DOWA ®

DoUVLEDs

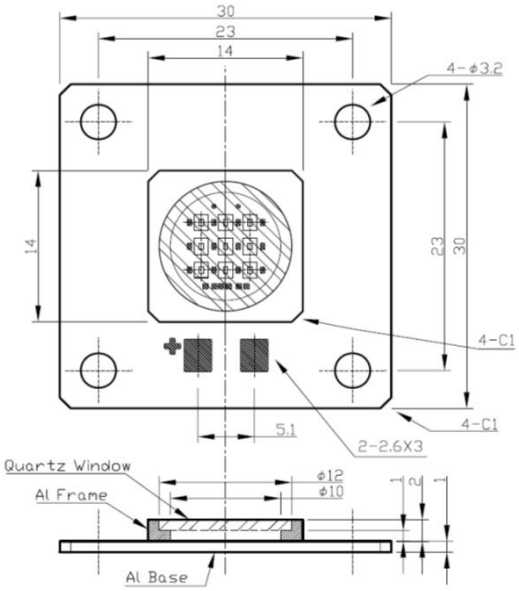
DOWA SUPERB UV LED SOLUTIONS

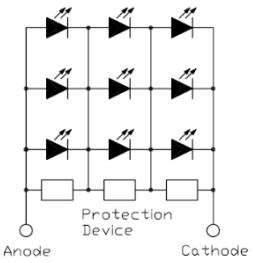
MODEL xFxVF-1X009 series

3×3 Module

RoHS

Mechanical Specifications (Unit: mm)





Sample picture of usage; the lead cable is NOT fixed on the products

Product ID

265nm: DF7VF-1X009
280nm: DF8VF-1X009
310nm: UF1VF-1X009
325nm: UF3VF-1X009
340nm: UF4VF-1X009

Typical Optical-Electrical Characteristics (I_F=60mA, T_a=25℃)

Item	Symbol	Unit	DF7VF	DF8VF	UF1VF	UF3VF	UF4VF
Peak Wavelength	λ_p	nm	265±5	280±10	310±5	325±5	340±5
Radiant Flux	P_o	mW	9.5	12	6.2	12	12
Full Width at Half Maximum	$\Delta\lambda$	nm	13	12	15	11	9
Forward Voltage	V_F	V	26	20	19	13	12
Viewing Half Angle	$2\theta_{1/2}$	deg.	130	130	130	130	130
Thermal resistance*	$R\theta_{J\text{-}Ref}$	℃/W	-	-	19.5	-	-

*Thermal resistance $R\theta_{J\text{-}Ref}$ from LED pn-junction to a reference point.

Absolute Maximum Ratings

Item	Symbol	Unit		Ambient Temperature
Forward Current	I_{Fmax}	mA	120	T_a=25℃
Operating Temperature	T_{OPR}	℃	-20 ~ +80	
Storage Temperature	T_{STG}	℃	-30 ~ +85	
Soldering Temperature	T_{SOL}	℃	300	(within 5sec)
Junction Temperature	T_{Jmax}	℃	150	

Notes:

1. Make sure the cables are connected to the power supply and the LED module;
   Red Color : Anode, Black Color : Cathode.
2. Put 60mA total current as standard conditions, and don' drive wither more than 120mA unless enhanced overdr
3. To ensure medical safety to your eye, don't see directory this led module.

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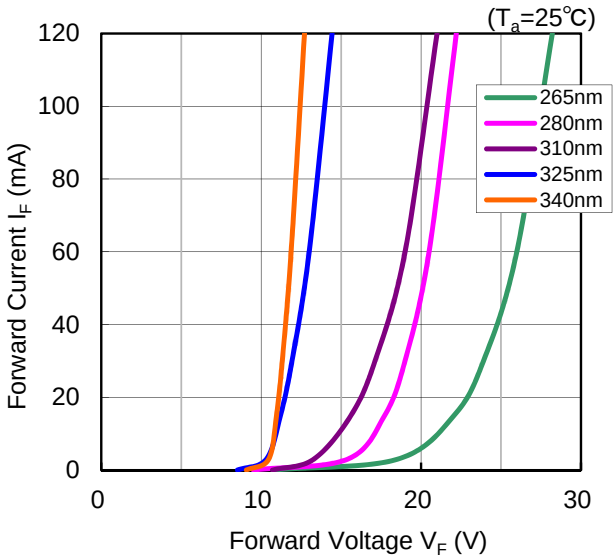
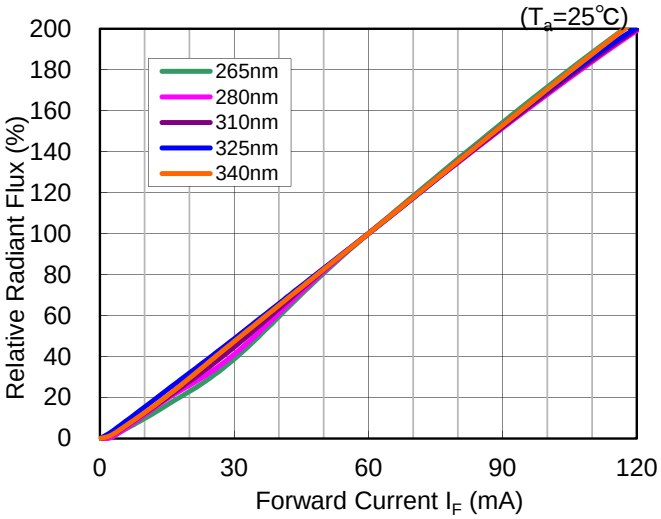
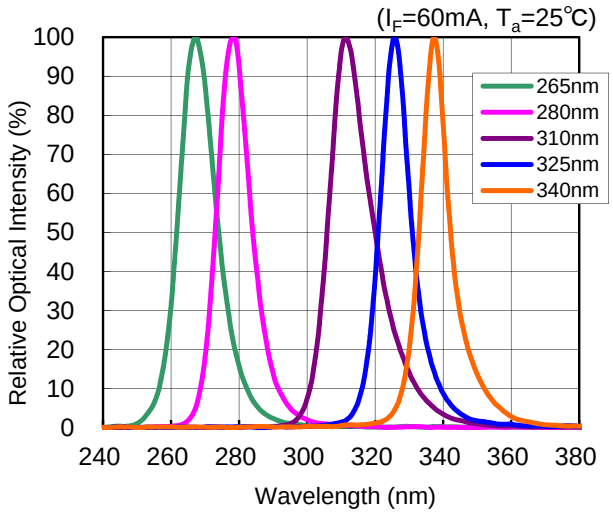
Forward Current vs. Forward Voltage



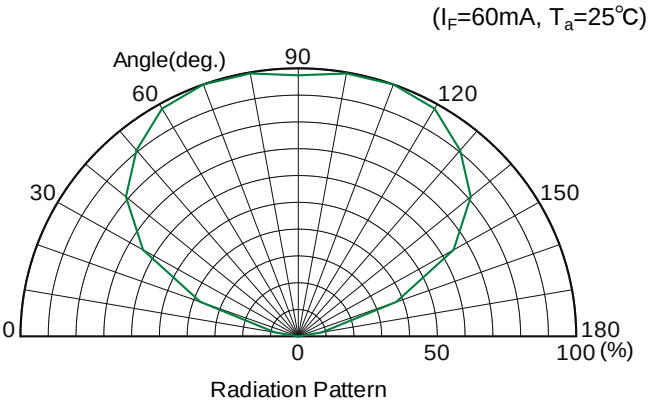
Forward Current vs. Radiant Flux



Relavive Intensity vs Peak Wavelength



Radiation Pattern



CAUTION

- LEDs emit very strong UV radiation.
- Don't look directly into the LED light.
  UV radiation can harm your eyes.
- To prevent even inadequate exposure, wear protective eyewear.
- If LEDs are embedded in devices, please indicate warning labels against the UV light LED used.
- Keep out of reach of children.
- Specification and dimension are subject to change for improvement without notice.

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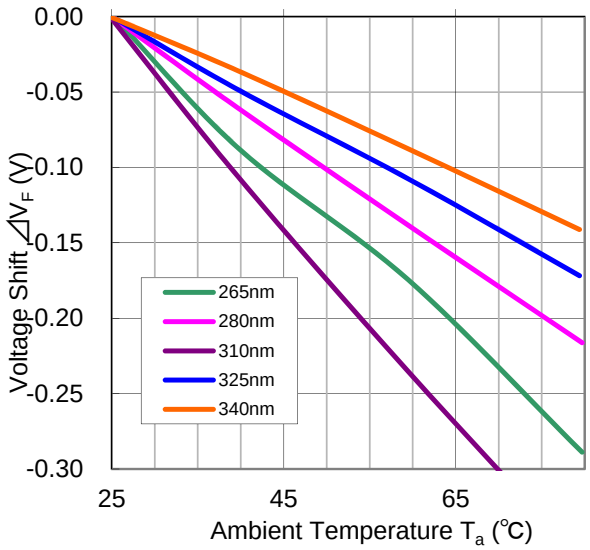
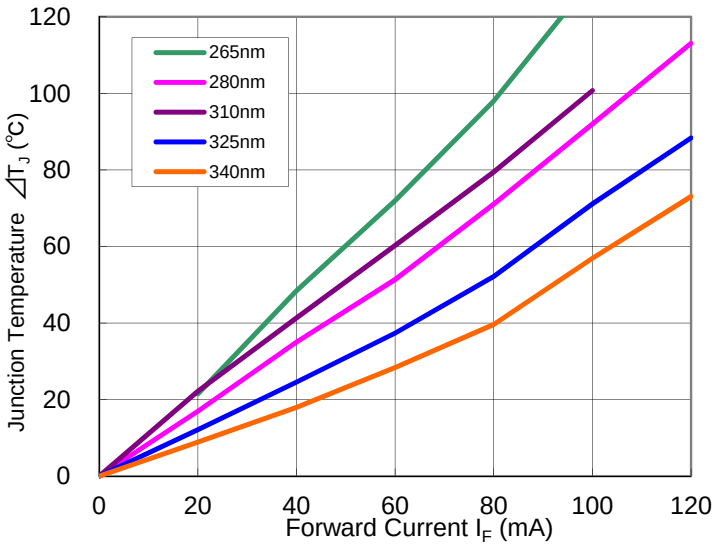
Voltage Shift vs Ambient Temperature



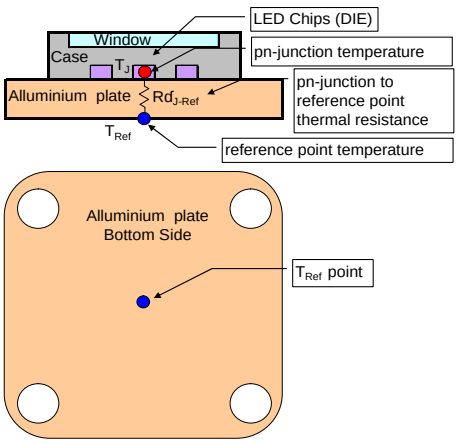
Junction Temperature vs Forward Current



Thermal Resistance Equation

The basic equation governing the thermal calculation in defined below.

$$R\theta_{J\text{-}Ref} = (\Delta T_{J\text{-}Ref}) / P_D = (T_J - T_{Ref}) / P_D \quad \text{----------} \quad (1)$$



Where:

$Rd_{J\text{-}Ref}$ = pn-junction to reference point thermal resistance :(℃/W)

T_J = pn-junction temperature:(℃)

T_{Ref} = reference point temperature:(℃)

P_D = power dissipation = ($I_F \times V_F$):(W)

Rewrite equation (1):

$$T_J = T_{Ref} + (R\theta_{J\text{-}Ref} \times P_D) \quad \text{----------} \quad (2)$$

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SPEC informaition (included design, dimension, and typical data) would be changed without prior notice.

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