

Peak Emission Wavelength: 235nm

The MTE2350B-UV is a powerful, small-footprint Far UV-C emitting device. A peak wavelength of 235nm LED creates new feasibility for a variety of applications. This 235nm LED is effective for Water quality detection of Nitrate (NO₃) Nitrate (NO₂), gas detection of Carbon dioxide (CO₂) and liquid chromatography.

FEATURES

- > Far ultraviolet LED
- > Mercury Free
- > Hermetical Seal
- > ESD protection
- > Silanna Safe

APPLICATIONS

- > Chemical and biological analysis
- > Water quality monitoring
- > Gas sensing
- > Liquid chromatography



Absolute Maximum Ratings (Ta=25°C)



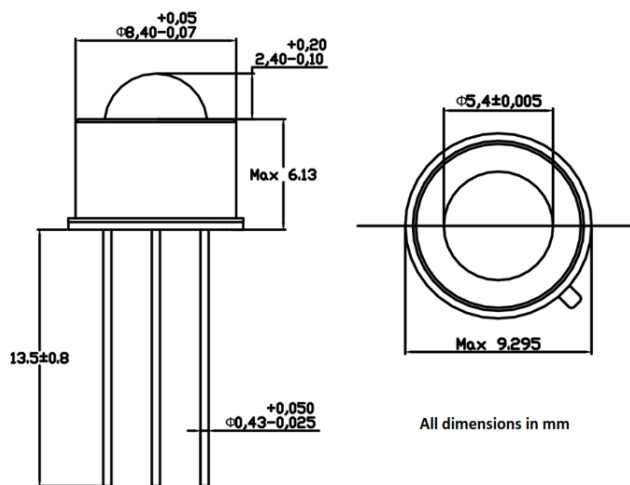
ITEMS	SYMBOL	RATINGS	UNIT
Forward Current	IF	50	mA
Operating Temperature	Topr	5 ~ +60	°C
Storage Temperature	Tstg	-40 ~ +100	°C
Junction Temperature	Tj	65	°C
ESD Classification		2	

*1: Within 5 seconds.

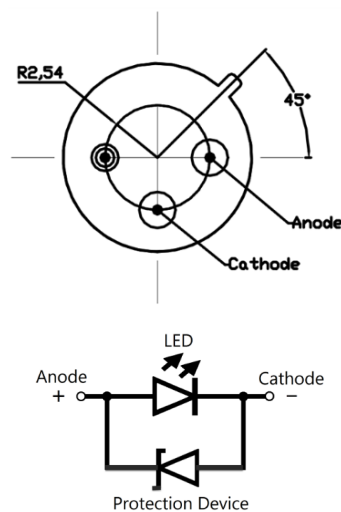
Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN.	TYP	MAX.	UNIT
Forward Voltage	VF	IF=20mA	5	--	8	V
Peak Wavelength	λp	IF=20mA	230	235	240	nm
Radiant Flux	PO	IF=20mA	--	0.15	--	mW
Radiant Intensity	I	IF=20mA	0.50	--	--	mW/Sr
FWHM	Δλ	IF=20mA	--	9	18	nm
View Angle	Θ	IF=20mA	--	18	--	deg
Power Dissipation	PD	IF=20mA	--	0.12	--	W
Thermal Resistance Junction-Case	Tth	IF=20mA	--	10	--	°C/W

Package Dimensions



Note: The pin closest to the tab is Anode.



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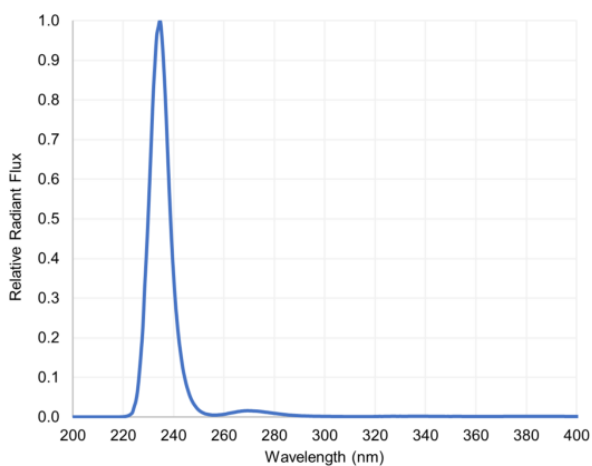


Figure 1. Relative emission intensity vs wavelength
 $T_A=25\text{ }^\circ\text{C}$, $I_F = 20\text{ mA}$

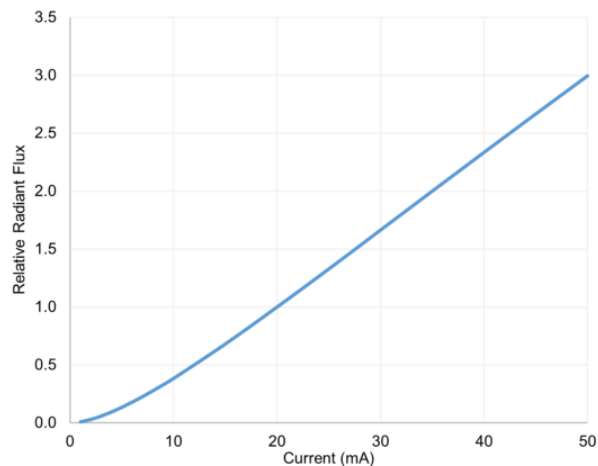


Figure 2. Relative radiant flux vs forward current
 $T_A=25\text{ }^\circ\text{C}$

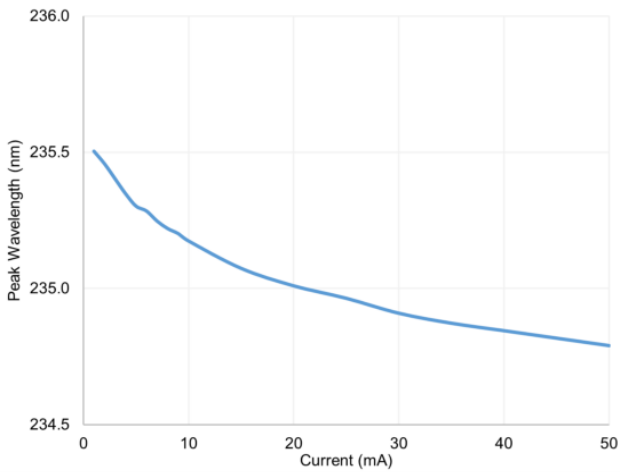


Figure 3. Peak wavelength vs forward current
 $T_A=25\text{ }^\circ\text{C}$

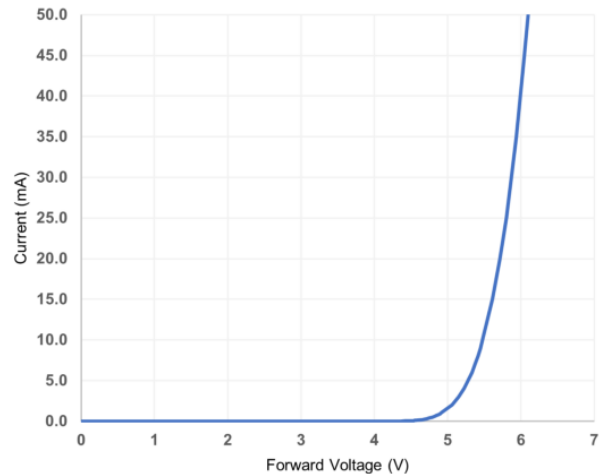


Figure 4. Forward current vs forward voltage
 $T_A=25\text{ }^\circ\text{C}$

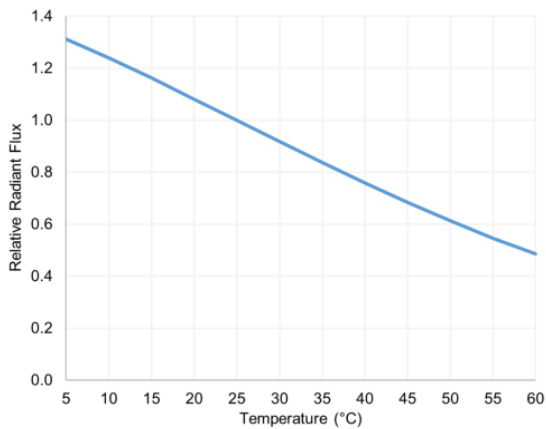


Figure 5. Relative radiant flux vs temperature
 $I_F = 20\text{ mA}$

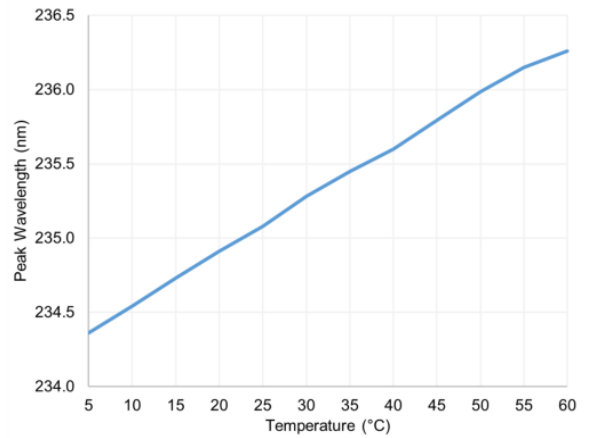


Figure 6. Peak wavelength vs temperature
 $I_F = 20\text{ mA}$

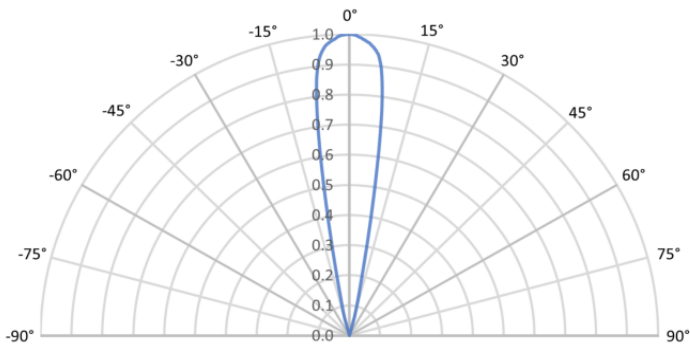


Figure 7. Radiation pattern
 $T_A=25^\circ\text{C}$, $I_f = 20\text{ mA}$

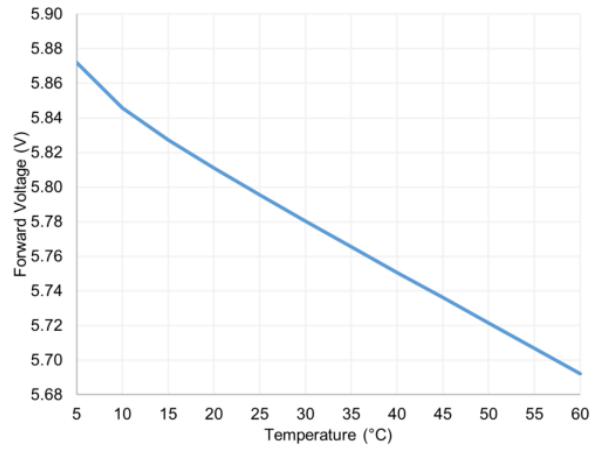


Figure 8. Forward voltage vs temperature
 $I_f = 20\text{ mA}$

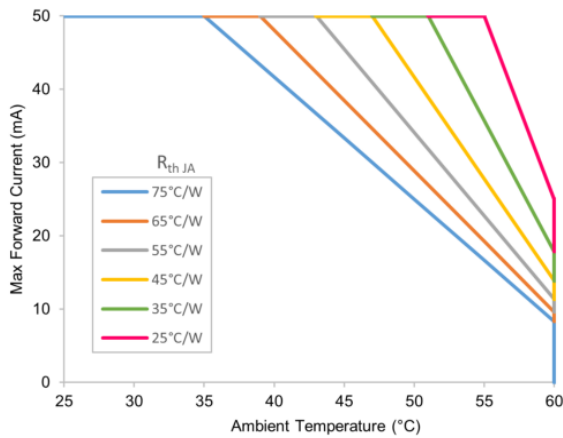


Figure 9. Max Forward current de-rating

Soldering

Soldering conditions

Parameter	Dip Soldering Lead-free solder	Hand Soldering Lead-free solder
Pre-heat	90°C max (backside of PCB)	
Pre-heat time	60 seconds max	
Temperature	260°C max (Solder bath)	300°C max
Soldering time	5 seconds max	3 seconds max

* Distance between melted solder sides to bottom of LED should be 3mm or greater

Soldering Temperature Profile

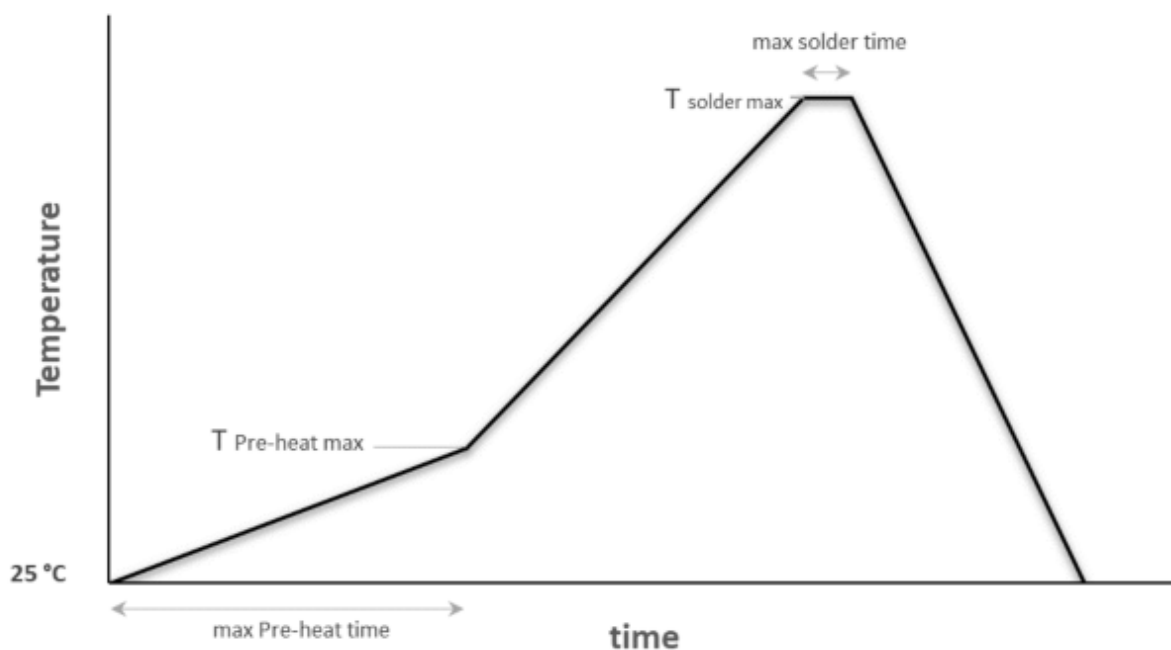


Figure 12. Soldering temperature profile

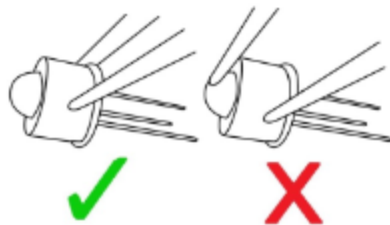
Recommended usage instructions

Storage

1. Store in a moisture free environment (< 60%RH).
2. Store between 5°C and 30°C.
3. After storing, clean with isopropyl alcohol. Do not use acetone, MKS or ultrasonic baths to clean.

Handling

1. Use ESD tweezers to hold the LED by the sides of the package.
2. Do not touch the optical surface of the LED.
3. Observe appropriate ESD precautions when handling the LED.



Circuit


1. Driving circuits must be designed to operate the LEDs in forward bias only.
2. A driver IC delivering constant current operation is recommended.
3. The recommended circuit for multiple LEDs involves driving individual load resistances. Each LED can have different forward voltages for the same current.


Safety information

The LED emits invisible UV light during operation. UV light is hazardous to eyes and skin. Long term exposure to UV light increases the risk of skin and eye cancer. Always ensure adequate control measures are in place to prevent exposure to UV light when the LED is operational.

Compliance

RoHS & REACH Compliant.



 **CAUTION**

1. LEDs emit very strong UV radiation during operation.
2. Don't look directly into the LED light when in operation as UV radiation can harm your eyes.
3. To prevent even inadequate exposure, wear protective eyewear.
4. If LEDs are embedded in devices, please indicate warning labels against the UV LED used.
5. Avoid prolonged exposure to skin or other tissue during operation.
6. Keep out of reach of children.
7. Take appropriate precautions around pets and other living organisms to avoid UV exposure.
8. Specification and dimension are subject to change without notice.