

SG - 205

The SG - 205 photointerrupter high - performance standard type, combines high - output GaAs IRED with high sensitive phototransistor.

FEATURES

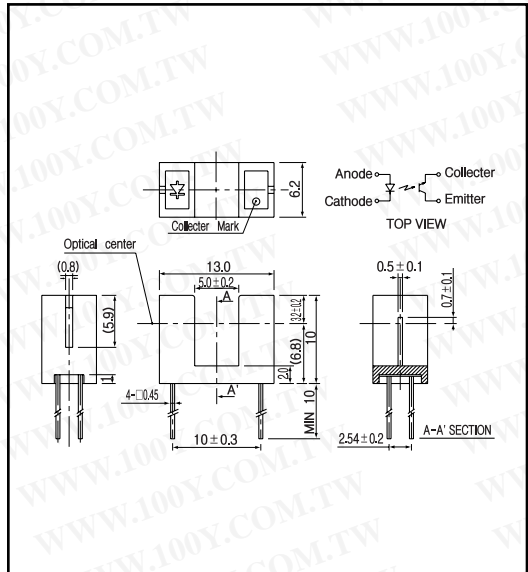
- High performance
- High - speed response
- 5mm gap.
- Widely applicable

APPLICATIONS

- Tape - end sensors
- Timing sensors
- Edge sensors
- Copiers

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25)

| | Item | Symbol | Rating | Unit |
|--------|-----------------------------|-------------------|------------|------|
| Input | Power dissipation | P _D | 100 | mW |
| | Reverse voltage | V _R | 5 | V |
| | Forward current | I _F | 60 | mA |
| | Pulse forward current *1 | I _{FP} | 1 | A |
| Output | Collector power dissipation | P _C | 100 | mW |
| | Collector current | I _C | 40 | mA |
| | C - E voltage | V _{CE0} | 30 | V |
| | E - C voltage | V _{E0} | 5 | V |
| | Operating temp. | T _{opr.} | - 20 ~ +85 | |
| | Storage temp. | T _{stg.} | - 30 ~ +85 | |
| | Soldering temp.*2 | T _{sol.} | 240 | |

*1. t w 100 μsec.period :T=10msec.

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

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ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25)

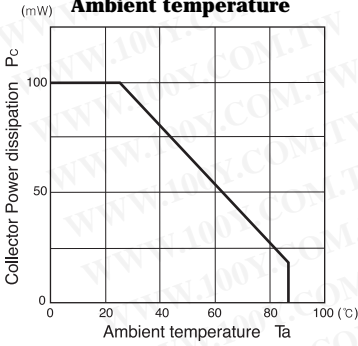
| | Item | Symbol | Conditions | Min. | Typ. | Max. | Unit. |
|------------------|--------------------------|----------------------|---|------|------|------|-------|
| Input | Forward voltage | V _F | I _F =30mA | | 1.2 | 1.5 | V |
| | Reverse current | I _R | V _R =5V | | | 10 | μA |
| | Capacitance | C _t | V=0, f=1KHz | | 25 | | pF |
| | Peak wavelength | λ _p | | | 940 | | nm |
| Output | Collector dark current | I _{CE0} | V _{CE} =10V | | | 0.1 | μA |
| Light current | I _L | | V _{CE} =5V, I _F =20mA | 0.5 | | | mA |
| | C - E saturation voltage | V _{CE(sat)} | I _F =30mA, I _C =0.2mA | | | 0.4 | V |
| Switching speeds | Rise time | t _r | V _{CC} =5V, I _C =2mA | | 5 | | μsec. |
| | Fall time | t _f | R _L =100 | | 5 | | μsec. |

Photo interrupters(Transmissive)

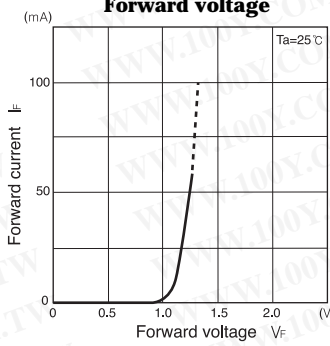
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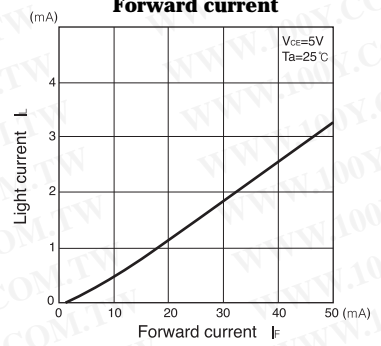
Collector power dissipation Vs. Ambient temperature



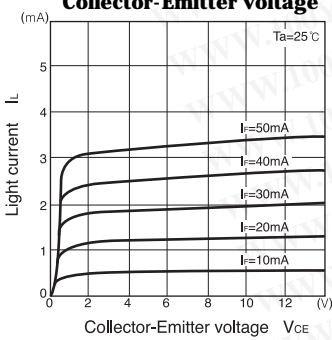
Forward current Vs. Forward voltage



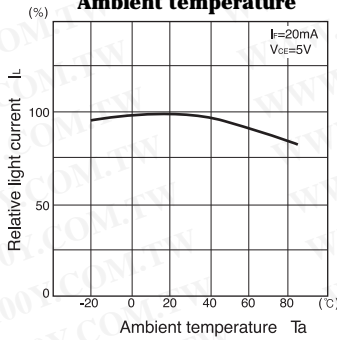
Light current Vs. Forward current



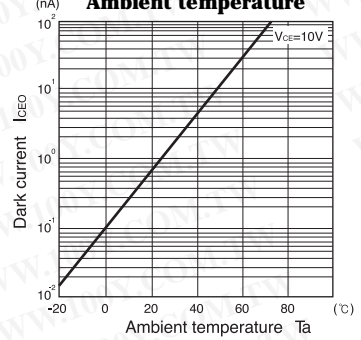
Light current Vs. Collector-Emitter voltage



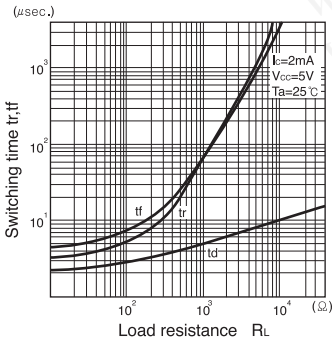
Relative light current Vs. Ambient temperature



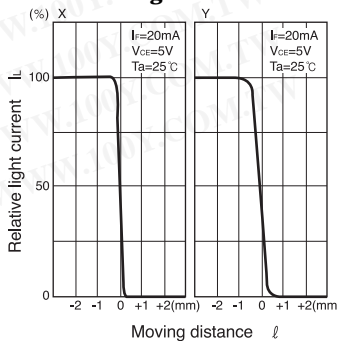
Dark current Vs. Ambient temperature



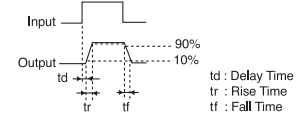
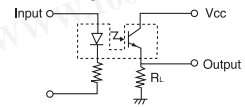
Switching time Vs. Load resistance



Relative light current Vs. Moving distance



Switching time measurement circuit



Method of measuring position characteristic

