



### ■ Absolute Maximum Ratings

Ta = 25°C

|                      |      | Blue     | Blue Green | Green    | Yellow   | Orange   | Red      | Unit  |
|----------------------|------|----------|------------|----------|----------|----------|----------|-------|
|                      |      | DB       | DC         | DG       | FY       | FA       | FR       |       |
| Power Dissipation    | Pd   | 100      | 100        | 100      | 125      | 125      | 125      | mW    |
| Forward Current      | IF   | 25       | 25         | 25       | 50       | 50       | 50       | mA    |
| Peak Forward Current | IFM  | 60       | 60         | 60       | 200      | 200      | 200      | mA    |
| Reverse Voltage      | VR   | 5        | 5          | 5        | 5        | 5        | 5        | V     |
| Operating Temp.      | Topr | -40~+85  | -40~+85    | -40~+85  | -40~+85  | -40~+85  | -40~+85  | °C    |
| Storage Temp.        | Tstg | -40~+100 | -40~+100   | -40~+100 | -40~+100 | -40~+100 | -40~+100 | °C    |
| Derating *           | ΔIF  | 0.33     | 0.33       | 0.33     | 0.67     | 0.67     | 0.67     | mA/°C |

\* The current derating for operation applies when temperature is above 25°C.

• IFM Condition : tw ≤ 1ms, Duty ≤ 1/20

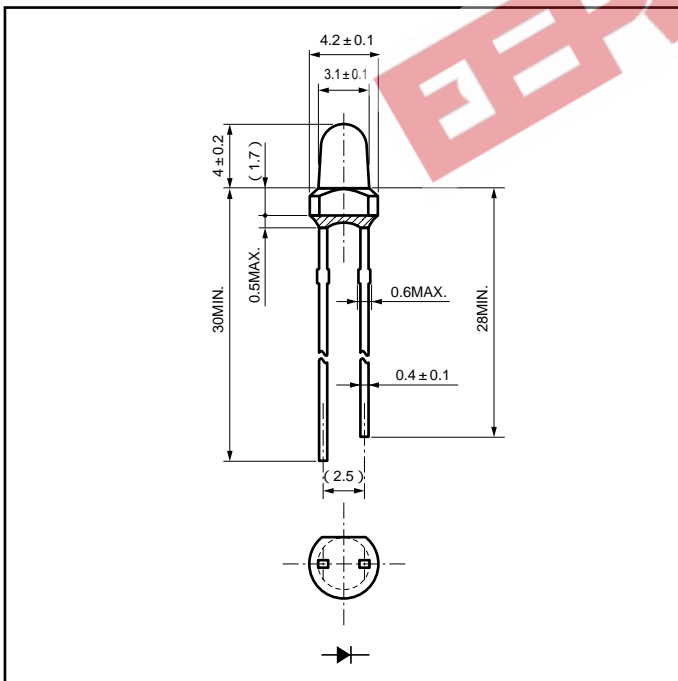
### ■ Electro-Optical Characteristics

Ta = 25°C

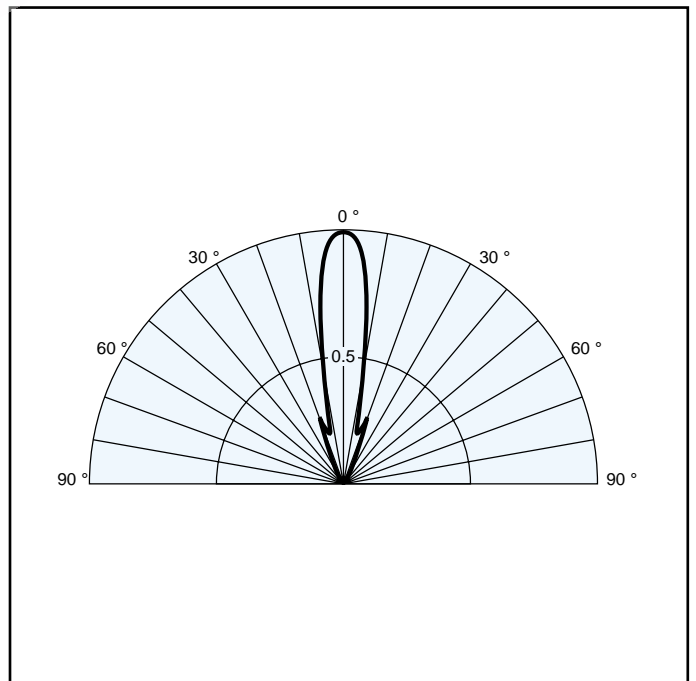
| Part No. | Chip      |               | Lens          | Luminous Intensity |     |       | Wavelength |     |     |    | Forward Voltage |     |     | Reverse Current |     |     |
|----------|-----------|---------------|---------------|--------------------|-----|-------|------------|-----|-----|----|-----------------|-----|-----|-----------------|-----|-----|
|          | Material  | Emitted Color |               | MIN                | TYP | IF    | λ d        | λ p | Δ λ |    | VF              |     |     | MAX             | VR  |     |
|          |           |               |               |                    |     |       |            |     | TYP | IF | TYP             | MAX | IF  |                 |     | MAX |
| DB3803X  | InGaN/SiC | Blue          | Water Clear   | Clear              | 250 | 500   | 20         | 470 | 467 | 26 | 20              | 3.5 | 4.0 | 20              | 100 | 5   |
| DC3803X  | InGaN/SiC | Blue Green    | Water Clear   |                    | 600 | 1,200 | 20         | 505 | 502 | 30 | 20              | 3.5 | 4.0 | 20              | 100 | 5   |
| DG3803X  | InGaN/SiC | Green         | Water Clear   |                    | 600 | 1,200 | 20         | 525 | 522 | 30 | 20              | 3.5 | 4.0 | 20              | 100 | 5   |
| FY3863X  | AlGaInP   | Yellow        | Pastel Yellow |                    | 360 | 720   | 20         | 590 | 592 | 15 | 20              | 1.9 | 2.4 | 20              | 100 | 5   |
| FA3863X  | AlGaInP   | Orange        | Pastel Orange |                    | 400 | 800   | 20         | 605 | 609 | 15 | 20              | 1.9 | 2.4 | 20              | 100 | 5   |
| FR3863X  | AlGaInP   | Red           | Pastel Red    |                    | 320 | 640   | 20         | 626 | 635 | 15 | 20              | 1.9 | 2.4 | 20              | 100 | 5   |
| Units    |           |               |               | mcd                | mcd | mA    | nm         | nm  | nm  | mA | V               | V   | mA  | μA              | V   |     |

### ■ Package Dimensions

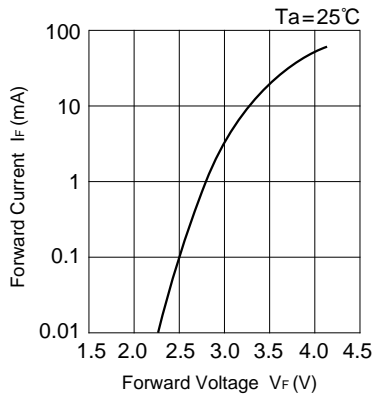
Unit : mm



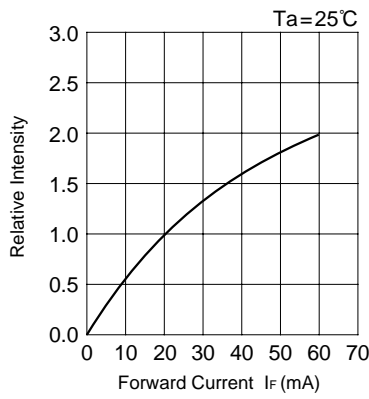
### ■ Spatial Distribution



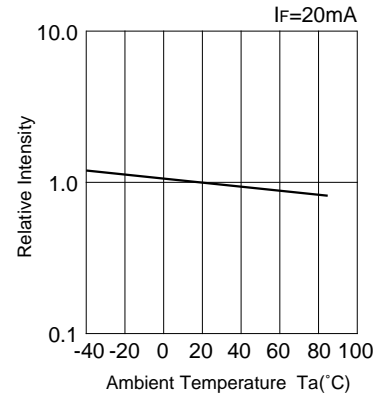
■ Forward Voltage vs. Forward Current



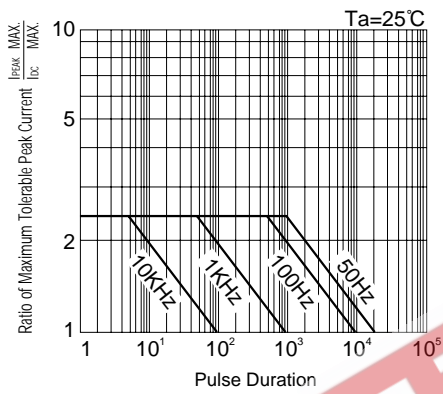
■ Forward Current vs. Relative Intensity



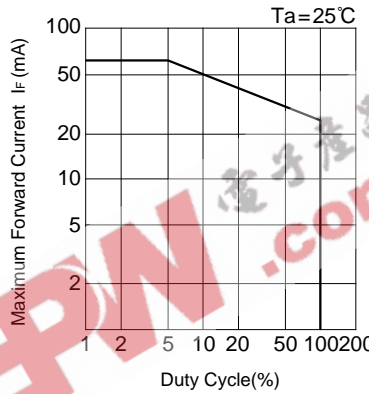
■ Ambient Temperature vs. Relative Intensity



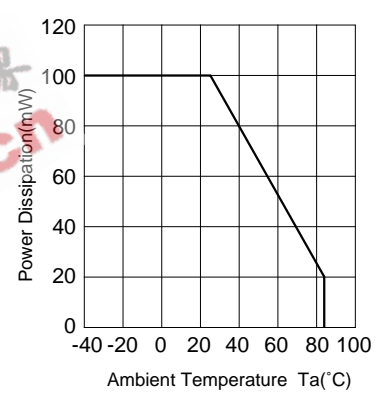
■ Pulse Duration vs. Maximum Tolerable Peak Current



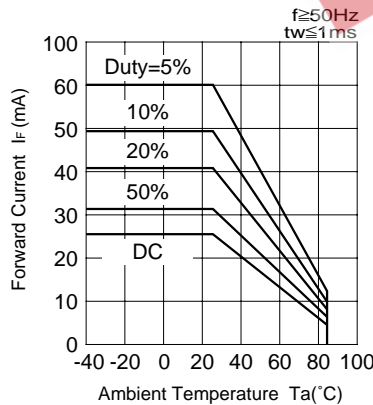
■ Duty Cycle vs. Maximum Forward Current



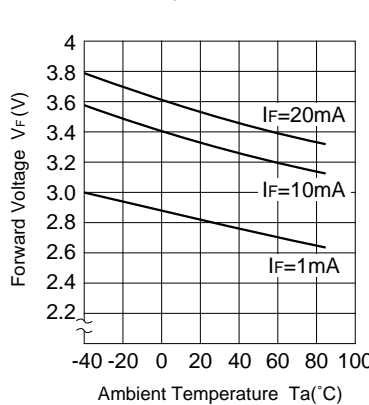
■ Power Dissipation vs. Ambient Temperature



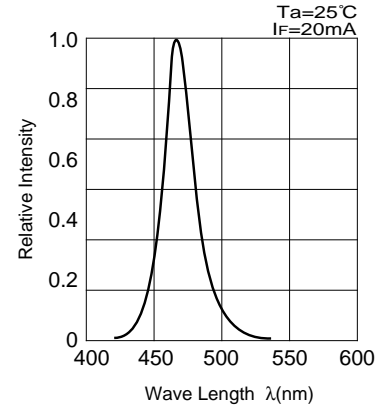
■ Ambient Temperature vs. Maximum Forward Current



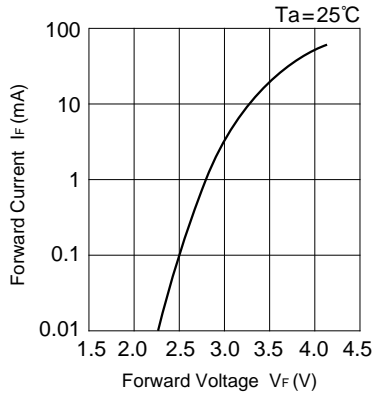
■ Forward Voltage vs. Ambient Temperature



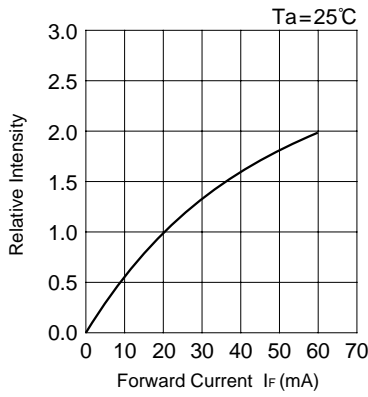
■ Spectral Distribution



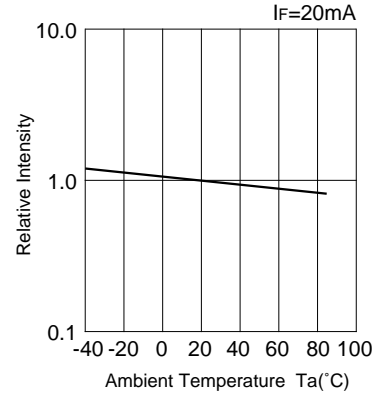
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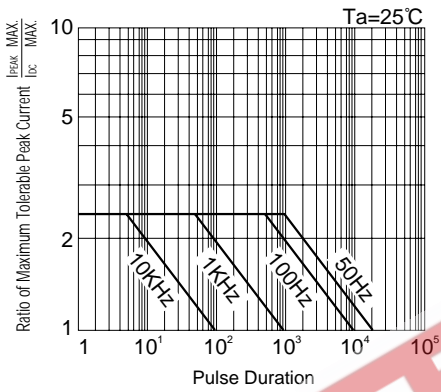
■ Forward Current vs. Relative Intensity



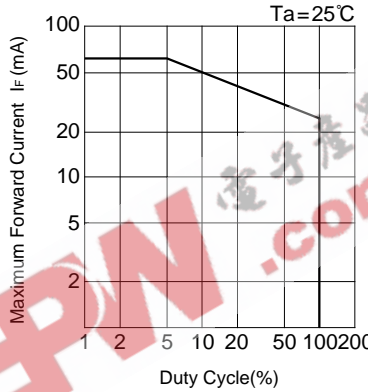
■ Ambient Temperature vs. Relative Intensity



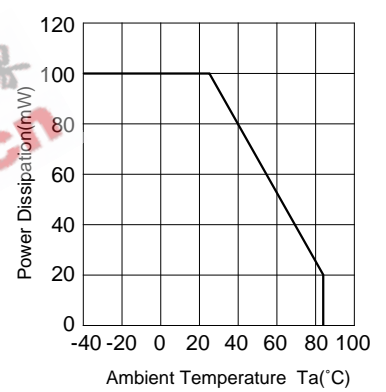
■ Pulse Duration vs. Maximum Tolerable Peak Current



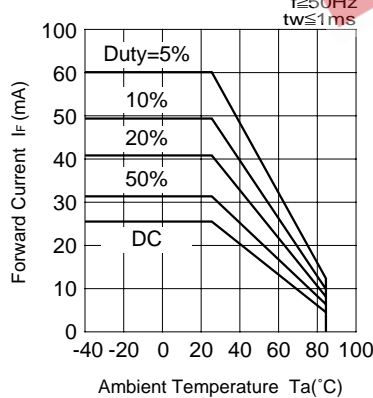
■ Duty Cycle vs. Maximum Forward Current



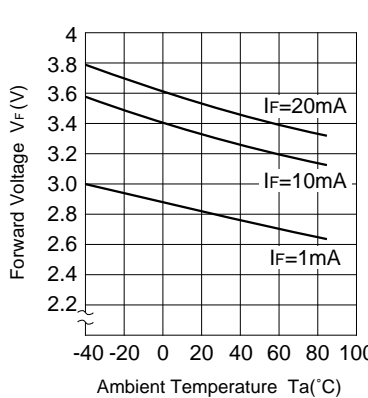
■ Power Dissipation vs. Ambient Temperature



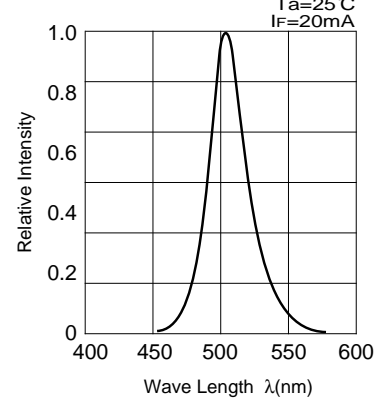
■ Ambient Temperature vs. Maximum Forward Current



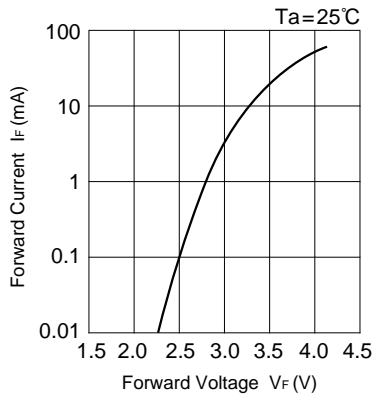
■ Forward Voltage vs. Ambient Temperature



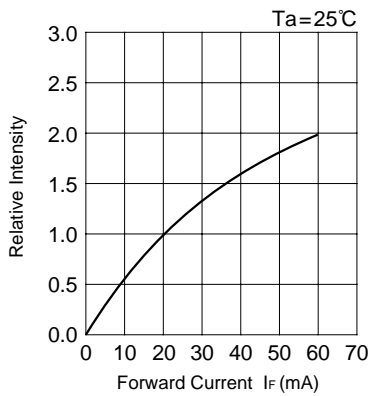
■ Spectral Distribution



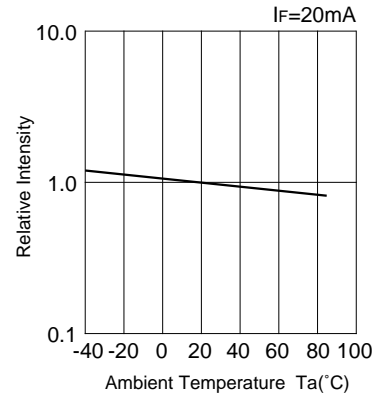
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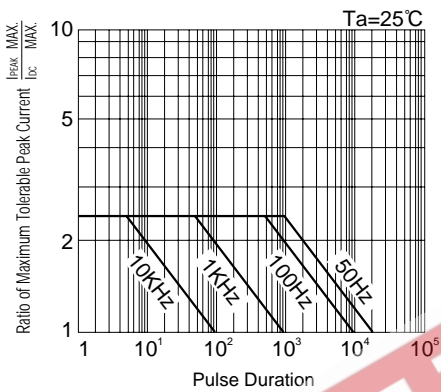
■ Forward Current vs. Relative Intensity



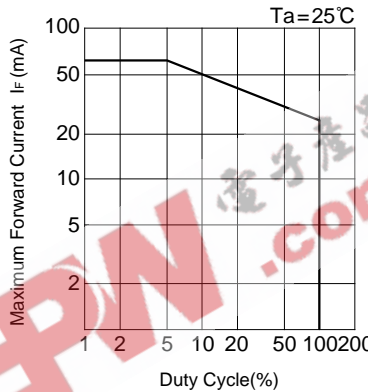
■ Ambient Temperature vs. Relative Intensity



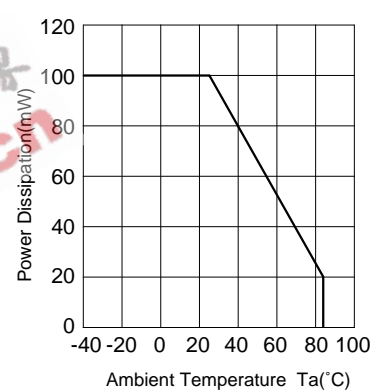
■ Pulse Duration vs. Maximum Tolerable Peak Current



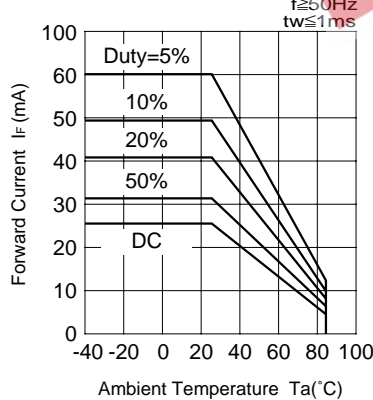
■ Duty Cycle vs. Maximum Forward Current



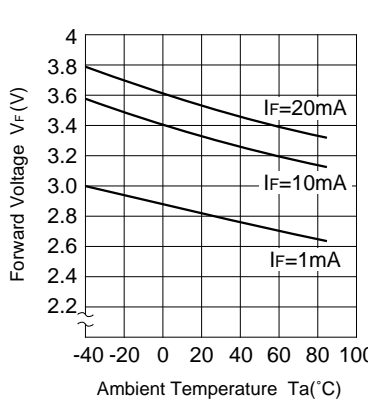
■ Power Dissipation vs. Ambient Temperature



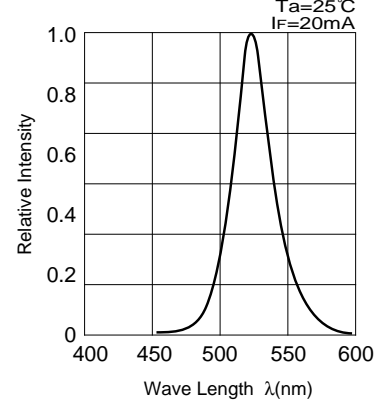
■ Ambient Temperature vs. Maximum Forward Current



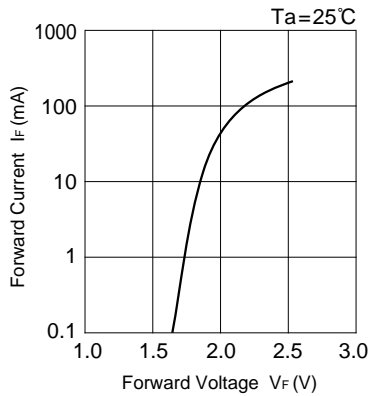
■ Forward Voltage vs. Ambient Temperature



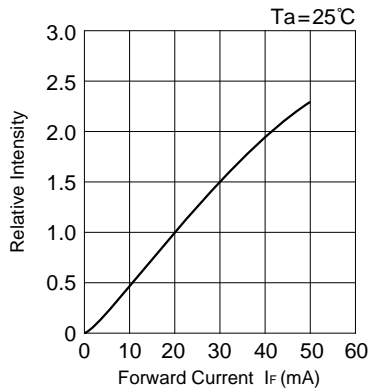
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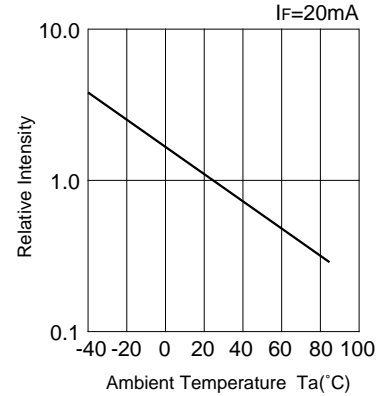
■ Forward Voltage vs. Forward Current



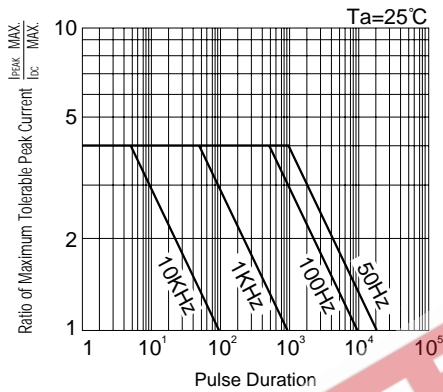
■ Forward Current vs. Relative Intensity



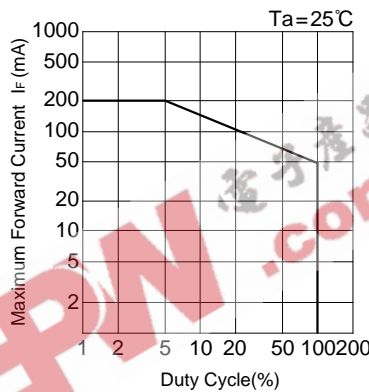
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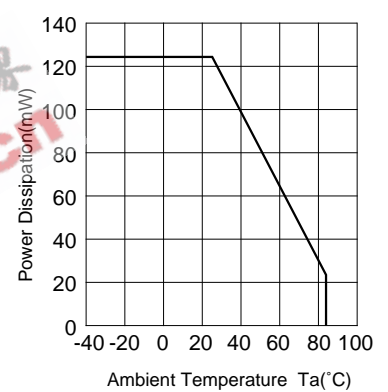
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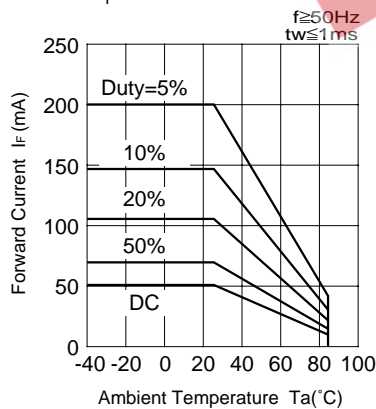
■ Duty Cycle vs. Maximum Forward Current



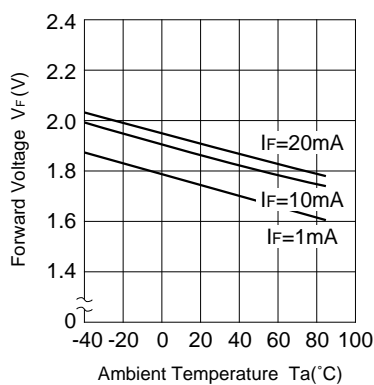
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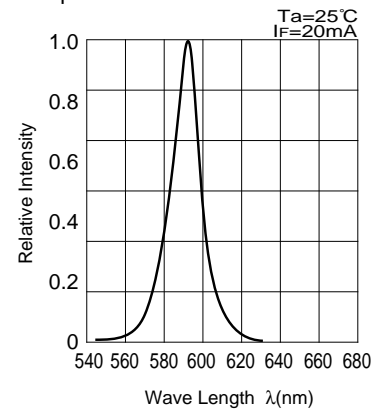
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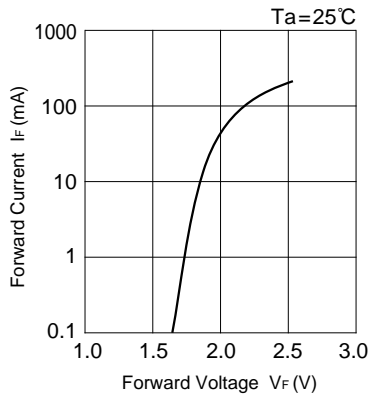
■ Forward Voltage vs. Ambient Temperature



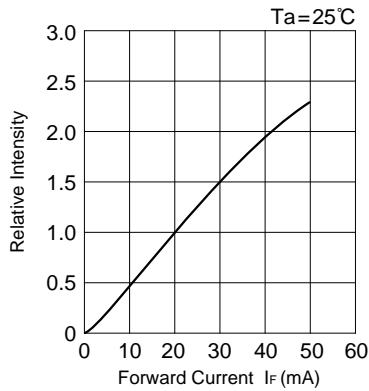
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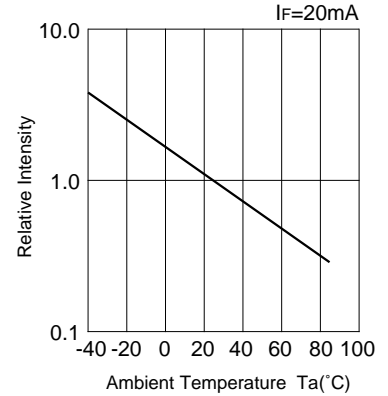
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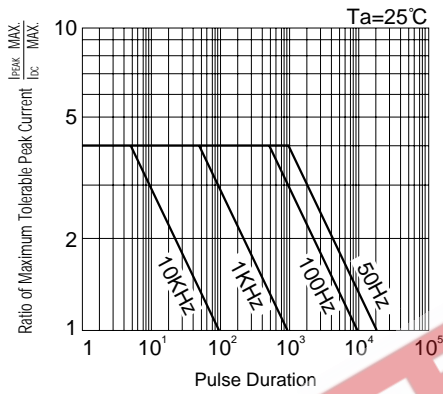
■ Forward Current vs. Relative Intensity



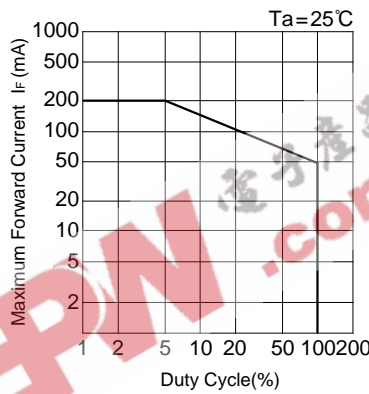
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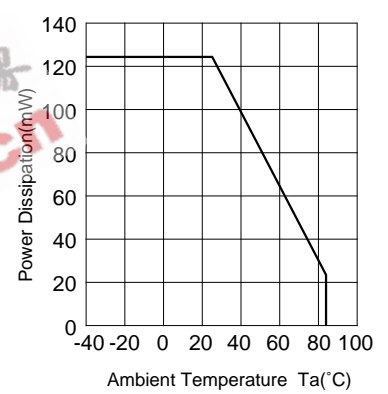
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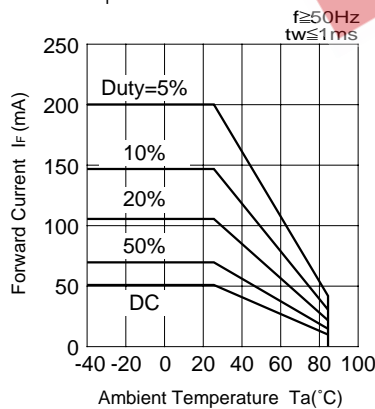
■ Duty Cycle vs. Maximum Forward Current



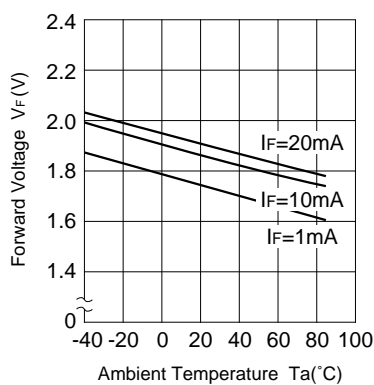
■ Power Dissipation vs. Ambient Temperature



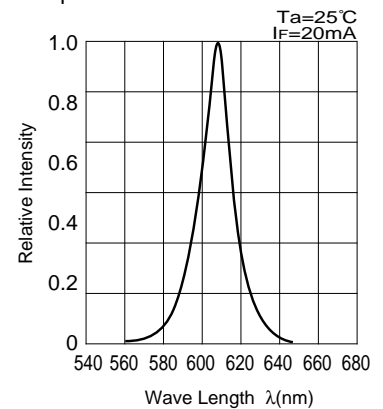
■ Ambient Temperature vs. Maximum Forward Current



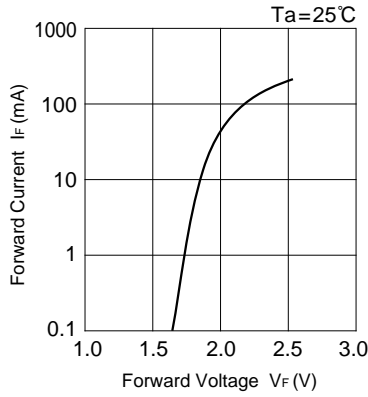
■ Forward Voltage vs. Ambient Temperature



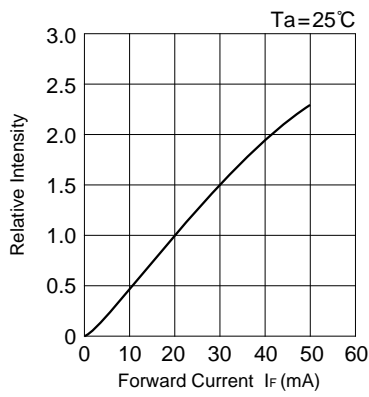
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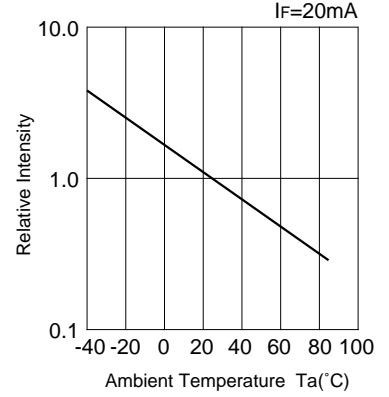
■ Forward Voltage vs. Forward Current



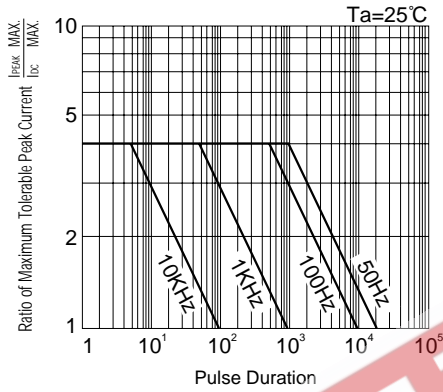
■ Forward Current vs. Relative Intensity



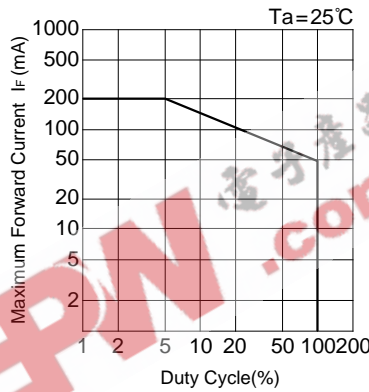
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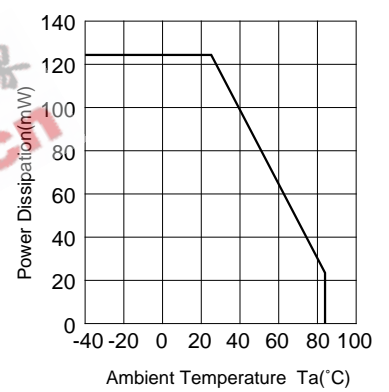
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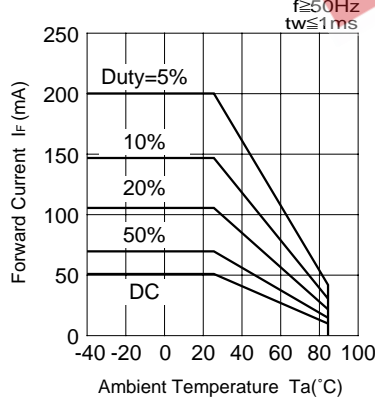
■ Duty Cycle vs. Maximum Forward Current



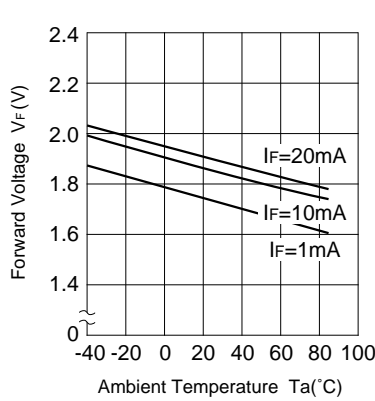
■ Power Dissipation vs. Ambient Temperature



■ Ambient Temperature vs. Maximum Forward Current



■ Forward Voltage vs. Ambient Temperature



■ Spectral Distribution

