

Features

- * SOP package 4 Pin type in miniature design
(4.4×4.3×2.1mm / .173×.169×.083inch)
- * Low driver power requirements
(TTL/CMOS Compatible)
- * No moving parts
- * High reliability
- * Arc-Free with no snubbing circuits
- * 2500Vrms Input/Output isolation
- * Tape & Reel version available

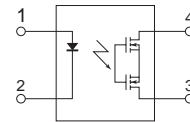
Applications

- * Telecommunications (PC, Electronic notepad)
- * Measuring and Testing equipment
- * Industrial control
- * Security equipments
- * High speed inspection machine

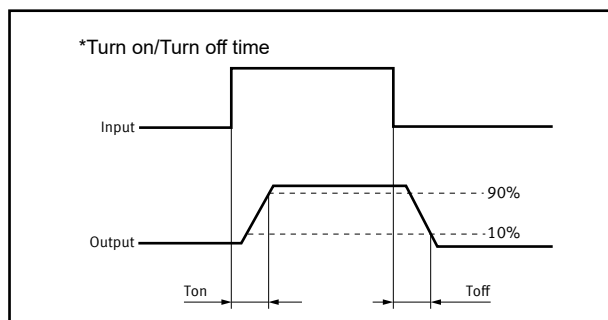


SOP-4

(Unit: mm)



1. LED Anode
2. LED Cathode
- 3, 4. Drain (MOS FET)



TYPES

| Category | Output rating*1 | | Part No. | Packing quantity |
|----------|-----------------|--------------|----------|--------------------|
| | Load voltage | Load current | SOP | Tape and reel |
| AC/DC | 350 V | 0.13A | GAQY210S | 1-reel: 2,000 pcs. |

Absolute Maximum Ratings (Ambient Temperature: 25°C)

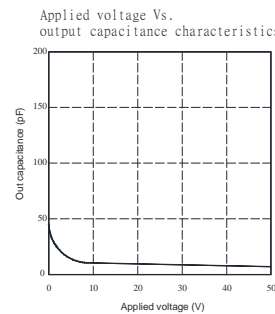
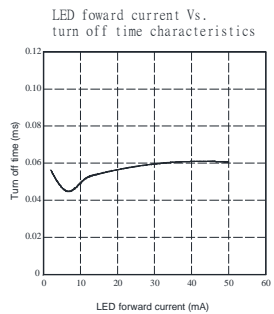
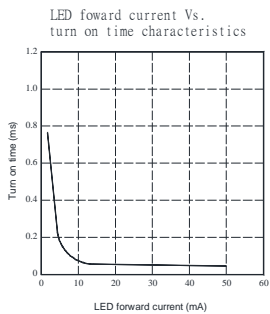
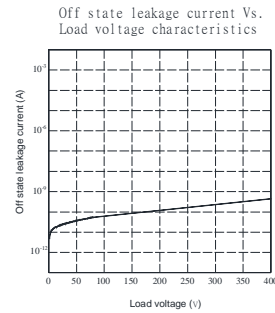
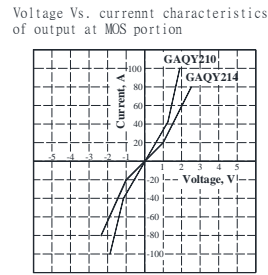
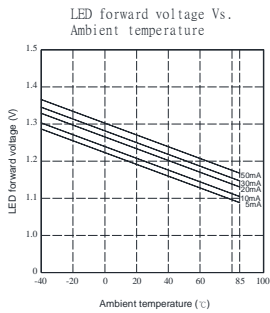
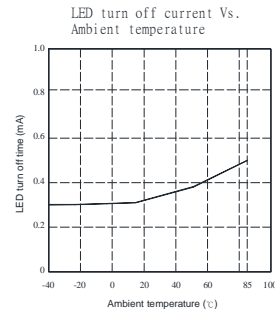
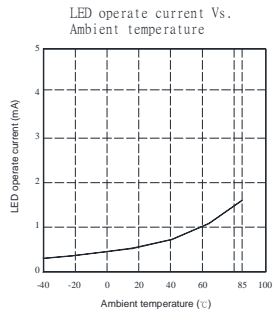
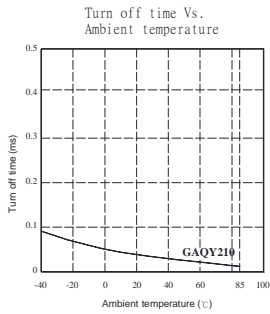
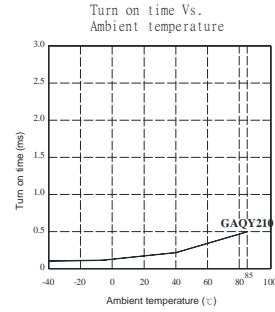
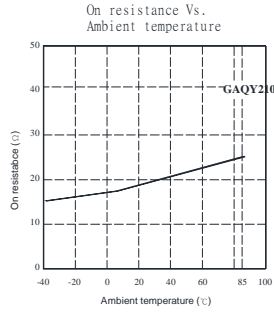
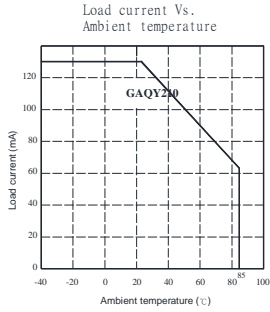
| Item | | Symbol | Value | Units | Note |
|---------------------------|--------------------------|-------------------|-------------|------------------|------------------|
| Input | Continuous LED Current | I _F | 50 | mA | |
| | Peak LED Current | I _{FP} | 1000 | mA | f=100Hz, duty=1% |
| | LED Reverse Voltage | V _R | 5 | V | |
| | Input Power Dissipation | P _{In} | 75 | mW | |
| Output | Load Voltage | V _L | 350 | V(AC peak or DC) | |
| | Load Current | I _L | 130 | mA | |
| | Peak Load Current | I _{Peak} | 0.6 | A | 100ms(1 pulse) |
| | Output Power Dissipation | P _{out} | 300 | mW | |
| Total Power Dissipation | | P _T | 350 | mW | |
| I/O Breakdown Voltage | | V _{I/O} | 2500 | V _{rms} | RH=60%, 1min |
| Operating Temperature | | T _{opr} | -40 to +85 | °C | |
| Storage Temperature | | T _{stg} | -40 to +100 | °C | |
| Pin Soldering Temperature | | T _{sol} | 260 | °C | 10 sec max. |

Electrical Specifications (Ambient Temperature: 25°C)

| Item | | Symbol | MIN. | TYP. | MAX. | Units | Conditions |
|--------------|---------------------------|--------------------|------------------|------|------|-------|---|
| Input | LED Forward Voltage | V _F | | 1.2 | 1.4 | V | I _F =10mA |
| | Operation LED Current | I _{F On} | | 0.5 | 2.0 | mA | |
| | Recovery LED Current | I _{F Off} | | 0.35 | 0.5 | mA | |
| | Recovery LED Voltage | V _{F Off} | 0.7 | | | V | |
| Output | On-Resistance | R _{On} | | 14 | 20 | Ω | I _F =5mA, I _L =100mA, Time to flow is within 1 sec. |
| | Off-State Leakage Current | I _{Leak} | | | 0.01 | uA | V _L =Rating |
| | Output Capacitance | C _{out} | | 45 | | pF | V _L =0, f=1MHz |
| Transmission | Turn-On Time | T _{On} | | 0.08 | 0.15 | ms | I _F =5mA, I _L =100mA, |
| | Turn-Off Time | T _{Off} | | 0.03 | 0.20 | ms | |
| Coupled | I/O Isolation Resistance | R _{I/O} | 10 ¹⁰ | | | Ω | DC500V |
| | I/O Capacitance | C _{I/O} | | 0.8 | 1.5 | pF | f=1MHz |

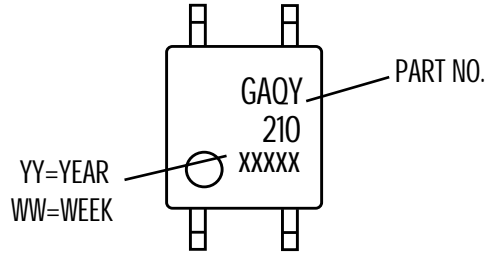
Please obey the following conditions to ensure proper device operation and resetting. Input LED current (Recommended value): I_F ≥5mA and ≤30mA.
 Examples of resistance value to control LED forward current (I_F=5mA, INPUT VOLTAGE="E", RESISTORS="R")
 "E"=3.3V, "R"=330Ω; "E"=5V, "R"=640Ω; "E"=12V, "R"=1.9KΩ; "E"=15V, "R"=2.5KΩ; "E"=24V, "R"=4.1KΩ;

Reference Data

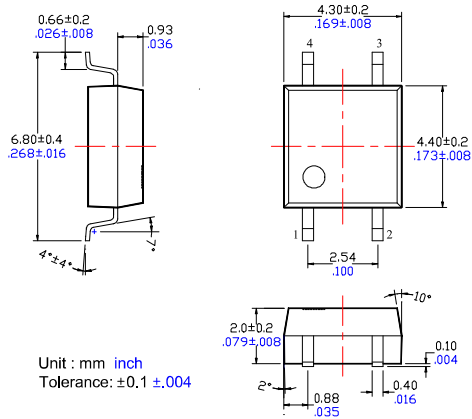


Dimensions

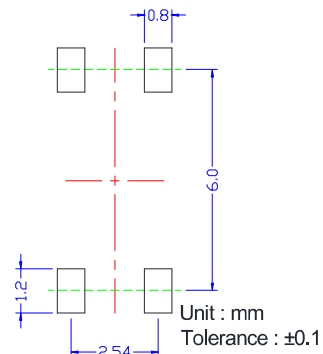
4-SOP



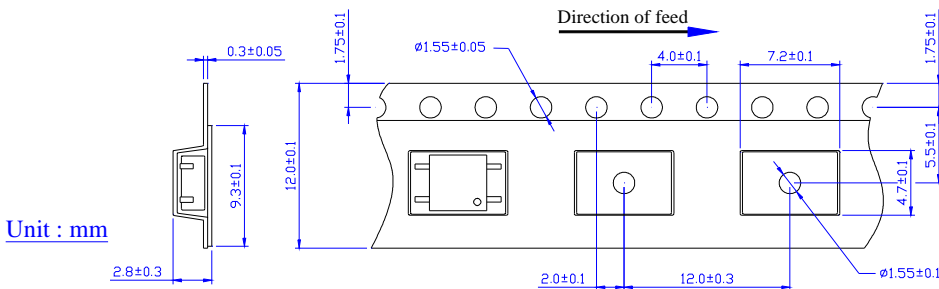
Surface mount terminal type



Recommended mounting pad (Top view)



Tape dimensions



Dimensions of tape reel

