

DG - 211V

The DG – 211V carrying a unique hysteresis transistor (BAMBIT) developed by KODENSHI CORP. facilitates digital output by means of two leads.

FEATURES

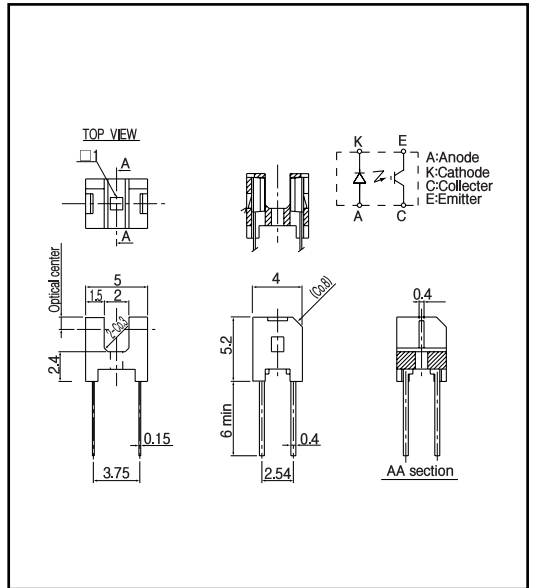
- DIGITAL OUTPUT : directly connect to a microcomputer digital port.
- HYSTERESIS : stable against chattering of the object
- HIGH– SPEED RESPONSE: faster than phototransistor type
- Setting easy

APPLICATIONS

- Detection of paper or marks
- Detection of high – speed object
- Detection of bar codes

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25)

| Item | Symbol | Rating | Unit | |
|-------------------------------|-------------------|-----------|-------------|----|
| Input | Power dissipation | P_D | 75 | mW |
| | Forward current | I_F | 50 | mA |
| | Reverse voltage | V_R | 5 | V |
| Output | Collector current | I_C | 0.5 | mA |
| | C - E voltage | V_{CEO} | 10 | V |
| | E - C voltage | V_{ECO} | 0.3 | V |
| Operating temp. ^{*1} | | Topr. | - 20 ~ + 80 | |
| Soldering temp. ^{*2} | | Tsol. | 240 | |

*1. No icebound or dew

*2. For MAX.5 seconds at the position of 1mm from the package

ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25)

| Item | Symbol | Conditions | Min. | Typ. | Max. | Unit. | |
|--------------|---------------------------------------|---|--|------|------|------------------|------------------|
| Input | Forward voltage | $I_F = 20\text{mA}$ | | 1.2 | 1.4 | V | |
| | Reverse current | $V_R = 5\text{V}$ | | | 10 | μA | |
| | Peak wavelength | $I_F = 20\text{mA}$ | | 940 | | nm | |
| Output | Operating supply voltage rang | V_{CC} | 2.0 | | 5.5 | V | |
| | Low level output voltage | $V_{CC} = 3\text{V}, I_F = 0\text{mA}, R_E = 100\text{k}$ | | 0.35 | 0.5 | V | |
| | High level output voltage | $V_{CC} = 3\text{V}, I_F = 8\text{mA}, R_E = 100\text{k}$ | 2.5 | 2.65 | | V | |
| | Peak wavelength | p | | 880 | | nm | |
| Transmission | Threshold input current ^{*4} | $V_{CC} = 3\text{V}, R_E = 100\text{k}$ | | 2.8 | 6.0 | mA | |
| | Hysteresis ^{*5} | $V_{CC} = 3\text{V}, R_E = 100\text{k}$ | | 0.85 | | | |
| | L H propagation time | t_{PLH} | $V_{CC} = 3\text{V}, I_F = 12\text{mA}, R_E = 100\text{k}$ | | 15 | | $\mu\text{sec.}$ |
| | H L propagation time | t_{PHL} | | | 40 | | $\mu\text{sec.}$ |
| | Rise time | t_r | | | 4 | | $\mu\text{sec.}$ |
| Fall time | t_f | | | 30 | | $\mu\text{sec.}$ | |

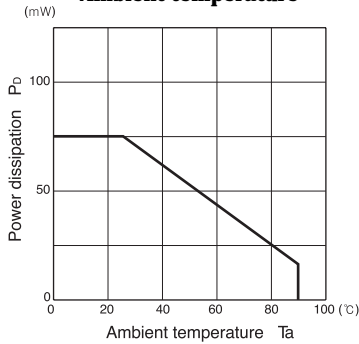
*4. IFLH represents forward current when output changes from low to high.

*5. IFHL represents forward current when output changes from high to low.

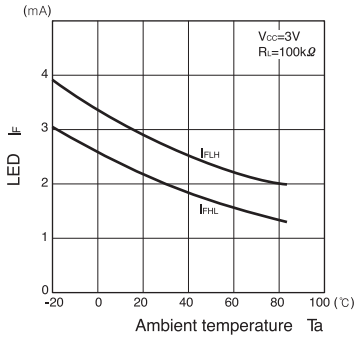
Photointerrupters(Transmissive)

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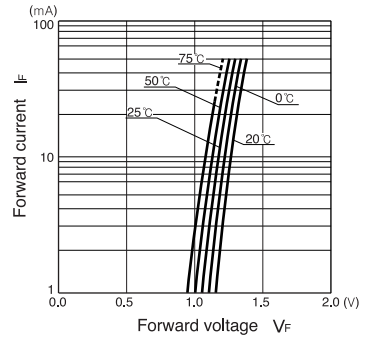
Power dissipation Vs. Ambient temperature



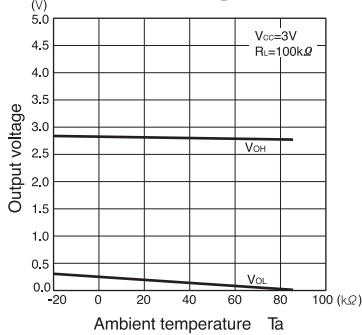
Threshold input current Vs. Ambient temperature



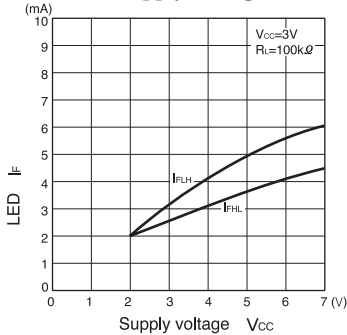
Forward current Vs. Forward voltage



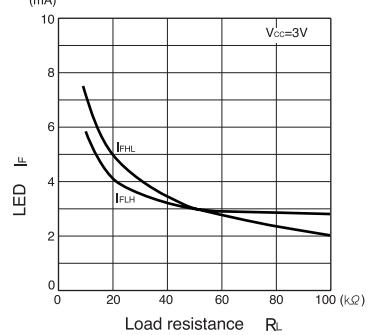
Output voltage Vs. Ambient temperature



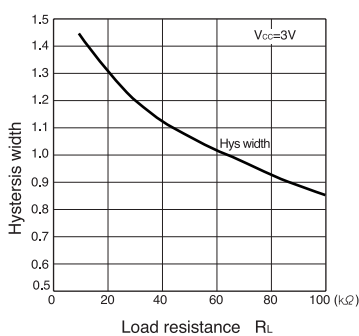
LED Vs. Supply voltage



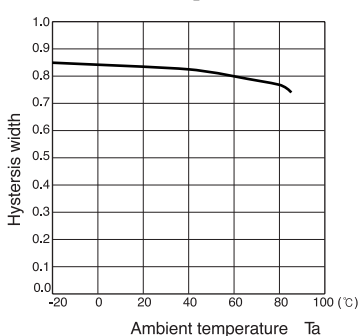
LED Vs. Load resistance



Hysteresis width Vs. Load resistance



Hysteresis width Vs. Ambient temperature



Switching current Vs. Load resistance

