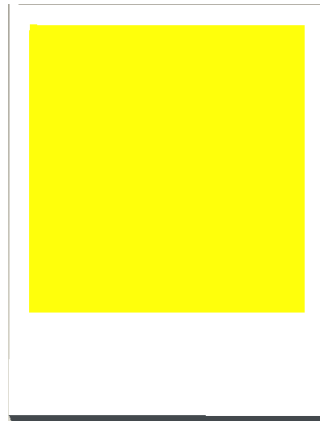




AUTOMOTIVE MODULE



## SPECIFICATION



Part No.: N201611V3

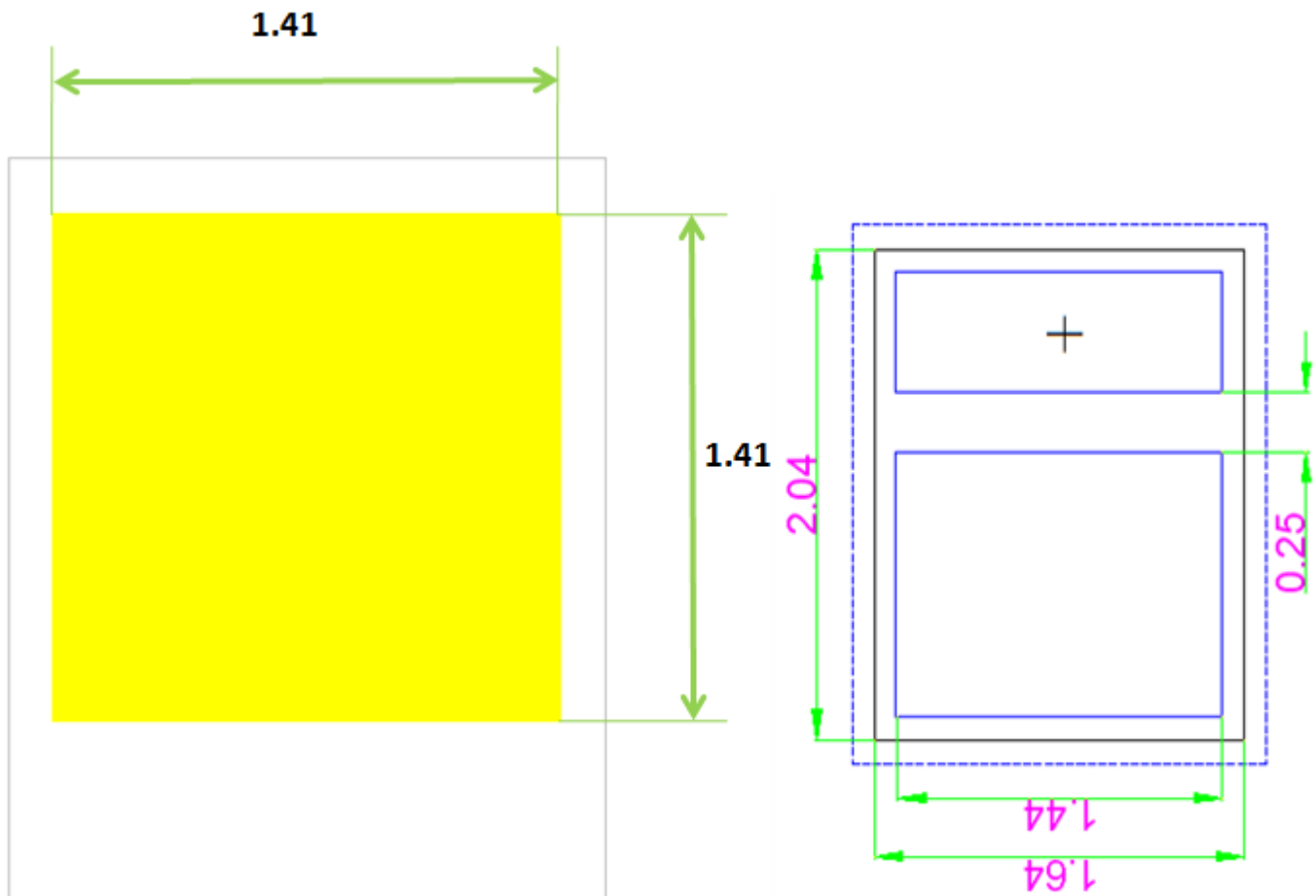
Description: White DayLighting LED

**◆Features:**

- Lighting Color : White
- External Dimensions : 2.0 x 1.6 x 0.78 (L x W x H) [mm]
- Chip Material: InGaN
- Viewing Angle: 120°

**◆Applications:**

\*Automotive lighting

**◆Package Dimensions :**

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

Parameter	Symbol	Rating	Unit
Power Dissipation	$P_D$	4	W
Forward Current	$I_F$	1000	mA
Peak Forward Current*	$I_{FP}$	1500	mA
Operation Temperature Range	$T_{opr}$	-40 ~ +125	$^{\circ}\text{C}$
Storage Temperature Range	$T_{stg}$	-40 ~ +125	$^{\circ}\text{C}$
Junction temperature	$T_j$	135	$^{\circ}\text{C}$
ESD Sensitivity (HBM)	--	8000	V

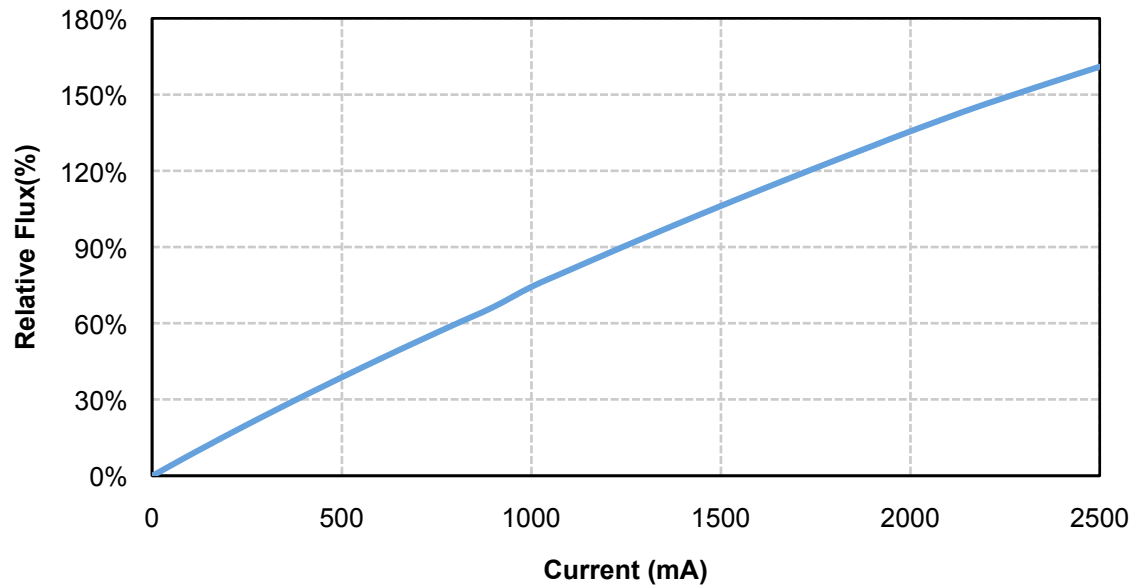
**Note:** LEDs are not designed to be driven in reverse voltage.

### ◆ Electrical-Optical Characteristics ( $T_A=25^{\circ}\text{C}$ )

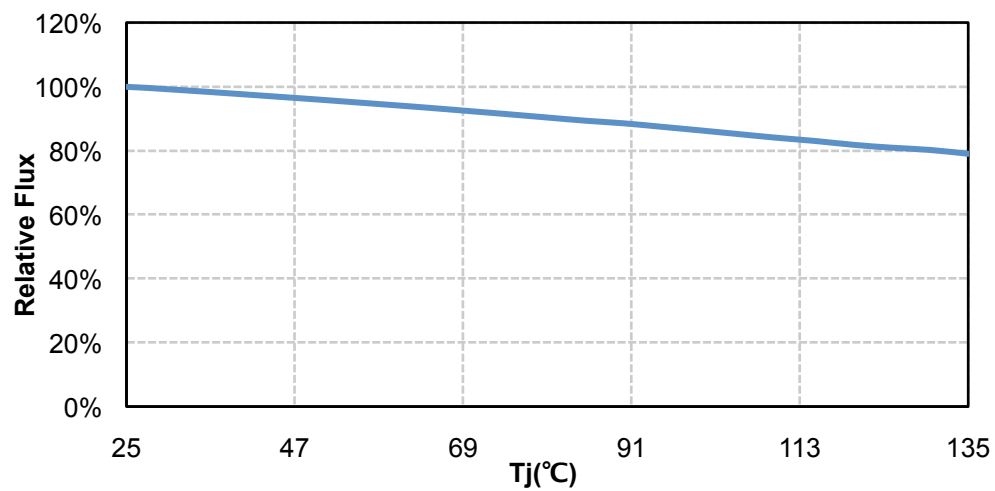
Parameter	Test Condition	Symbol	Min	Typ	Max	Unit
Forward Voltage	$I_F=1500\text{mA}$	$V_F$	---	3.2	---	V
View Angle	$I_F=1500\text{mA}$	$2\theta_{1/2}$	---	120	---	deg.
Luminous flux	$I_F=1500\text{mA}$	$\phi_v$	400	---	450	lm
Color Temperature	$I_F=1500\text{mA}$	CCT	5000	5500	6000	K
Color Rendering index	$I_F=1500\text{mA}$	$R_a$	---	70	---	---
Thermal resistance junction to board	$I_F=1500\text{mA}$	$R_{th\ J-B}$			2	$^{\circ}\text{C/W}$

## Typical Electrical/Optical Characteristic Curves ( $I_f=1500\text{mA}; T_A=25^\circ\text{C}$ )

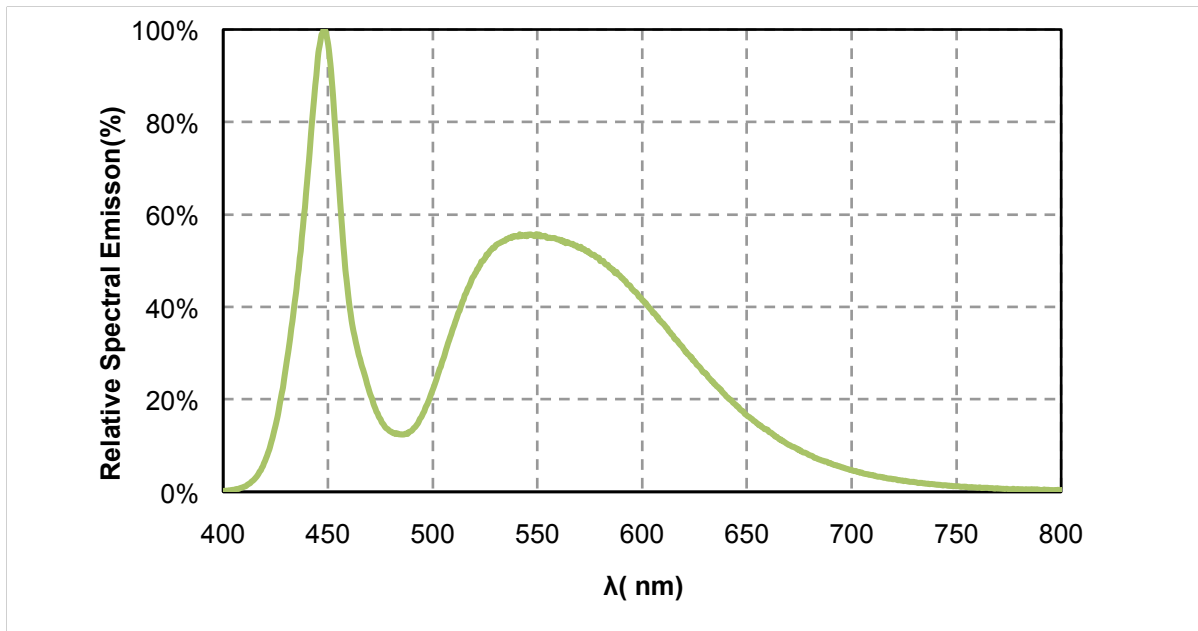
Relative Flux vs Forward Current ( Testing time 20ms ,  $T=25^\circ\text{C}$  )



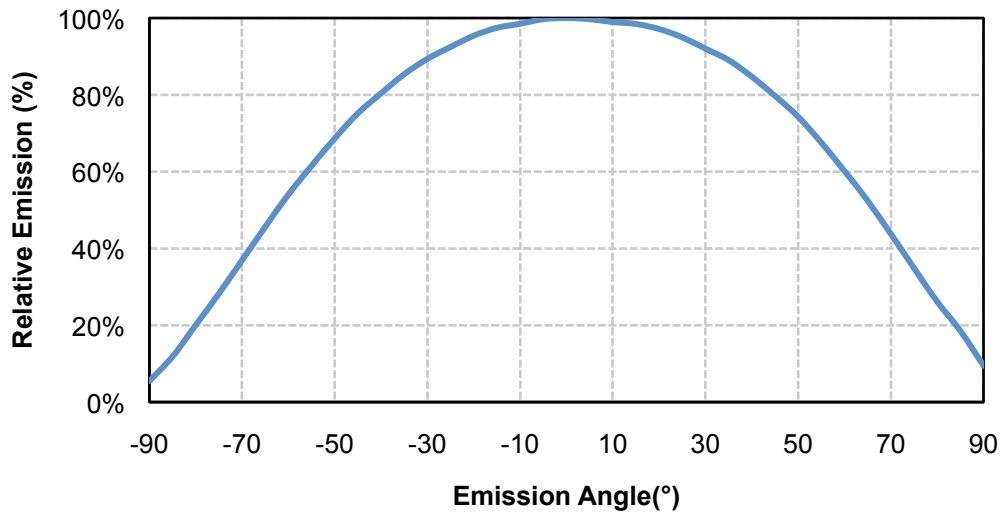
Relative Flux vs  $T_j$



Relative Spectral Emission vs Wavelength



Radiation Characteristics



## 1. Test Items And Results

Item	Test conditions	Note	Number of Damaged
Reflow	Temp:260°Cmax T=10 sec	2 time	0/30
Thermal Shock	-40~100°C 30min, 10s, 30min	500cycles	0/30
High Temperature High Humidity Storage	Ta=60°C,RH=90%	300hrs	0/30
Steady State Operating life	Ta=25°C,IF=1500mA	1000hrs	0/30
Steady State Operating life of High Humidity Heat	Ta=85°C RH=85%,IF=1500mA	1000hrs	0/30
High Temperature Storage	Ta=100°C	1000HRS	0/30
Low Temperature Storage	Ta=-40°C	1000HRS	0/30

## 2. Criteria for Judging The Damage

Item	Symbol	Test Conditions	Criteria for Judgment	
			Min.	Max.
Forward Voltage	VF	IF =1500mA	---	Initial Data ×1.2
Luminous Flux	$\phi_v$	IF =1500mA	Initial Data × 0.8	---