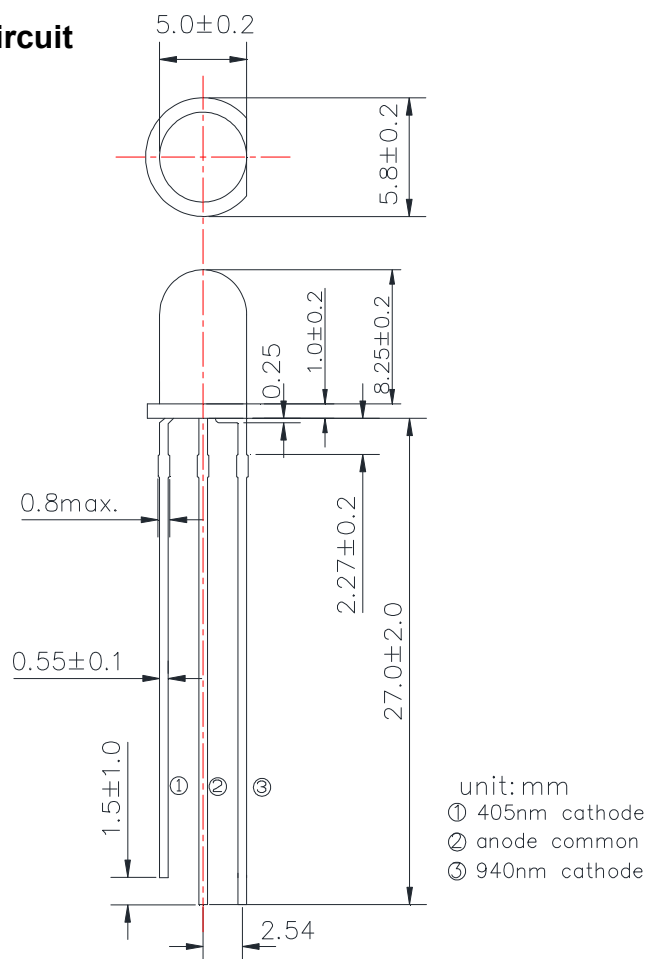


# L405/940DR-03

Multi Wavelength LED

## Outline and Internal Circuit



## Features

- Chip Material : InGaN(405nm) , AlGaAs(940nm)
- Chip Dimension : 350um \* 350um
- Number of Chips : 2pcs
- Peak Wavelength : 405 / 940nm typ.
- Package Type :  $\phi 5$ mm clear molding
- Lead Frame : Soldered (Lead Free)
- Lens : UV Resin

## 405nm

## Absolute Maximum Ratings (Tc=25°C)

| Item                  | Symbol | Ratings    | Unit |
|-----------------------|--------|------------|------|
| Power Dissipation     | PD     | 200        | mW   |
| Forward Current       | IF     | 50         | mA   |
| Pulse Forward Current | IFP    | 100        | mA   |
| Reverse Voltage       | VR     | 5          | V    |
| Thermal Resistance    | Rthjs  | 300        | K/W  |
| Junction Temperature  | Tj     | 120        | °C   |
| Operating Temperature | Topr   | -20 ~ +100 | °C   |
| Storage Temperature   | Tstg   | -20 ~ +100 | °C   |
| Soldering Temperature | TSOL   | 265        | °C   |

‡Pulse Forward Current condition : Duty 1% and Pulse Width=10us.

‡Soldering condition : Soldering condition must be completed with 3 seconds at 265°C.

## Optical and Electrical Characteristics (Tc=25°C)

(\*: 100% testing, \*\*: reference value)

| Parameter            | Symbol | Min | Typ | Max | Unit | Test Condition |
|----------------------|--------|-----|-----|-----|------|----------------|
| Forward Voltage      | VF     |     | 3.3 | 4.0 | V    | IF=20mA*       |
|                      | VFP    |     | 3.7 |     |      | IFP=100mA**    |
| Reverse Current      | IR     |     |     | 10  | uA   | VR=5V*         |
| Total Radiated Power | PO     | 22  | 32  |     | mW   | IF=20mA*       |
|                      |        |     | 120 |     |      | IFP=100mA**    |
| Luminous Flux        | Φv     |     | 150 |     | mlm  | IF=20mA**      |
| Peak Wavelength      | λp     | 400 |     | 410 | nm   | IF=20mA*       |
| Dominant Wavelength  | λD     |     | 420 |     | nm   | IF=20mA**      |
| Half Width           | Δλ     |     | 17  |     | nm   | IF=20mA**      |
| Rise Time            | tr     |     | 10  |     | ns   | IF=20mA**      |
| Fall Time            | tf     |     | 10  |     | ns   | IF=20mA**      |

‡ Radiated Power is measured by S3584-08.

**940nm****Absolute Maximum Ratings (Tc=25°C)**

| Item                  | Symbol | Ratings    | Unit |
|-----------------------|--------|------------|------|
| Power Dissipation     | PD     | 170        | mW   |
| Forward Current       | IF     | 100        | mA   |
| Pulse Forward Current | IFP    | 1000       | mA   |
| Reverse Voltage       | VR     | 5          | V    |
| Thermal Resistance    | Rthjs  | 300        | K/W  |
| Junction Temperature  | Tj     | 120        | °C   |
| Operating Temperature | Topr   | -20 ~ +100 | °C   |
| Storage Temperature   | Tstg   | -20 ~ +100 | °C   |
| Soldering Temperature | TSOL   | 265        | °C   |

‡Pulse Forward Current condition : Duty 1% and Pulse Width=10us.

‡Soldering condition : Soldering condition must be completed with 3 seconds at 265°C.

**Optical and Electrical Characteristics (Tc=25°C)**

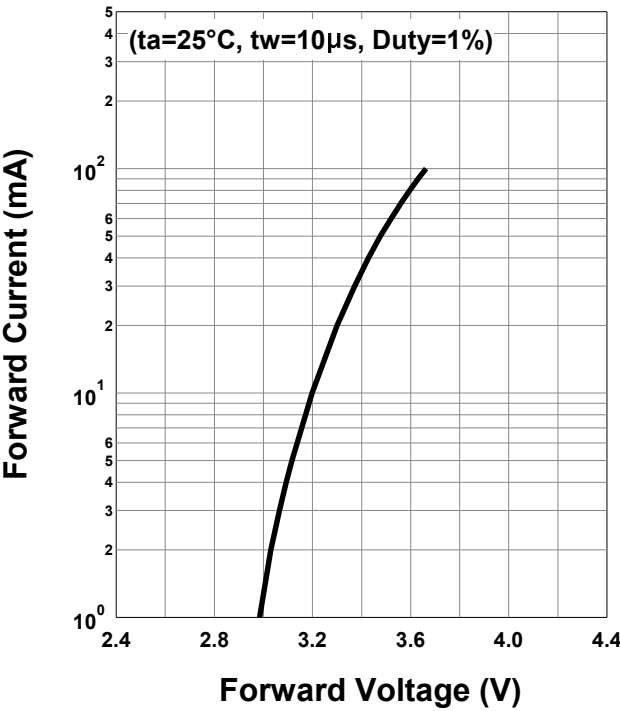
(\*: 100% testing, \*\*: reference value)

| Parameter            | Symbol | Min | Typ | Max | Unit | Test Condition |
|----------------------|--------|-----|-----|-----|------|----------------|
| Forward Voltage      | VF     |     | 1.3 | 1.7 | V    | IF=20mA*       |
|                      | VFP    |     | 2.1 |     |      | IFP=1A**       |
| Reverse Current      | IR     |     |     | 10  | uA   | VR=5V*         |
| Total Radiated Power | PO     | 8.0 | 12  |     | mW   | IF=20mA*       |
|                      |        |     | 500 |     |      | IFP=1A**       |
| Peak Wavelength      | λp     | 930 |     | 955 | nm   | IF=20mA*       |
| Half Width           | Δλ     |     | 40  |     | nm   | IF=20mA**      |
| Rise Time            | tr     |     | 10  |     | ns   | IF=20mA**      |
| Fall Time            | tf     |     | 15  |     | ns   | IF=20mA**      |

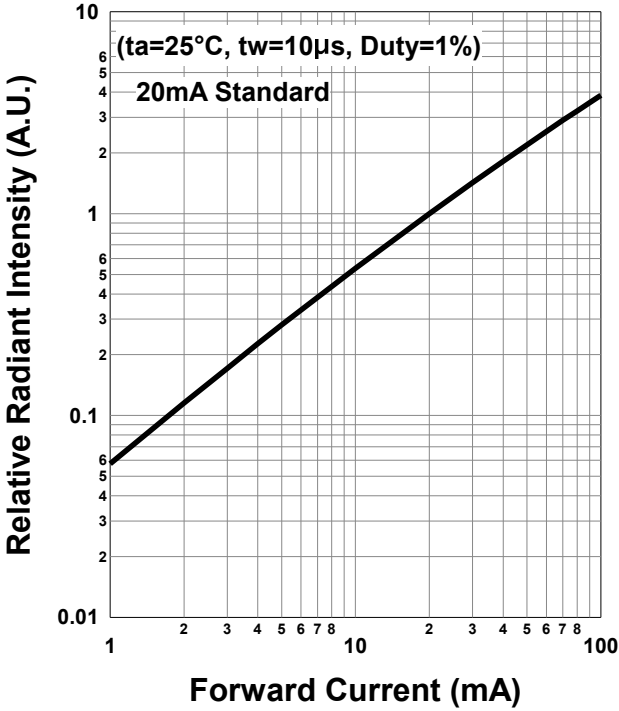
‡ Radiated Power is measured by S3584-08.

Typical Characteristic  
Curves 405nm

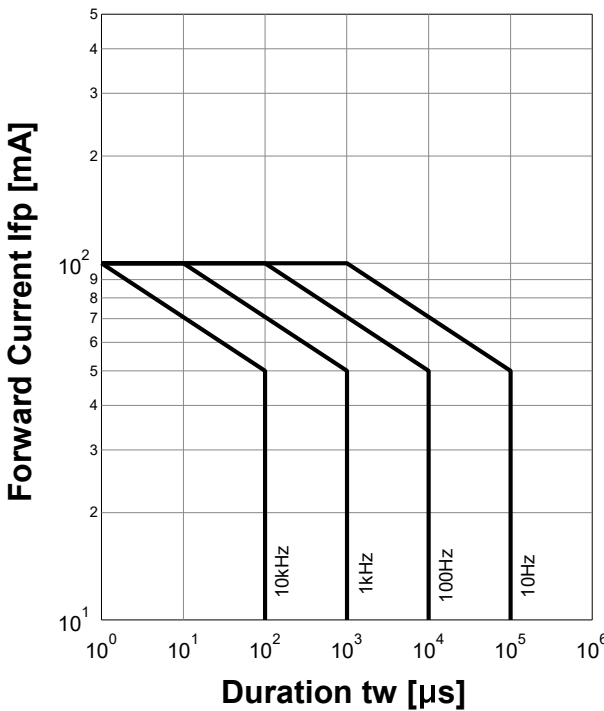
Forward Current - Forward Voltage



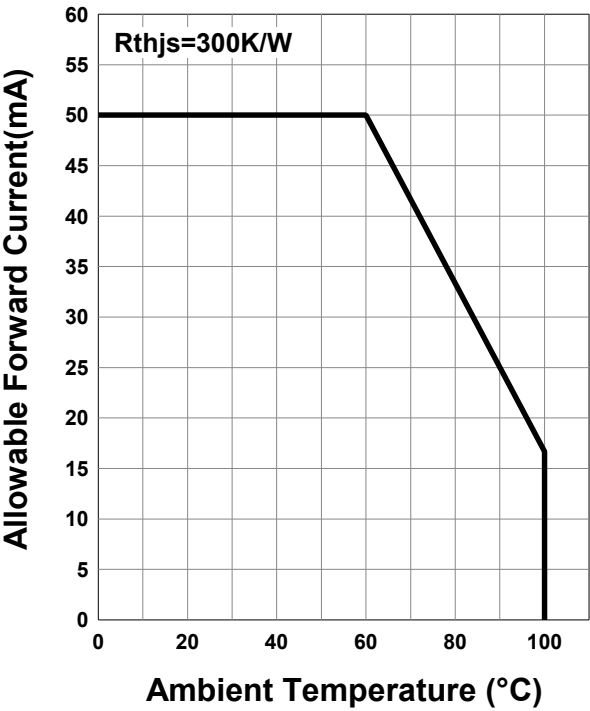
Relative Radiant Intensity -  
Forward Current



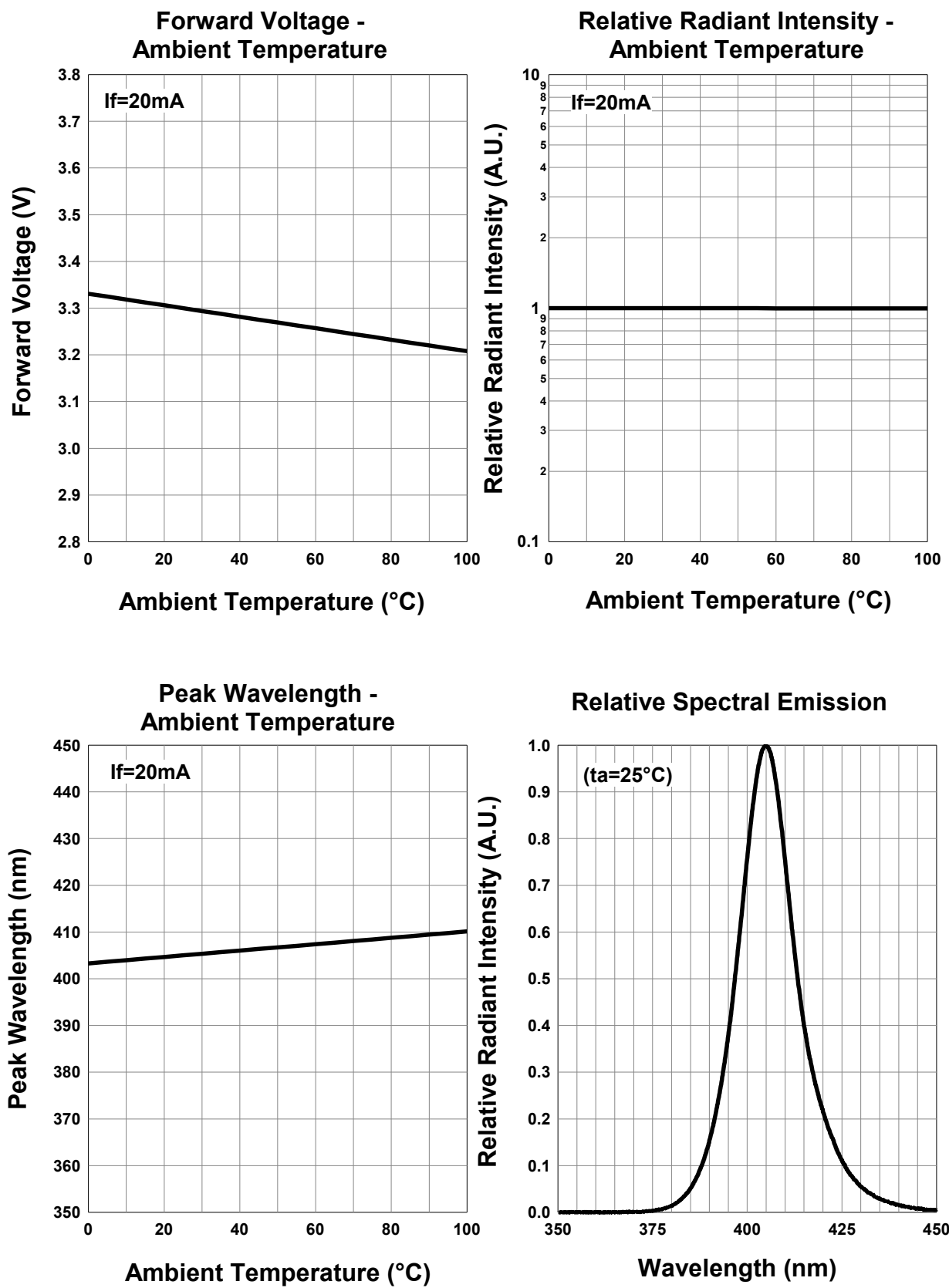
Forward Current - Pulse Duration



Allowable Forward Current -  
Ambient Temperature

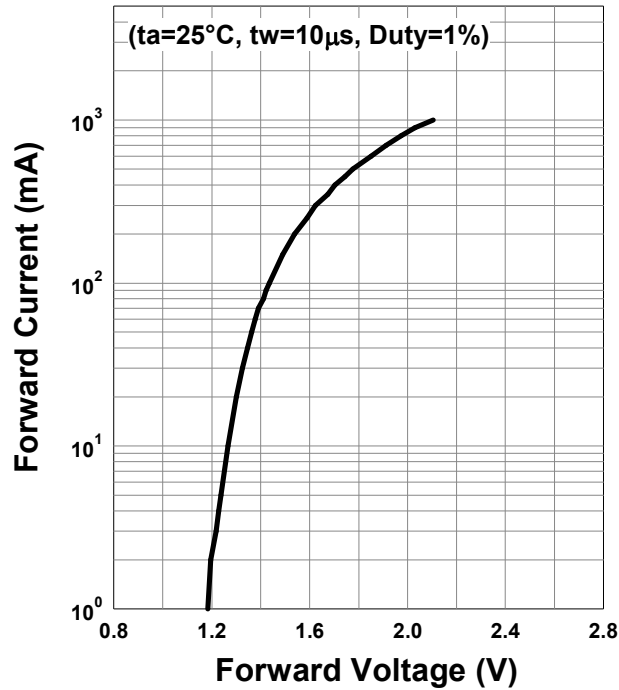


405nm

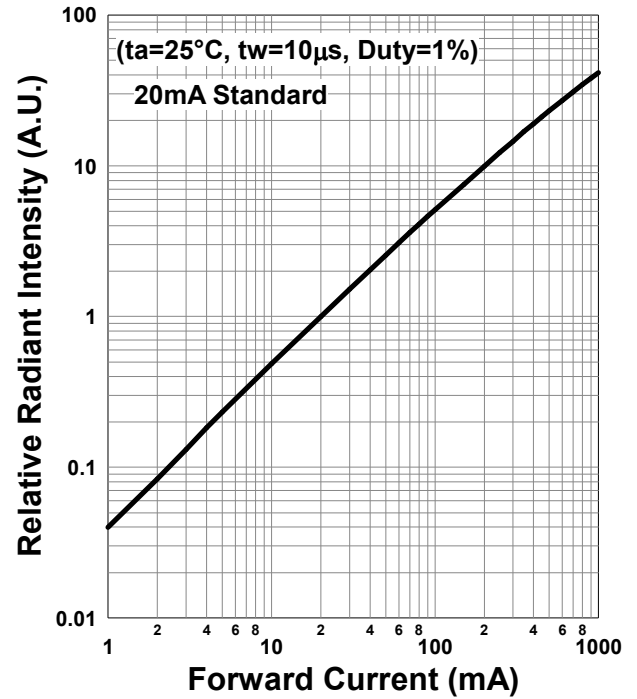


**Typical Characteristic  
Curves 940nm**

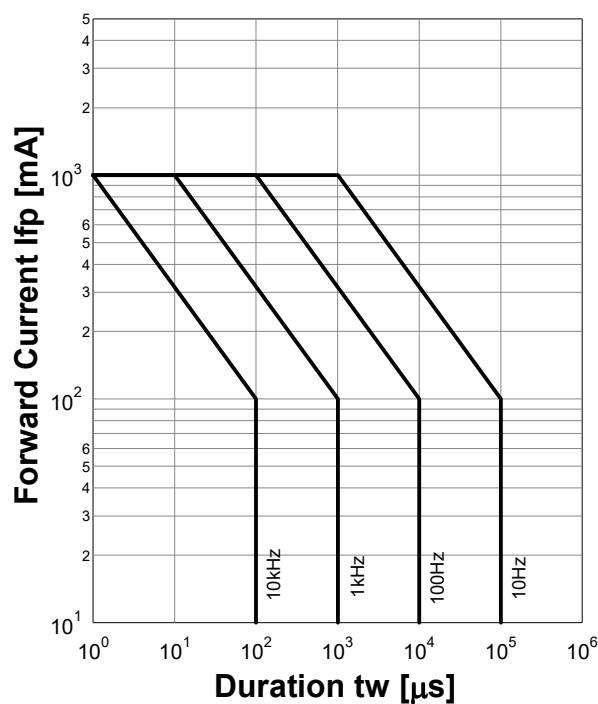
**Forward Current - Forward Voltage**



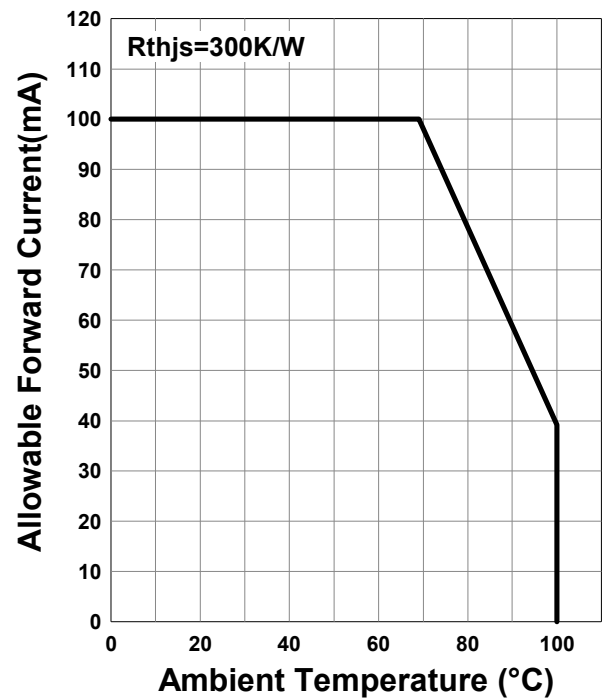
**Relative Radiant Intensity -  
Forward Current**



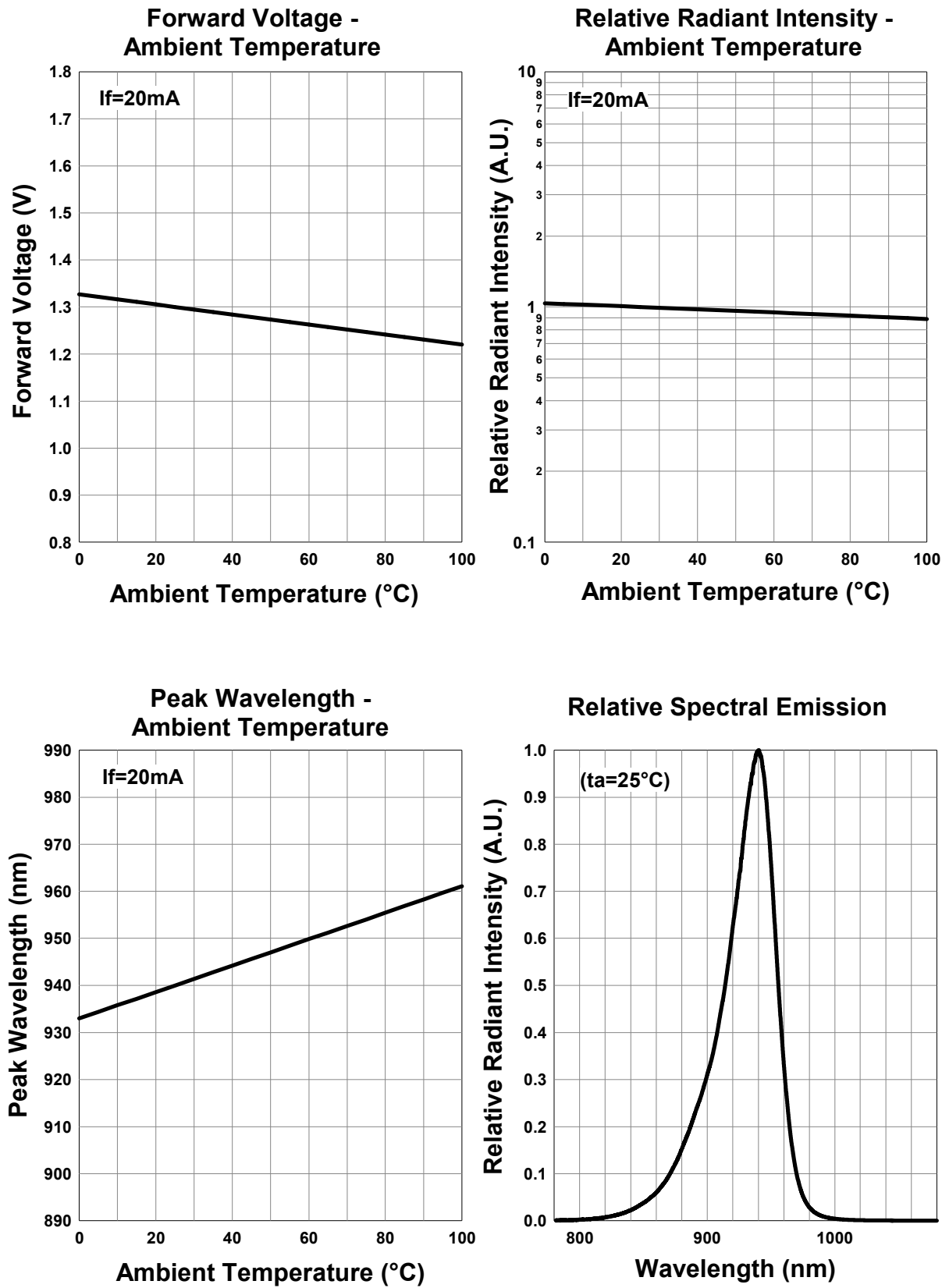
**Forward Current - Pulse Duration**



**Allowable Forward Current -  
Ambient Temperature**



940nm



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