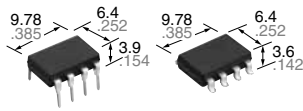




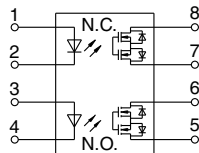
Both N.O. and N.C. contacts incorporated in a DIP8-pin package

**PhotoMOS®
GU 1 Form A & 1 Form B
(AQW614)**



(Height includes standoff)

mm inch



RoHS compliant

FEATURES

1. Approx. 1/2 the space compared with the mounting of a set of 1 Form A and 1 Form B PhotoMOS
2. Applicable for 1 Form A and 1 Form B use as well as two independent 1 Form A and 1 Form B use
3. Controls load currents up to 0.13 A with 5 mA input current
4. Extremely low closed-circuit offset voltages to enable control of small analog signals without distortion
5. Stable on-resistance

TYPICAL APPLICATIONS

- High-speed inspection machines
- Telephone equipment
- Computers
- Sensing equipment

TYPES

| | Output rating* | | Package | Part No. | | | | Packing quantity | |
|----------------|----------------|--------------|----------|-----------------------|-----------------------------|----------|----------|--------------------------------------------------------------|---------------|
| | Load voltage | Load current | | Through hole terminal | Surface-mount terminal | | | Tube | Tape and reel |
| | | | | Tube packing style | Tape and reel packing style | | | | |
| AC/DC dual use | 400 V | 100 mA | DIP8-pin | AQW614 | AQW614A | AQW614AX | AQW614AZ | 1 tube contains: 50 pcs. 1 batch contains: 500 pcs. | 1,000 pcs. |

*Indicate the peak AC and DC values.

Note: The surface mount terminal shape indicator "A" and the packing style indicator "X" or "Z" are not marked on the device.

RATING

1. Absolute maximum ratings (Ambient temperature: 25°C 77°F)

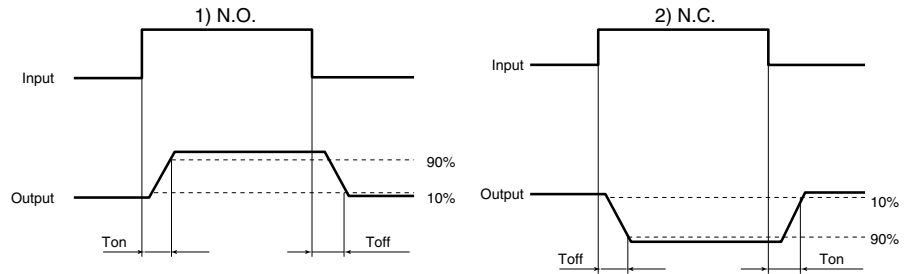
| Item | Symbol | AQW614(A) | Remarks | |
|-------------------------|-------------------------|-------------------|-----------------------------------------------|------------------------------------------------------------|
| Input | LED forward current | I _F | 50 mA | |
| | LED reverse voltage | V _R | 5 V | |
| | Peak forward current | I _{FP} | 1 A | f = 100 Hz, Duty factor = 0.1% |
| | Power dissipation | P _{in} | 75 mW | |
| Output | Load voltage (peak AC) | V _L | 400 V | |
| | Continuous load current | I _L | 0.1 A (0.13 A) | Peak AC, DC (): in case of using only 1a or 1b, 1 channel |
| | Peak load current | I _{peak} | 0.3 A | 100 ms (1 shot), V _L = DC |
| | Power dissipation | P _{out} | 800 mW | |
| Total power dissipation | P _T | 850 mW | | |
| I/O isolation voltage | V _{iso} | 1,500 Vrms | Between input and output/between contact sets | |
| Ambient temperature | Operating | T _{opr} | -40 to +85°C -40 to +185°F | |
| | Storage | T _{stg} | -40 to +100°C -40 to +212°F | |

GU 1 Form A & 1 Form B (AQW614)

2. Electrical characteristics (Ambient temperature: 25°C 77°F)

| Item | | Symbol | AQW614(A) | Condition |
|----------------------------------|---------------------------|-------------|---------------------------------|-------------------------------|
| Input | LED operate current | Typical | I_{Fon} (N.O.) | 0.9 mA |
| | | Maximum | I_{Foff} (N.C.) | 3 mA |
| | LED reverse current | Minimum | I_{Foff} (N.O.) | 0.4 mA |
| | | Typical | I_{Fon} (N.C.) | 0.8 mA |
| LED dropout voltage | Typical | V_F | 1.25 V (1.14 V at $I_F = 5$ mA) | |
| | Maximum | | 1.5 V | $I_F = 50$ mA |
| Output | On resistance | Typical | R_{on} | 27 Ω |
| | | Maximum | | 50 Ω |
| | Off state leakage current | Maximum | I_{Leak} | 1 μ A |
| Transfer characteristics | Operate time* | Typical | T_{on} (N.O.) | 0.28 ms (N.O.) 0.43 ms (N.C.) |
| | | Maximum | T_{off} (N.C.) | 1 ms |
| | Reverse time* | Typical | T_{off} (N.O.) | 0.04 ms (N.O.) 0.3 ms (N.C.) |
| | | Maximum | T_{on} (N.C.) | 1 ms |
| | I/O capacitance | Typical | C_{iso} | 0.8 pF |
| Maximum | 1.5 pF | $V_B = 0$ V | | |
| Initial I/O isolation resistance | Minimum | R_{iso} | 1,000 M Ω | 500 V DC |

*Operate/Reverse time



3. Recommended operating conditions (Ambient temperature: 25°C 77°F)

Please use under recommended operating conditions to obtain expected characteristics.

| Item | Symbol | Number of used channels | Min. | Max. | Unit |
|------------------------|-------------------------|-------------------------|------|------|------|
| LED current | I_F | | 5 | 30 | mA |
| Load voltage (Peak AC) | V_L | | — | 320 | V |
| AQW614(A) | Continuous load current | 1ch | — | 0.13 | A |
| | | 2ch | — | 0.1 | A |

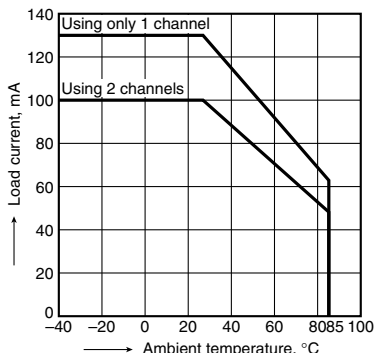
■ These products are not designed for automotive use.

If you are considering to use these products for automotive applications, please contact your local Panasonic Corporation technical representative.

REFERENCE DATA

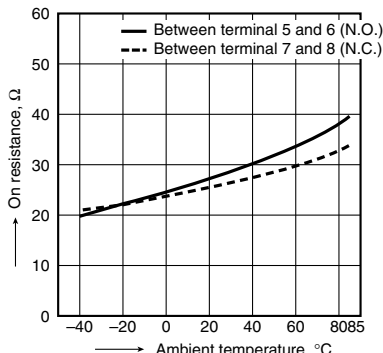
1. Load current vs. ambient temperature characteristics

Allowable ambient temperature: -40 to +85°C
-40 to +185°F



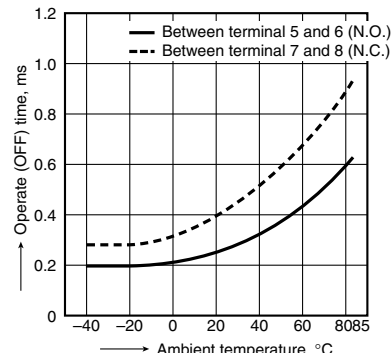
2. On resistance vs. ambient temperature characteristics

Measured portion: between terminals 5 and 6, 7 and 8;
LED current: 5 mA; Load voltage: 400 V (DC);
Continuous load current: 100 mA (DC)



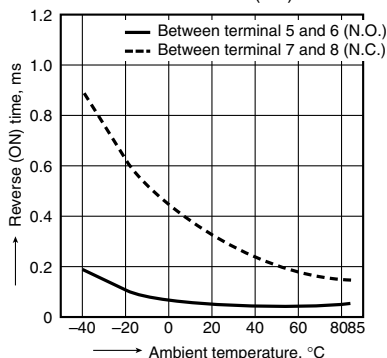
3. Operate time vs. ambient temperature characteristics

LED current: 5 mA;
Load voltage: 400 V (DC);
Continuous load current: 100 mA (DC)



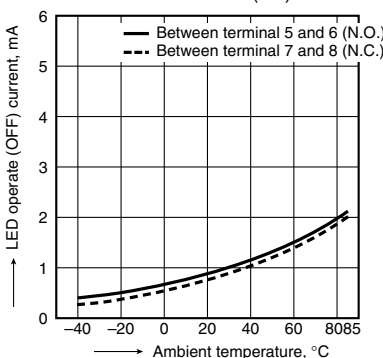
4. Reverse time vs. ambient temperature characteristics

LED current: 5 mA; Load voltage: 400 V (DC);
Continuous load current: 100 mA (DC)



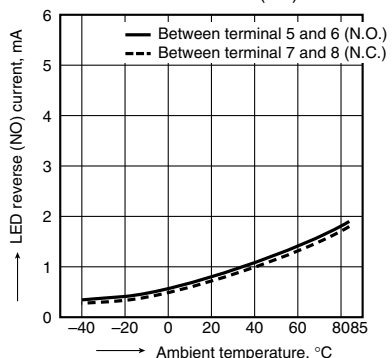
5. LED operate current vs. ambient temperature characteristics

Load voltage: 400 V (DC);
Continuous load current: 100 mA (DC)



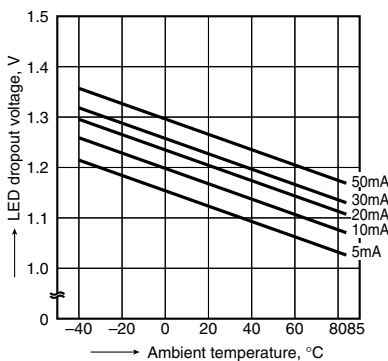
6. LED reverse current vs. ambient temperature characteristics

Load voltage: 400 V (DC);
Continuous load current: 100 mA (DC)



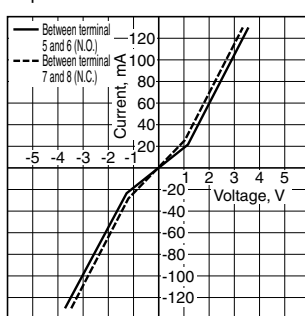
7. LED dropout voltage vs. ambient temperature characteristics

LED current: 5 to 50 mA



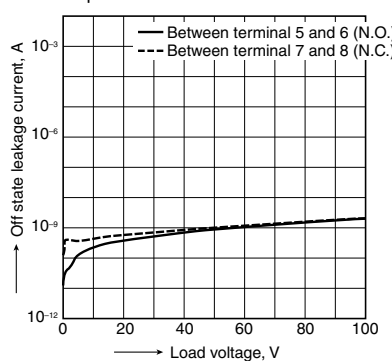
8. Current vs. voltage characteristics of output at MOS portion

Measured portion: between terminals 5 and 6, 7 and 8;
Ambient temperature: 25°C 77°F



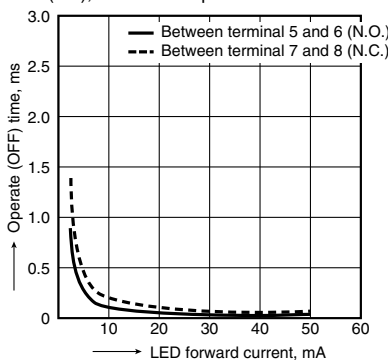
9. Off state leakage current vs. load voltage characteristics

Measured portion: between terminals 5 and 6, 7 and 8;
Ambient temperature: 25°C 77°F



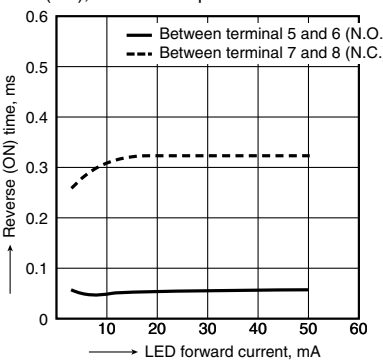
10. Operate time vs. LED forward current characteristics

Measured portion: between terminals 5 and 6, 7 and 8;
Load voltage: 400 V (DC); Continuous load current:
100 mA (DC); Ambient temperature: 25°C 77°F



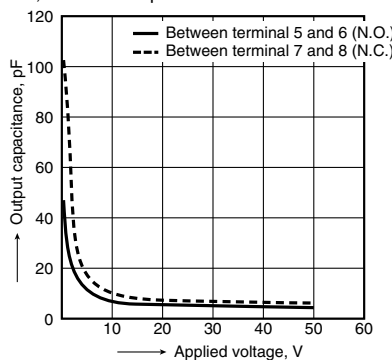
11. Reverse time vs. LED forward current characteristics

Measured portion: between terminals 5 and 6, 7 and 8;
Load voltage: 400 V (DC); Continuous load current:
100 mA (DC); Ambient temperature: 25°C 77°F



12. Output capacitance vs. applied voltage characteristics

Measured portion: between terminals 5 and 6, 7 and 8;
LED current: 0 mA (N.O.), 5 mA (N.C.); Frequency:
1 MHz; Ambient temperature: 25°C 77°F



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- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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