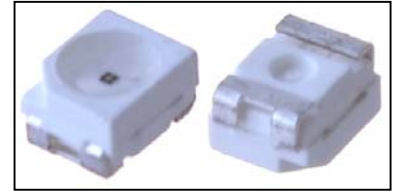




## SMT405R



### TECHNICAL DATA

Visible LED, SMT

InGaN

SMT405R is a InGaN LED mounted on the lead frame as TOP LED package, sealed with UV resistant resin for damp proof. On forward bias, it emits a radiation of typical 12.5 mW at a peak wavelength of 405 nm.

#### Specifications

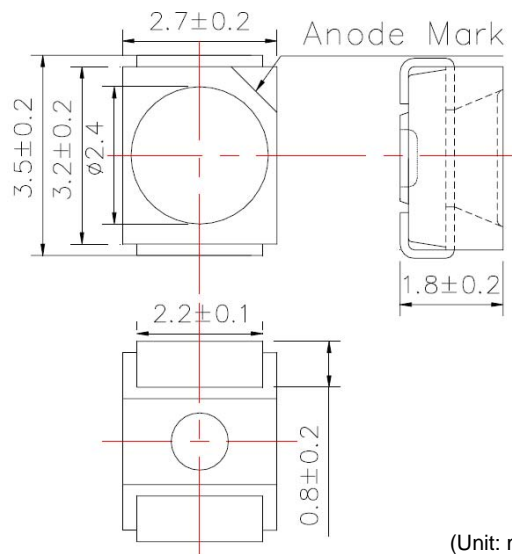
- Structure: InGaN
- Peak Wavelength: typ. 405 nm
- Optical Output Power: typ. 12.5 mW
- Package: PPA resin, UV resistant resin

#### Absolute Maximum Ratings ( $T_a=25^\circ\text{C}$ )

Item	Symbol	Value	Unit
Power Dissipation	$P_D$	240	mW
Forward Current	$I_F$	50	mA
Pulse Forward Current**	$I_{FP}$	100	mA
Reverse Voltage	$V_R$	5	V
Operating Temperature	$T_{opr}$	-20 ... +80	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-30 ... +80	$^\circ\text{C}$
Soldering Temperature *	$T_{sol}$	255	$^\circ\text{C}$

\* must be completed within 5 seconds

\*\* max duty cycle 1%, max puls width 10 $\mu\text{s}$



(Unit: mm)

#### Electro-Optical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	$V_F$	$I_F = 20 \text{ mA}$	-	3.5	4.0	V
Pulse Forward Voltage		$I_{FP} = 100 \text{ mA}$	-	4.9	-	
Total Radiated Power	$P_O$	$I_F = 20 \text{ mA}$	6.0	12.5	-	mW
		$I_{FP} = 100 \text{ mA}$	-	50	-	
Radiation Intensity	$I_E$	$I_F = 20 \text{ mA}$	-	2.6	-	mW/sr
Brightness	$I_V$	$I_F = 20 \text{ mA}$	-	10	-	mcd
Peak Wavelength	$\lambda_P$	$I_F = 20 \text{ mA}$	395	405	415	nm
Half Width	$\Delta\lambda$	$I_F = 20 \text{ mA}$	-	15	-	nm
Viewing Half Angle	$\Theta_{1/2}$	$I_F = 20 \text{ mA}$	-	$\pm 55$	-	deg.

Total Radiated Power is measured by S3584-08

Radiated Intensity is measured by Ando Optical Multi Meter AQ2140 & AQ2741

Brighness is measured by Tektronix J-16

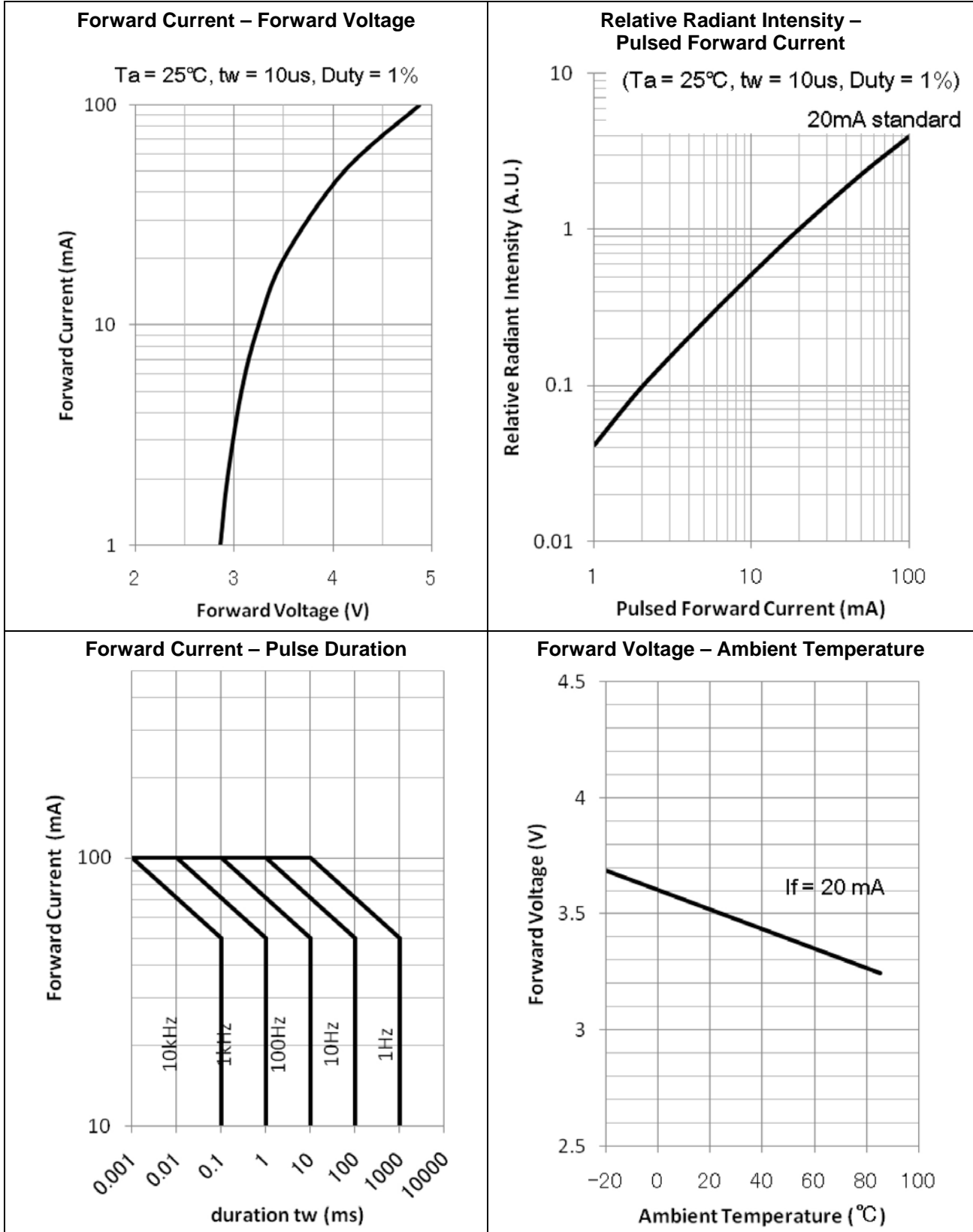
#### Notes

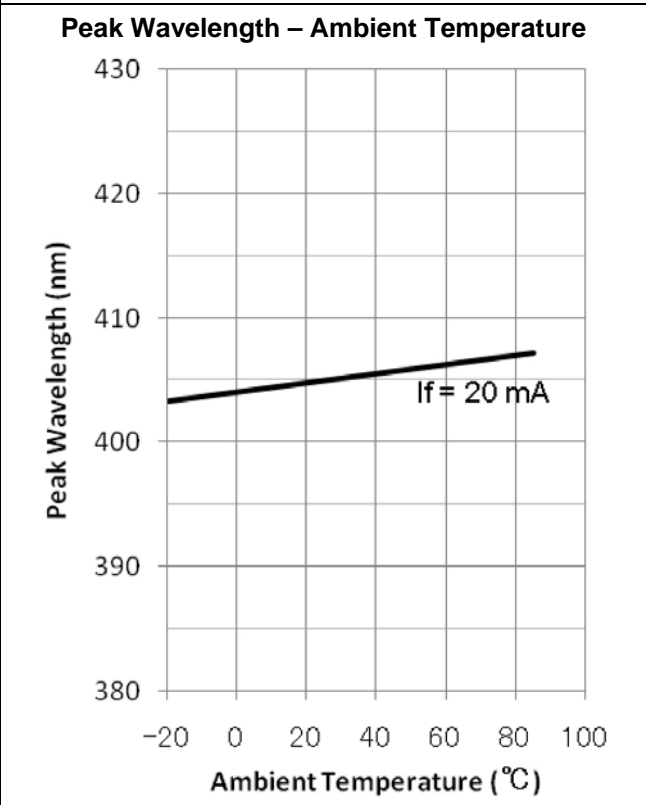
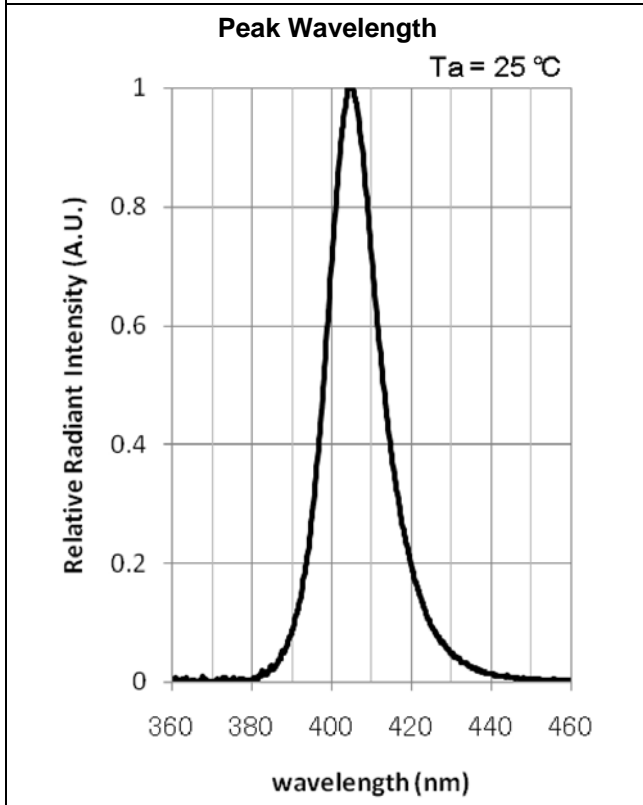
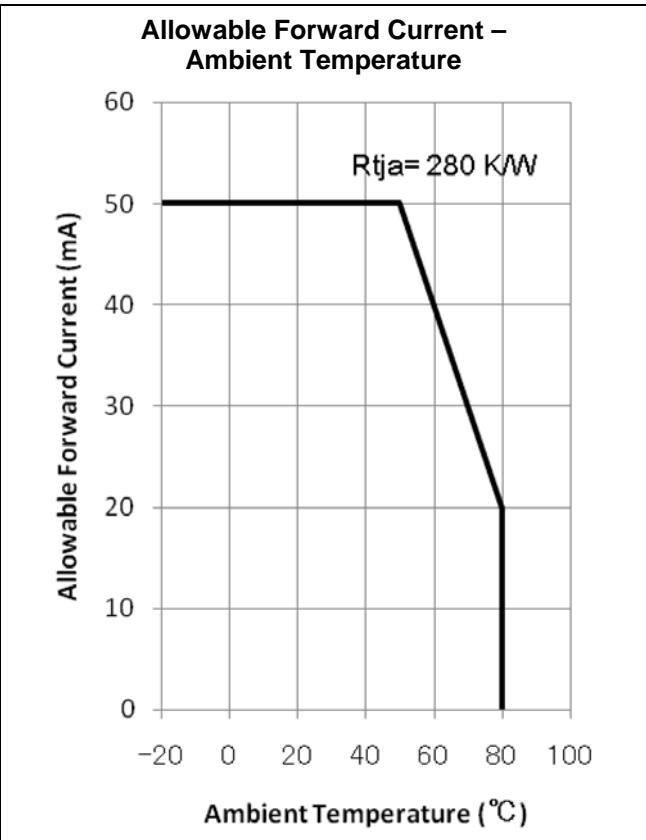
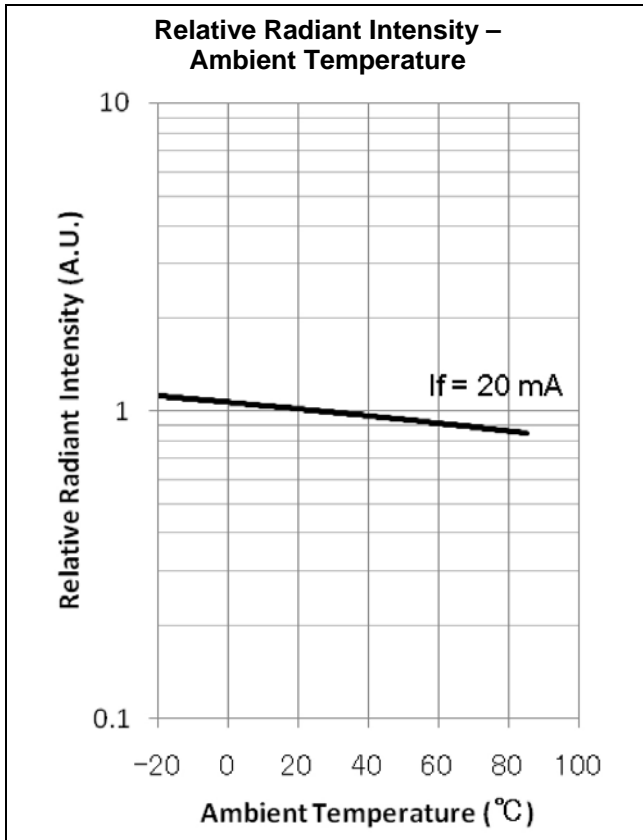
- Do not view directly into the emitting area of the LED during operation!
- The above specifications are for reference purpose only and subjected to change without prior notice.





## Typical Performance Curves



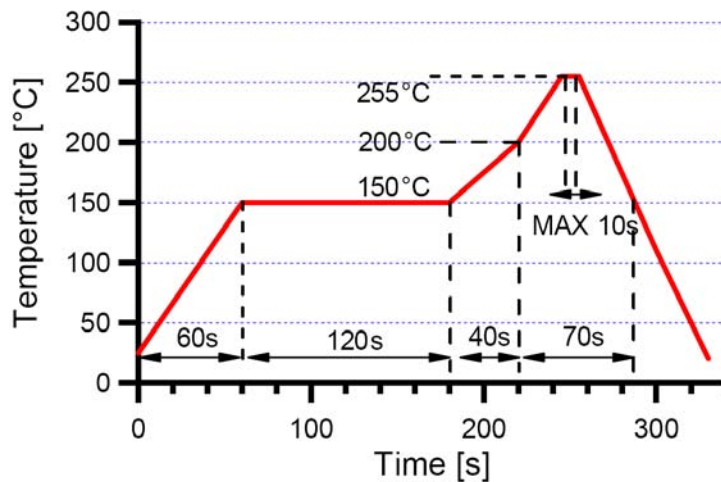




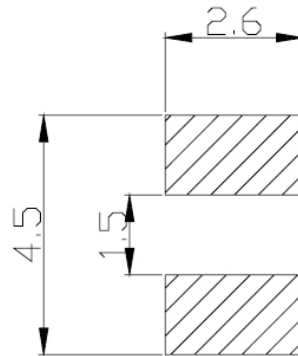
## Soldering Conditions

- DO NOT apply any stress to the lead particularly when heat.
- After soldering the LEDs should be protected from mechanical shock or vibration until the LEDs return to room temperature.
- When it is necessary to clamp the LEDs to prevent soldering failure, it is important to minimize the mechanical stress on the LEDs.

Temperature Profile



## PCB Footprint Layout



(Unit: mm)

## Static Electricity

- LEDs are very sensitive to Static Electricity and surge voltage. It is recommended to always wear a wrist band or an anti-electrostatic glove when handling the LEDs.
- All devices, equipment and machinery must be grounded properly. It is recommended that precautions should be taken against surge voltage to the equipment that mounts the LEDs.