

Datasheet

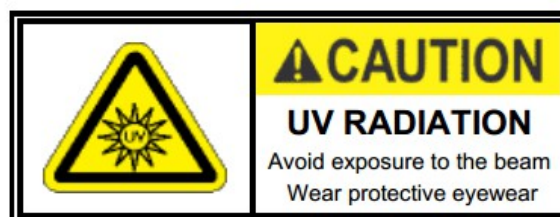
High Efficacy UV LED Emitter
365nm / 3W

RSW-P03-365-0



- High Efficacy 365nm 3W UV LED
- Ultra-small foot print – 4.4mm x 4.4mm
- Surface mount ceramic package with integrated glass lens
- Very low Thermal Resistance (4.2°C/W)
- Very high Radiant Flux density
- Electrically neutral thermal path
- JEDEC Level 1 for Moisture Sensitivity Level
- Lead (Pb) free and RoHS compliant
- Reflow solderable (up to 6 cycles)
- Emitter available on MCPCB (optional)

The **RSW-P03-365-0** UV LED emitter provides superior radiometric power in the wavelength range specifically required for applications like curing, sterilization, currency verification, and various medical applications. With a 4.4mm x 4.4mm ultra-small footprint, this package provides exceptional optical power density. The patented design has unparalleled thermal and optical performance. The high quality materials used in the package are chosen to optimize light output, have excellent UV resistance, and minimize stresses which results in monumental reliability and radiant flux maintenance.



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
DC Forward Current	I_F	700	mA
Peak Pulsed Forward Current	I_{FP}	850	mA
Reverse Voltage	V_R	See Note 1	V
Storage Temperature	T_{stg}	-40 ~ +150	°C
Junction Temperature	T_J	100	°C
Soldering Temperature	T_{sol}	180	°C
Allowable Reflow Cycles		6	
ESD Sensitivity		> 2kV HBM Class 3B JESD22-A114-D	

1) LEDs are not designed to be reverse biased

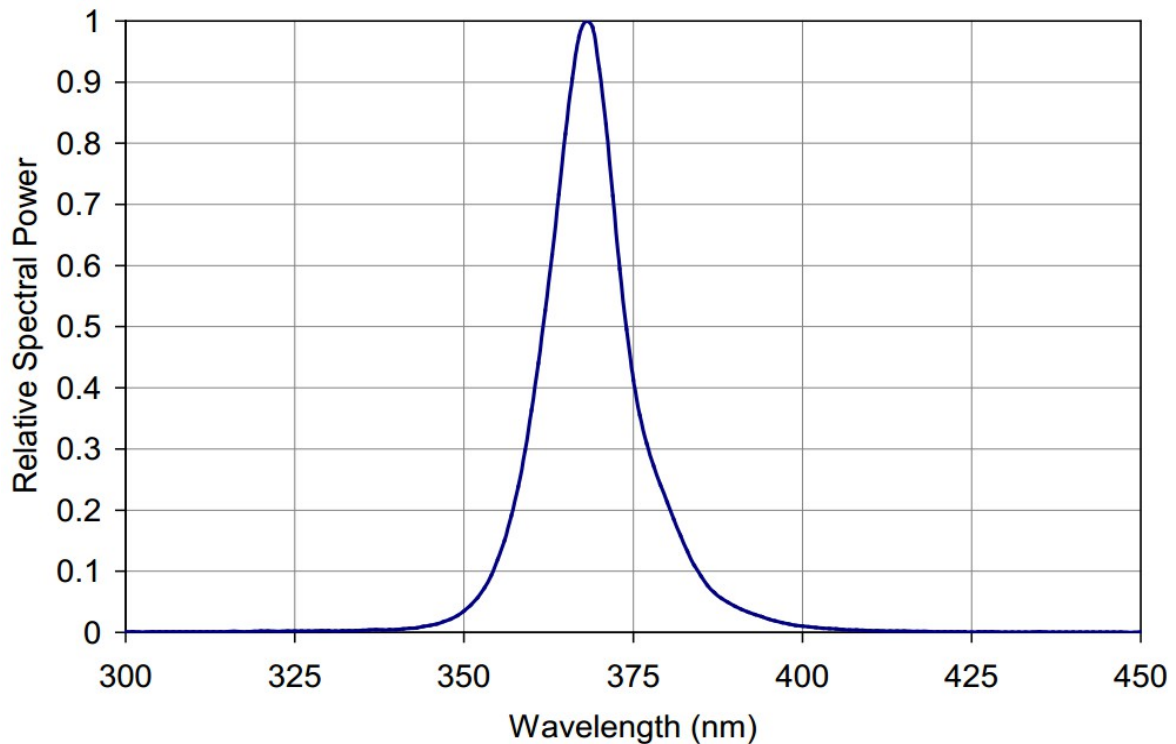
Optical Characteristics @ $T_c = 25^\circ\text{C}$

Parameter	Symbol	Typical	Unit
Luminous Flux (@ $I_F = 700\text{mA}$)	Φ	320	mW
Peak Wavelength	λ_P	365	nm
Viewing Angle	$2\Theta_{1/2}$	85	Degrees
Total Included Angle	$\Theta_{0.9}$	100	Degrees

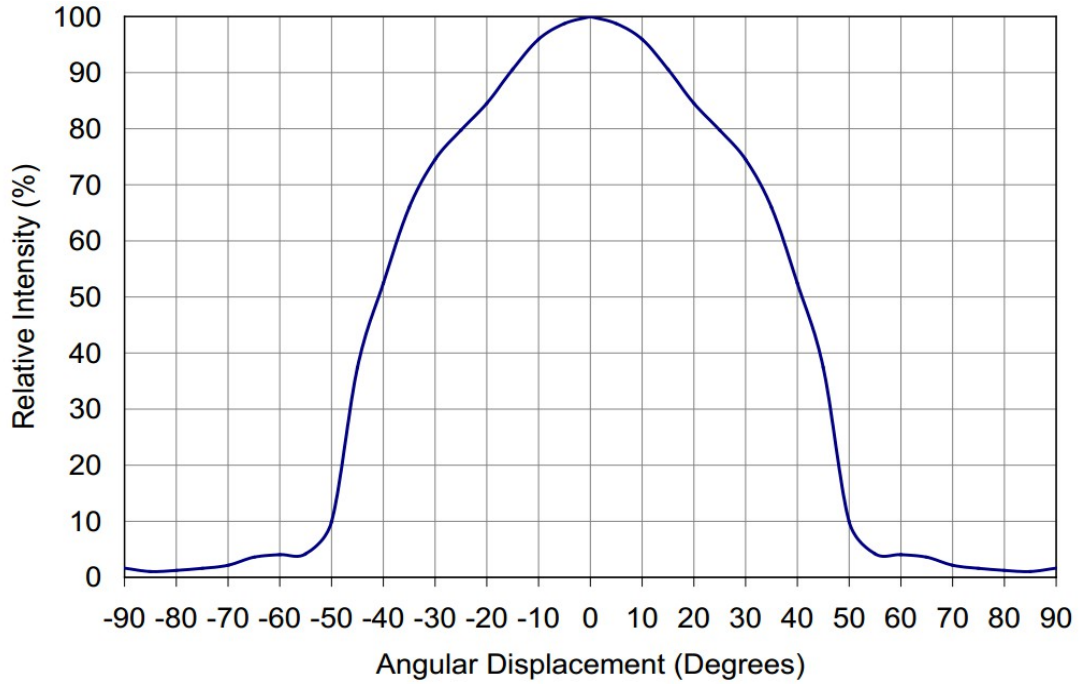
Electrical Characteristics @ $T_c = 25^\circ\text{C}$

Parameter	Symbol	Typical	Unit
Forward Voltage (@ $I_F = 700\text{mA}$)	V_F	4,1	V
Temperature Coefficient of V_F	$\Delta V_F / \Delta T_J$	-3,7	mV/°C
Thermal Resistance (Junction to Case)	$R\Theta_{J-C}$	4,2	K/W

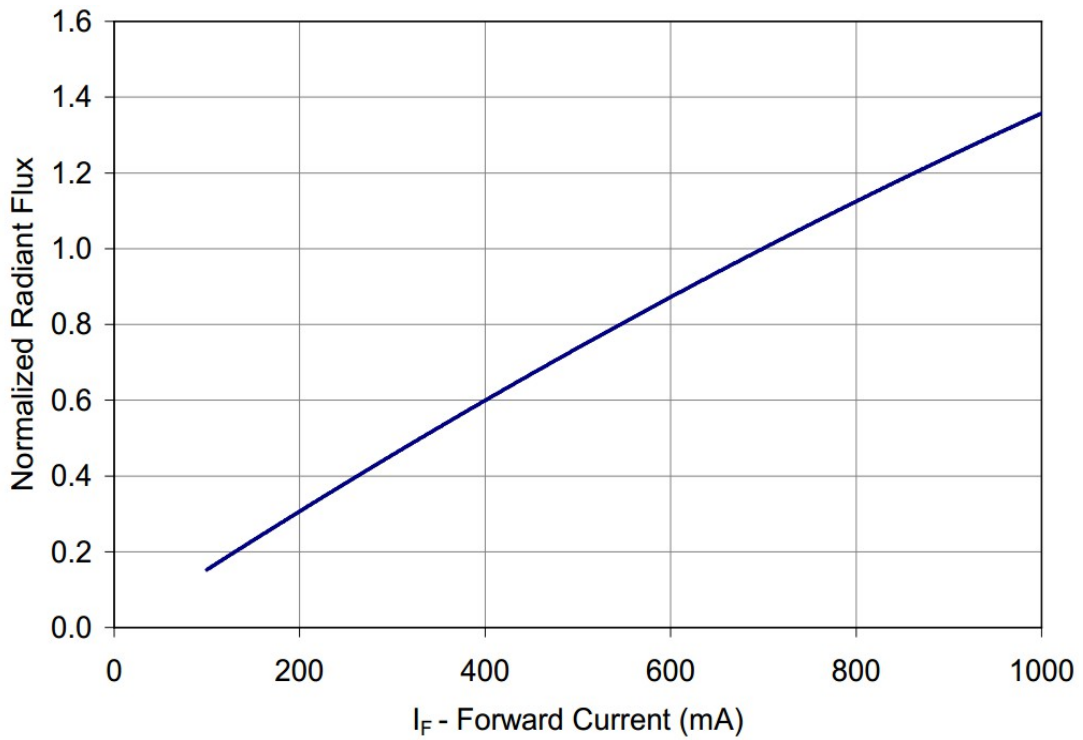
Relative Spectral Power vs. Wavelength @ $T_C = 25^\circ\text{C}$.



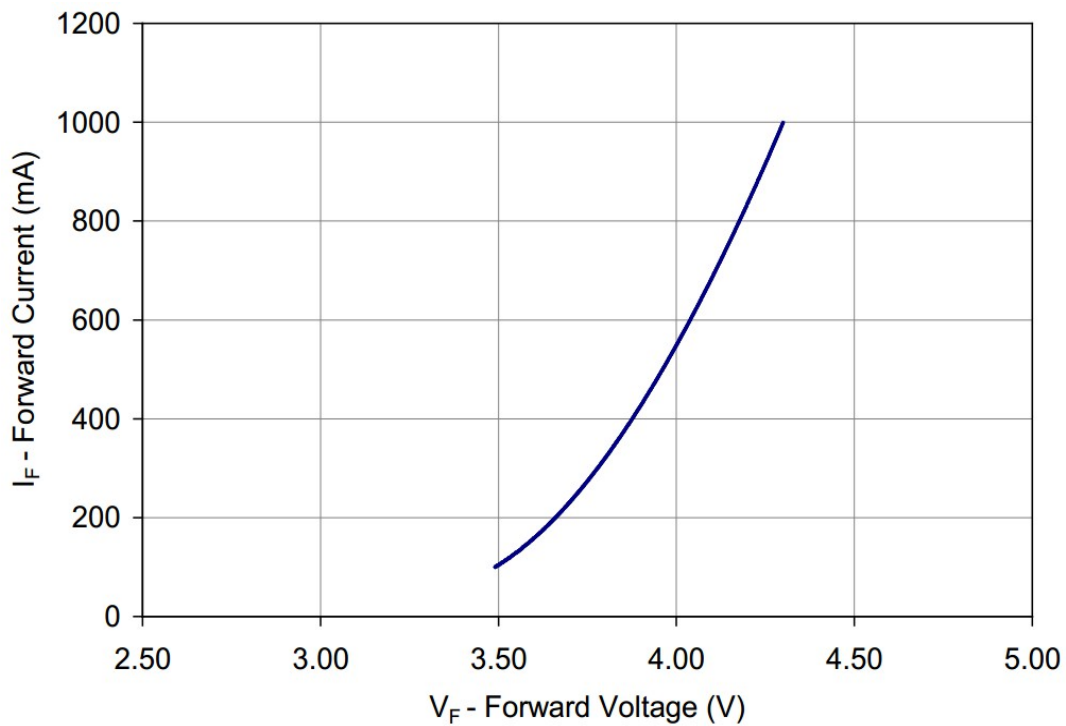
Typical Radiation Pattern



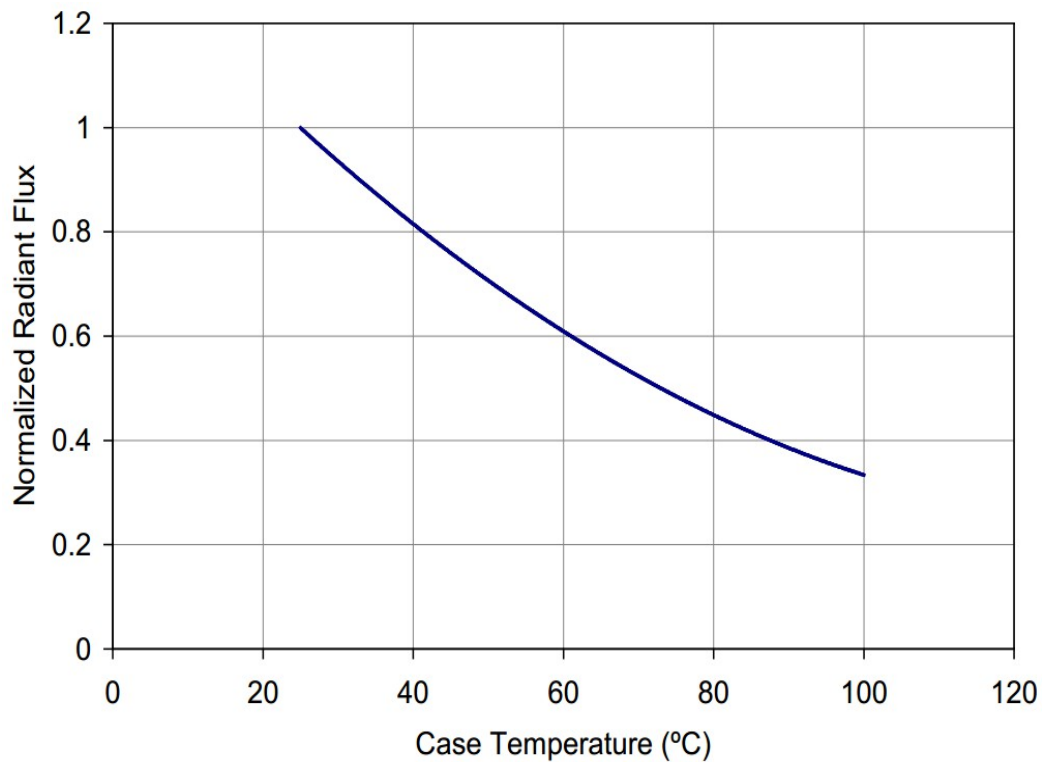
Typical Normalized Radiant Flux vs. Forward Current @ TC = 25°C.



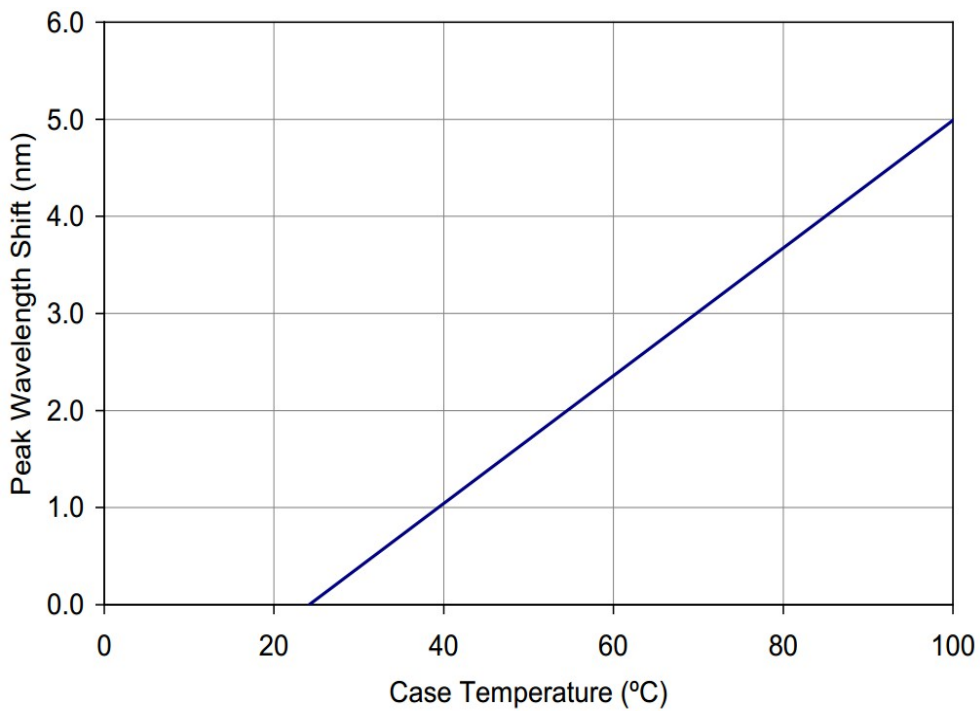
Typical Forward Current vs. Forward Voltage @ TC = 25°C.



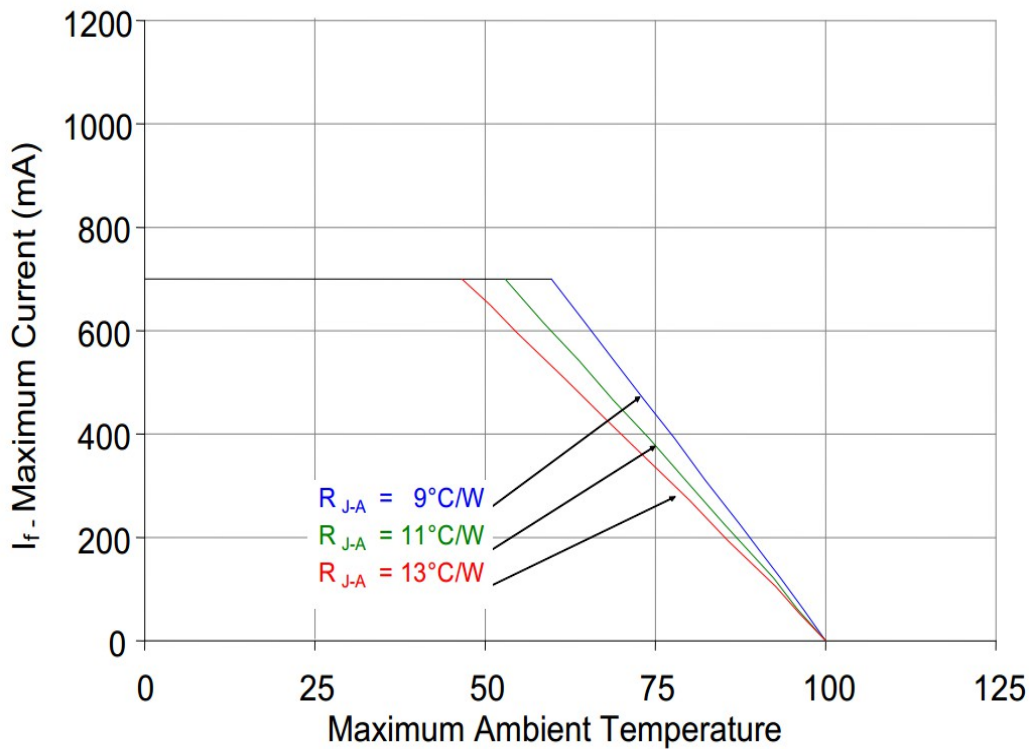
Typical Normalized Radiant Flux vs. Case Temperature.



Typical Peak Wavelength Shift over Temperature



Current Derating



1. R_{ΘJ-C} [Junction to Case Thermal Resistance] for the RSW-P03-365-0 is typically 4,2 K/W.
2. R_{ΘJ-A} [Junction to Ambient Thermal Resistance] = R_{ΘJ-C} + R_{ΘC-A} [Case to Ambient Thermal Resistance].

Notes:

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Technical modifications and errors reserved

