

# DG - 105

The DG – 105 carrying a unique hysteresis transistor (BAMBIT) developed by KODENSHI CORP. facilitates digital output by means of two leads. This digital photointerrupter, because of its ultra – compact size, requires little space.

### FEATURES

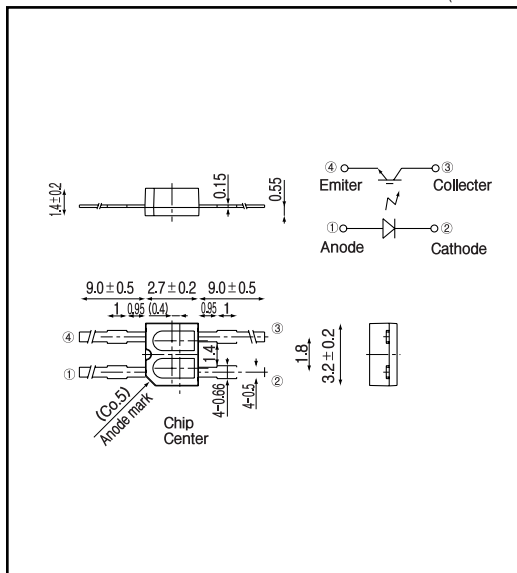
- DIGITAL OUTPUT : directly connect to a microcomputer digital port.
- HYSTERESIS : stable against chattering of the object
- HIGH- SPEED RESPONSE : faster than phototransistor type
- Setting easy

### APPLICATIONS

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

### DIMENSIONS

(Unit : mm)



### MAXIMUM RATINGS

(Ta=25 °C)

Item	Symbol	Rating	Unit
Input	Power dissipation	P <sub>D</sub>	75 mW
	Forward current	I <sub>F</sub>	50 mA
	Reverse voltage	V <sub>R</sub>	5 V
Output	Collector current	I <sub>C</sub>	0.5 mA
	C - E voltage	V <sub>CE0</sub>	10 V
	E - C voltage	V <sub>EC0</sub>	0.3 V
Operating temp. <sup>*1</sup>		T <sub>opr.</sub>	-25~+85 °C
Soldering temp. <sup>*2</sup>		T <sub>sol.</sub>	240 °C

\*1.No icebound or dew

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

### ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25 °C)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Input	Forward voltage	I <sub>F</sub> = 10mA			1.3	V
	Reverse current	V <sub>R</sub> = 5V			10	μA
	Peak wavelength	I <sub>F</sub> = 20mA		940		nm
Input	Operating supply voltage rang	V <sub>CC</sub>	2.0	5.0	7.0	V
	Low level output voltage	V <sub>OL</sub> V <sub>CC</sub> = 5V, I <sub>F</sub> = 0mA, R <sub>E</sub> = 100k		0.5	0.7	V
	High level output voltage	V <sub>OH</sub> V <sub>CC</sub> = 5V, I <sub>F</sub> = 20mA, R <sub>E</sub> = 100k	4.5	4.7		V
	Peak wavelength	p		880		nm
Transmission	Threshold input current <sup>*4</sup>	I <sub>FLH</sub> V <sub>CC</sub> = 5V, R <sub>E</sub> = 100k	2.0		7.2	mA
	Hysteresis <sup>*5</sup>	I <sub>FHL</sub> /I <sub>FLH</sub>		0.85		-
	L - H propagation time	t <sub>PLH</sub> V <sub>CC</sub> = 5V, I <sub>F</sub> = 20mA, R <sub>E</sub> = 100k		15		μsec.
	H - L propagation time	t <sub>PHL</sub>		40		μsec.
	Rise time	t <sub>r</sub>		4.5		μsec.
Fall time	t <sub>f</sub>		25		μsec.	

\*3. I<sub>LH</sub> represents forward current when output changes from low to high.

\*4. I<sub>FHL</sub> represents forward current when output changes from high to low.

Photo interrupters(Reflective)

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