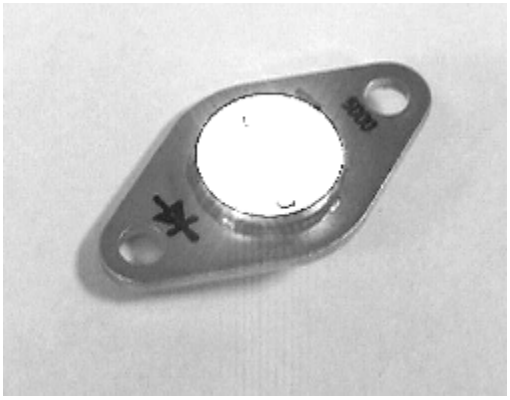
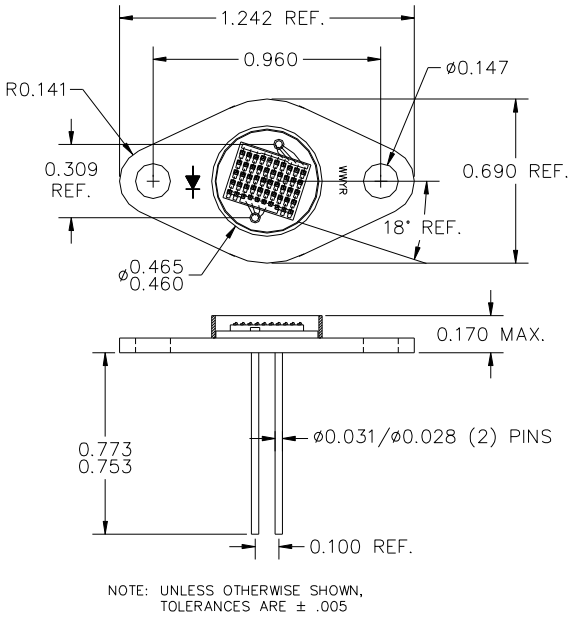
HIGH FLUX UV LED ILLUMINATORS OTLH-0280-UV

SHARK SERIES ä





PRODUCT DESCRIPTION

The OTLH-0280-UV is a high flux LED based illuminator with ultra-violet (375nm) emission. The LED's are mounted on a BeO substrate that is attached to a TO-66 power package to ensure high reliability through efficient heat transfer.

ILLUMINATOR PART NUMBER GUIDE

PART NUMBER	COLOR	PEAK WAVELENGTH (TYP λ_P, nm)	TYPICAL INITIAL RADIANT STATIC FLUX (TYP F_V, mW, T_J = 25° C)
OTLH-0280-UV	**UV**	**375**	**450** (I_F = 300 mA)

ABSOLUTE MAXIMUM RATINGS (T_J = 25°C)

Power Dissipation	6 W
Static Forward Current	300 mA
Reverse Leakage (Vr = 25 Volts)	$I_R \leq$ 500 uA
Lead Soldering Temperature	≤ 240 °C for ≤ 10 seconds

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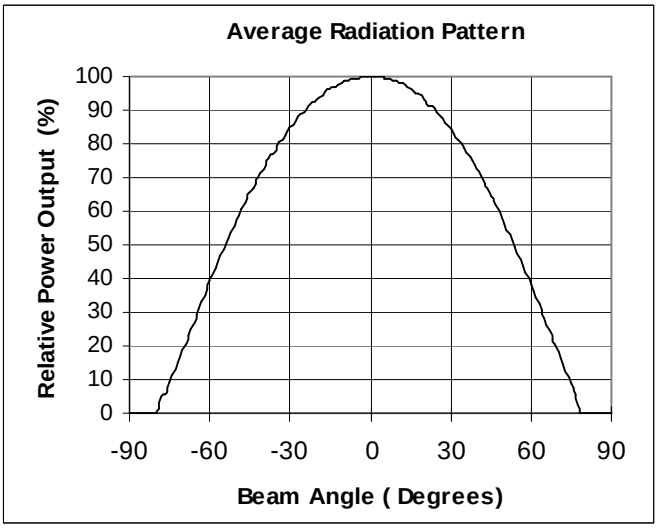
INITIAL ELECTRO-OPTICAL CHARACTERISTICS at T_J = 25°C, I_F = 200 mA*

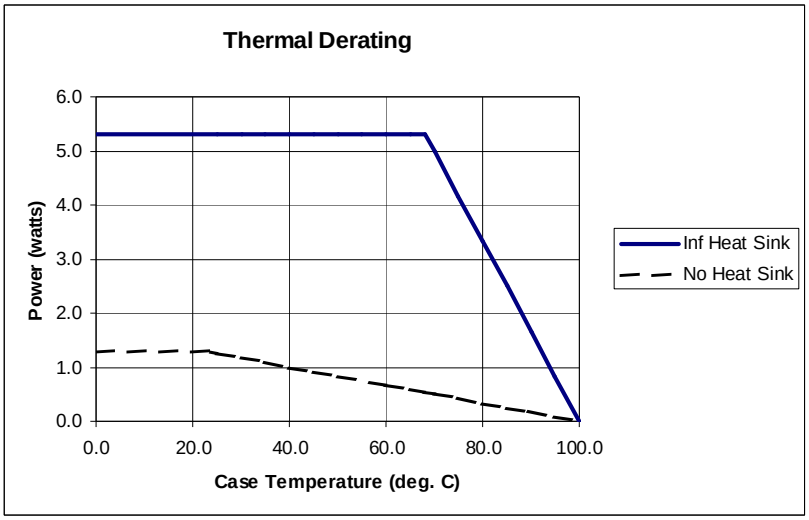
Parameter	Symbol	Min	Typ	Max	Units
Forward Voltage	V_F	-	16.9	20	V
Peak Wavelength	λ_P	370	373	380	nm
*Radiant Flux (I_F = 200mA)	Φv	-	340	-	mW
Radiant Flux (I_F = 300mA)	Φv	-	450	-	mW
Full Width Half Maximum	Δλ	-	14.5	-	nm
Viewing Angle (± θ1/2)		-	±54	-	Degrees
Total Beam Width		-	±78	-	Degrees

*****200mA is a standardized current value corresponding to 20mA/die, an industry standard. The maximum drive current for this part is 300ma or 30mA/die.



THERMAL PARAMETERS

Operating Temperature	-40 °C to +100 °C
Maximum Junction Temperature	100 °C
Typical Junction to Case Thermal Resistance with infinite heat sink, R_{THJC}	6.0 °C/W
Typical Junctionto Still Air Thermal Resistance, R_{THJA}	60°C/W



Packaging

OTLH-0280-UV shall be packed in anti-static foam by inserting header leads in the foam, covered with 1/4" thick foam, and then placed into a static shield bag. Static and Eye Safety labels shall be attached to the static shield bag

Eye Safety Issues

Currently, the LED industry has no universally agreed upon standard to cover eye safety issues a ssociated with the use of LED products. The closest is CEI/IEC 60825-1, used in Europe, which was originally developed for lasers. It was later amended to include LED's, but some in the industry have reservations as to the applicability of this standard to LED's. Under this standard, the OTLH-0280-UV (375nm) is a class 3B LED product and carries the warning:

LED RADIATION
AVOID EXPOSURE TO BEAM
CLASS 3B LED PRODUCT

Handling and Other Precautions

These parts are high power devices and as su ch are intended to be used with a heatsink. Devices operated without proper heat sink conditions, or proper current limiting will reach hazardous temperatures very quickly. Do not operate devices under these conditions under any circumstances.

These parts contain a Beryllia ceramic substrate. Beryllia ceramic, in solid form and as contained in finished products presents no special health risks. **Warning:** Overexposure to beryllium by inhalation may cause chronic beryllium disease, a chronic lung disease , and cancer. Therefore; processing or recycling using (for example) grinding, melting, welding, or sawing, of this device or as contained in a final assembly may produce airborne dust, fumes, or mists and therefore the use of exhaust ventilation or othe r controls should be used to prevent exposure to workers.

Electro-Static-Discharge

Any semiconductor circuit can be damaged by ESD. OPTO TECHNOLOGY INC. recommends that all LED circuits be handled with appropriate precautions. Failure to observe prope r handling and installation procedures can cause damage to the component. ESD damage can range from subtle performance degradation to complete device failure.

Silicone Overcoat

The OTLH-0280-UV illuminator has a silicone overcoat, which is soft and fle xible (40 durometer, Shore A) and should not be immersed or cleaned with water, alcohol, or other chemical solvents or agents. The overcoat material

should not be removed, scraped, touched, pressed, or pulled to avoid stress damage and possible breakage of delicate wire bonds.

Surface dust can be carefully removed with a soft brush, or canned air such as those used for cleaning photographic lenses.

The silicone overcoat material has a flammability classification of 94 V-1 and a temperature rating of 130° C.

Mechanical Stress

This component is not suitable for SMT / solder reflow operations. Refrain from twisting leads or unconstrained crimp or lead cut forces, which could break the glass seals of the leads and break internal wire bonds.

Life Support

OPTO TECHNOLOGY PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE PRESIDENT OF OPTO TECHNOLOGY INC. As used herein:

a. Life support devices or systems are devices or systems which (1) are intended for surgical implant into the body, or (2) support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury to the user.

b. A critical component is any component of a life support device or system whose failure to perform can be reasonably be expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

The information provided herein is believed to be reliable, however OPTO TECHNOLOGY INC. assumes no responsibility for inaccuracies or omissions.

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Warranty

Seller warrants the product as a production item ("Item"), but not related services or prototypes of any such Items, to be free from defects in material and workmanship and to be in conformance with the written specification, if any, and referenced in an order accepted by Seller. If any defect in material or workmanship or failure to conform to such specification ("Defect") is suspected in any such items, the Buyer, after obtaining a Returned Material Authorization number from Seller, shall ship suspected defective samples of the Items to the Seller, following the Seller's instructions regarding the return. No product will be accepted for repair, replacement, credit or refund without the written authorization of and in accordance with Seller's instructions. Seller shall analyze the failures, making use, when appropriate, of technical information provided by the Buyer relating to the circumstances surrounding the failures. Seller will verify whether any Defect appears in the Items. If Seller determines that the returned products are not defective, Buyer shall pay Seller all costs of handling, inspection, repairs and transportation at Seller's then prevailing rates. Seller shall, at Seller's option either credit or refund without charge at Seller's manufacturing repair facility the purchase price, repair or replace the defective product with the same or equivalent product provided: (i) Buyer notifies Seller in writing of the claimed Defect within thirty (30) days after Buyer knows or reasonable should know of the claimed Defect, (ii) the Defect Appears within twelve (12) months from the date of shipment of the product. In the event of a replacement, Seller shall ship the replacing Items FOB point of origin, freight prepaid to Buyer's destination. Any replaced Item shall become Seller's property. The method of disposition of any replaced Items will be as mutually agreed by both parties in writing. In no event shall Seller be responsible for deinstallation or reinstallation of any Item or for the expenses thereof. Repairs and replacements covered by the above warranty are warranted to be free from defects as set forth above. Inspection and acceptance of Items by Buyer and/or payment therefor shall not relieve Seller of responsibilities hereunder. The above warranty does not apply to, and the Seller makes no warranties with respect to products that: are software programs, experimental products or prototypes, all of which are provided "AS IS" or to Items which have been subjected to misuse, neglect, accident or abuse or operating environmental conditions that deviate from the parameters established in applicable specifications; or have been improperly installed, stored, maintained, repaired or altered by anyone other than Seller; or have, had their serial numbers or month and year manufacture or shipment removed, defected or altered. This warranty does not extend to any system into which a product

is incorporated. No other warranties of merchantability or fitness for a particular purpose is given with respect to such service or any other service provided by Seller under this Agreement. This warranty applies only to Buyer and may not be assigned or extended by Buyer to any of its customers or other users of the Items. Seller will not accept any returns from Buyer's customers or users of Buyer's products.

Except as stated in the section entitled warranty, seller, its subsidiaries and affiliates, subcontractors and suppliers make no warranties, express or implied, and specifically disclaim any warranty of merchantability or fitness for particular purpose. Buyer's sole and exclusive remedy shall be seller's obligation to repair or replace or credit or refund as set forth above.