# GL1□□136 Series

## Colored Diffusion Mini-mold LED Lamps, Forming Type

■ Model No.

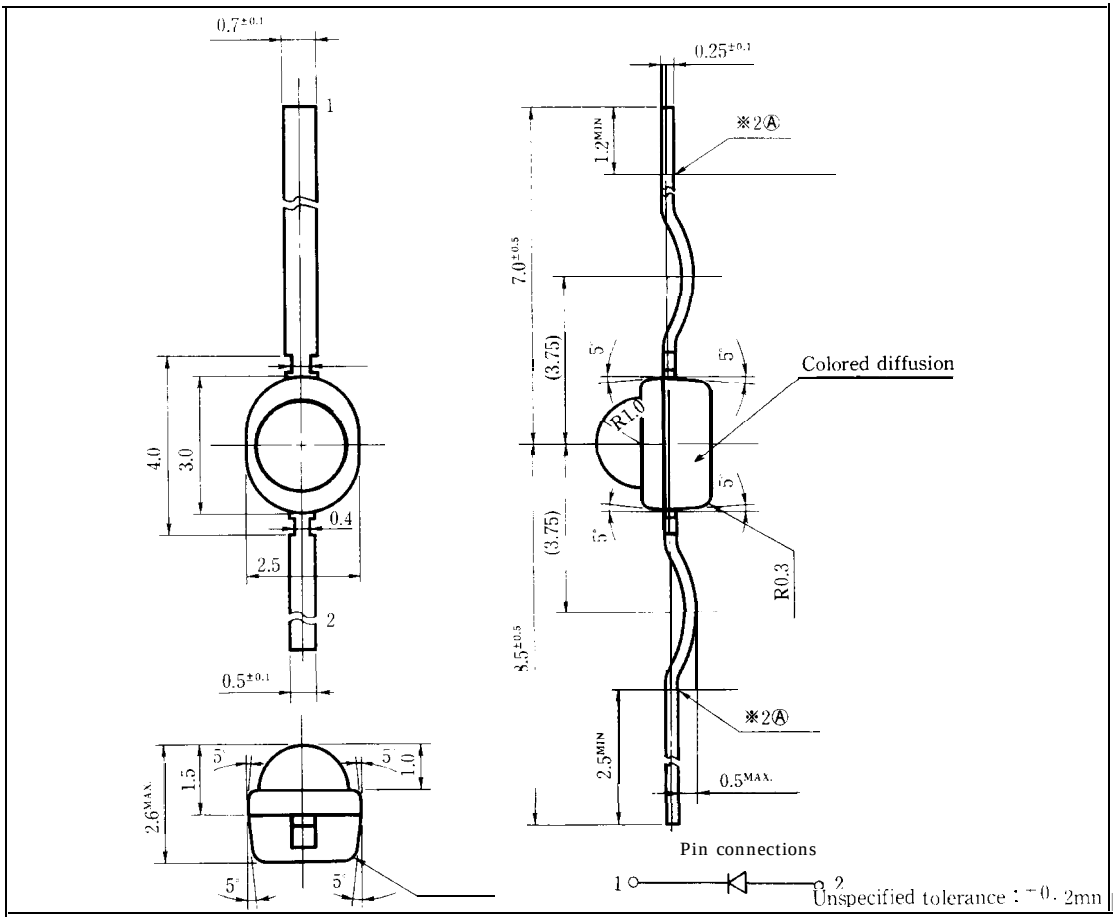
| | | |
|---|---|---|
| GL1PR136 | Red | GaP |
| GL1HD136 | Red | GaAsP/GaP |
| GL1HS136 | Sunset orange | GaAsP/GaP |
| GL1HY136 | Yellow | GaAsP/GaP |
| GL1EG136 | Yellow-green | GaP |

■ Features

1. $\phi$2mm all resin mold
2. "R" type forming lead pins
3. Colored diffusion lens type

■ Outline Dimensions

(Unit: mm)



## GL1□□136

### ■ Absolute Maximum Ratings

(Ta = 25℃)

| Parameter | | Symbol | GL1PR136 | GL1HD136 | GL1HY136 | | | Unit |
|---|---|---|---|---|---|---|---|---|
| | | | | GL1HS136 | GL1EG136 | | | |
| Power dissipation | | P | 23 | 84 | 50 | | | mW |
| Continuous forward current | | $I_F$ | 10 | 30 | 20 | | | mA |
| ※1 Peak forward current | | $I_{FM}$ | 50 | 50 | 50 | | | mA |
| Derating factor | DC | − | 0.13 | 0.40 | 0.27 | | | mA/℃ |
| | Pulse | − | 0.67 | 0.67 | 0.67 | | | mA/℃ |
| Reverse voltage | | $V_R$ | 5 | 5 | 5 | | | V |
| Operating temperature | | $T_{opr}$ | 25 to +85 | | | | | ℃ |
| Storage temperature | | $T_{stg}$ | −25 to +100 | | | | | ℃ |
| ※2 Soldering temperature | | $T_{sol}$ | 260 (within 5 seconds) | | | | | ℃ |

※1 Duty ratio = 1/10, Pulse width = 0.1ms
※2 At the Ⓐ position of outline dimensions

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## GL1PR136 (Red) / GL1HD136 (Red)

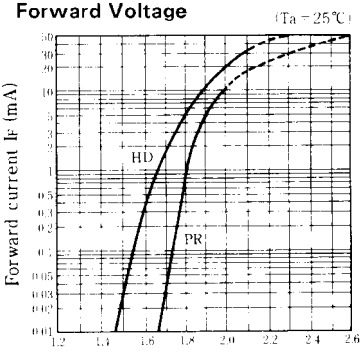
### ■ Electro-optical Characteristics (Ta=25℃)

| Parameter | Symbol | Model No. | Conditions | MIN. | TYP. | MAX. | Unit |
|---|---|---|---|---|---|---|---|
| Forward voltage | $V_F$ | GL1PR136 | $I_F$=5mA | | 1.9 | 2.3 | V |
| | | GL1HD136 | $I_F$=20mA | – | 2.0 | 2.8 | |
| ※3 Luminous intensity | I\ | GL1PR136 | $I_F$=5mA | 1.0 | 2.6 | – | mcd |
| | | GL1HD136 | $I_F$=20mA | 4.2 | 8.8 | – | |
| Peak emission wavelength | $\lambda_p$ | GL1PR136 | $I_F$=5mA | – | 695 | – | |
| | | GL1HD136 | $I_F$=20mA | – | 635 | – | ‘m |
| Spectrum radiation bandwidth | $\Delta\lambda$ | GL1PR136 | $I_F$=5mA | · | 100 | - | |
| | | GL1HD136 | $I_F$=20mA | – | 35 | – | ‘m |
| Reverse current | $I_R$ | GL1PR136 | $V_R$=4V | | | 10 | $\mu$A |
| | | GL1HD136 | $V_R$=4V | – | – | 10 | |
| Terminal capacitance | $C_t$ | GL1PR136 | V=OV f=1MHz | – | 55 | – | pF |
| | | GL1HD136 | V=OV f=1MHz | – | 20 | – | |
| Response frequency | f’ | GL1PR136 | – | – | 4 | – | |
| | | GL1HD136 | – | | 4 | – | ‘Hz |

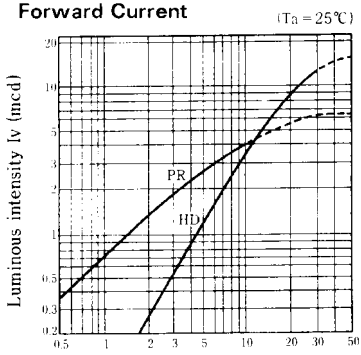
※3 Tolerance: ±30%

### ■ Characteristics Diagrams

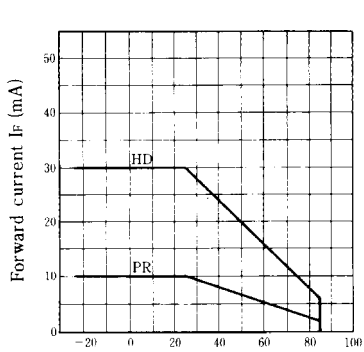
Forward Current vs. Forward Voltage



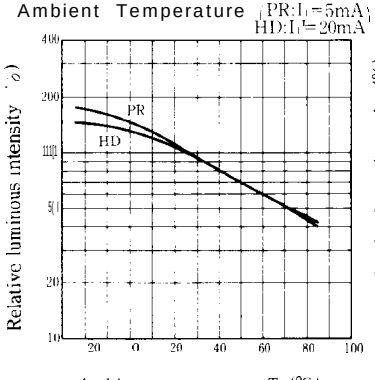

Luminous Intensity vs. Forward Current



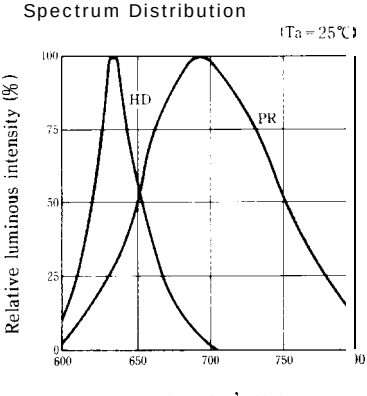

Forward Current Derating Curve




Relative Luminous Intensity vs. Ambient Temperature (PR:IF=5mA, HD:IF=20mA)




Spectrum Distribution



## GL1HS136 (Sunset orange) / GL1HY136 (Yellow)

### ■ Electro-optical Characteristics

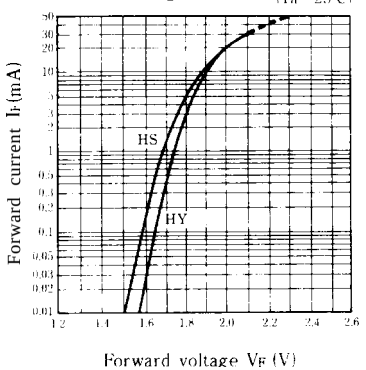
(Ta = 25°C)

| Parameter | Symbol | Model No. | Conditions | MIN. | TYP. | MAX. | Unit |
|---|---|---|---|---|---|---|---|
| Forward voltage | $V_F$ | GL1HS136 | $I_F$ = 20mA | – | 2.0 | 2.8 | V |
| | | GL1HY136 | $I_F$ = 10mA | – | 1.9 | 2.5 | |
| ※3 Luminous intensity | $I_V$ | GL1HS136 | $I_F$ = 20mA | 4.0 | 10 | – | mcd |
| | | GL1HY136 | $I_F$ = 10mA | 1.5 | 4.5 | – | |
| Peak emission wavelength | $\lambda_p$ | GL1HS136 | $I_F$ = 20mA | – | 610 | – | nm |
| | | GL1HY136 | $I_F$ = 10mA | – | 585 | – | |
| Spectrum radiation bandwidth | $\Delta\lambda$ | GL1HS136 | $I_F$ = 20mA | – | 35 | – | nm |
| | | GL1HY136 | $I_F$ = 10mA | – | 30 | – | |
| Reverse current | $I_R$ | GL1HS136 | $V_R$ = 4V | – | – | 10 | μA |
| | | GL1HY136 | $V_R$ = 4V | – | – | 10 | |
| Terminal capacitance | $C_t$ | GL1HS136 | V = 0V f = 1MHz | – | 15 | – | pF |
| | | GL1HY136 | V = 0V f = 1MHz | – | 35 | – | |
| Response frequency | $f_c$ | GL1HS136 | – | – | 4 | – | MHz |
| | | GL1HY136 | – | – | 4 | – | |

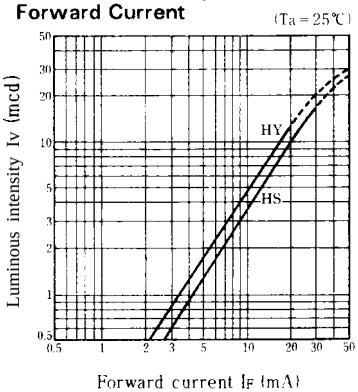
※3 Tolerance: ±30%

### ■ Characteristics Diagrams

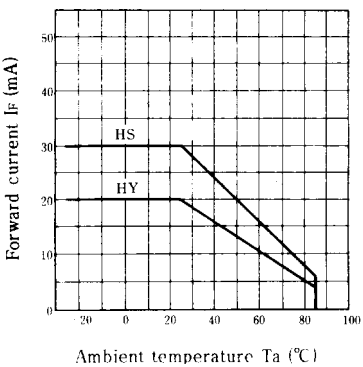
**Forward Current vs. Forward Voltage**



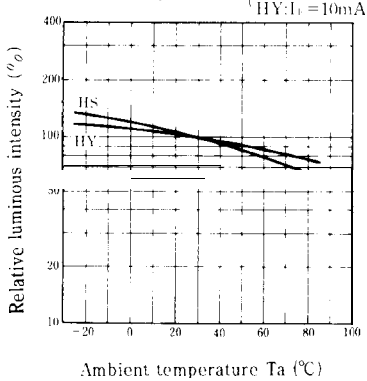

**Luminous Intensity vs. Forward Current**



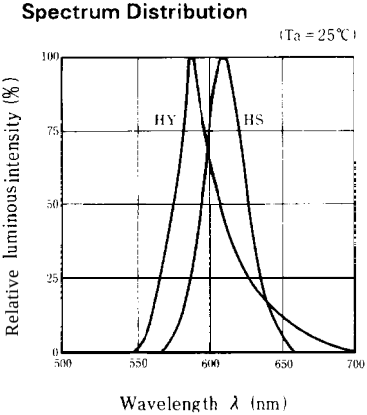

**Forward Current Derating Curve**




**Relative Luminous Intensity vs. Ambient Temperature**




**Spectrum Distribution**

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## GL1EG136 (Yellow-green)

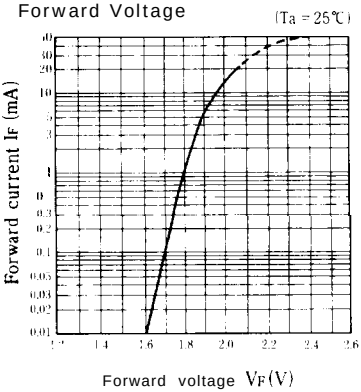
### ■ **Electro-optical** Characteristics (Ta=25℃)

| Parameter | Symbol | Model No. | Conditions | MIN. | TYP. | MAX. | Unit |
|---|---|---|---|---|---|---|---|
| Forward voltage | $V_F$ | GL1EG136 | $I_F$=10mA | – | 1.95 | 2.5 | V |
| ※3 Luminous intensity | $I_V$ | GL1EG136 | $I_F$=10mA | 2.2 | 4.3 | – | mcd |
| Peak emission wavelength | $\lambda_p$ | GL1EG136 | $I_F$=10mA | | 565 | – | nm |
| Spectrum radiation bandwidth | $\Delta\lambda$ | GL1EG136 | $I_F$=10mA | – | 30 | – | nm |
| Reverse current | $I_R$ | GL1EG136 | $V_R$=4V | – | | 10 | μA |
| Terminal capacitance | $C_t$ | GL1EG136 | V=OV f=1 MHz | – | 35 | – | pF |
| Response frequency | $f_c$ | GL1EG136 | – | | 4 | – | MHz |

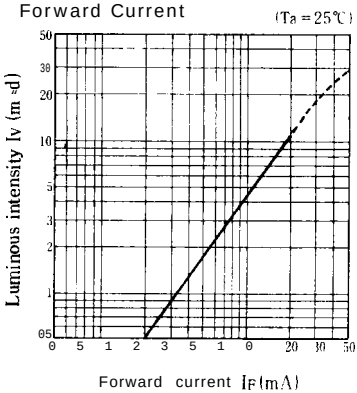
※3 Tolerance: ±30%

### ■ Characteristics Diagrams

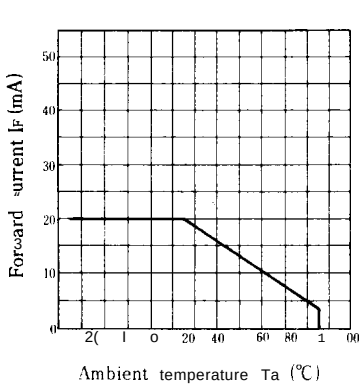
Forward Current vs. Forward Voltage



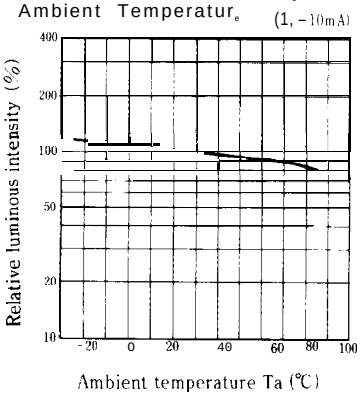

Luminous Intensity vs. Forward Current




Forward Current **Derating** Curve




Relative Luminous Intensity vs. Ambient Temperature




Spectrum Distribution