

### FEATURES

#### 1. High frequency characteristics with low capacitance between output terminals

Low capacitance: Typ. 5 pF (between output terminals)

Isolation loss: 40 dB or more (at 1 MHz)

#### 2. High sensitivity, high speed response

Controls load current of 0.12 A (max.), with input current of 5 mA.

Operate time is 100  $\mu$ s (Typical)

#### 3. Low-level off state leakage current

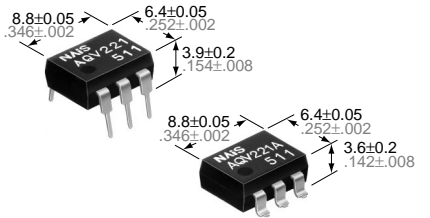
PhotoMOS AQV220 types exhibit an OFF state leakage current in the order of 100 picoamperes at a load voltage of 80 V compared with several milliamperes in solid-state relay.

#### 4. Controls low-level analog signals

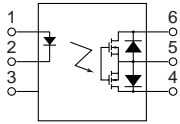
PhotoMOS relay features extremely low closed-circuit offset voltages to enable control of small analog signals without distortion.

#### 5. Low terminal electromotive force (Approx. 1 mV)

#### 6. Small LED voltage drop on input side (Max. 1.5 V)



mm inch



### TYPICAL APPLICATIONS

- Measuring devices
- Scanner, IC checker, Board tester
- Audio visual equipment
- CD, VCR

### TYPES

| Type       | Output rating* |              | 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 |          |  |               |
|            |                |              | Picked from the 1/2/3-pin side | Picked from the 4/5/6-pin side |                             |          |  |               |
| AC/DC type | 40 V           | 80 mA        | AQV221                         | AQV221A                        | AQV221AX                    | AQV221AZ | 1 tube contains 50 pcs.<br>1 batch contains 500 pcs. | 1,000 pcs     |
|            | 80 V           | 50 mA        | AQV225                         | AQV225A                        | AQV225AX                    | AQV225AZ |  |               |

\*Indicate the peak AC and DC values.

Note: For space reasons, the package type indicator "X" and "Z" are omitted from the seal.

### RATING

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

| Item                    |                         | Symbol     | Type of connection | AQV221(A)                       | AQV225(A) | Remarks  |         |
|-------------------------|-------------------------|------------|--------------------|---------------------------------|-----------|--|---------|
| Input                   | LED forward current     | $I_F$      |                    | 50 mA                           |           | f = 100 Hz, Duty factor = 0.1%                   |         |
|                         | LED reverse voltage     | $V_R$      |                    | 3 V                             |           |  |         |
|                         | Peak forward current    | $I_{FP}$   |                    | 1 A                             |           |  |         |
|                         | Power dissipation       | $P_{in}$   |                    | 75 mW                           |           |  |         |
| Output                  | Load voltage (Peak AC)  | $V_L$      |                    | 40 V                            | 80 V      | A connection: Peak AC, DC<br>B, C connection: DC |         |
|                         | Continuous load current | $I_L$      |                    | A                               | 0.08 A    |  | 0.05 A  |
|                         |                         |            |                    | B                               | 0.09 A    |  | 0.06 A  |
|                         |                         |            |                    | C                               | 0.12 A    |  | 0.075 A |
|                         | Peak load current       | $I_{peak}$ |                    |                                 | 0.18 A    |  | 0.15 A  |
| Power dissipation       | $P_{out}$               |            | 230 mW             |                                 |           |  |         |
| Total power dissipation |                         | $P_T$      |                    | 280 mW                          |           |  |         |
| I/O isolation voltage   |                         | $V_{iso}$  |                    | 1,500 V AC                      |           |  |         |
| Temperature limits      | Operating               | $T_{opr}$  |                    | -40°C to +85°C -40°F to +185°F  |           | Non-condensing at low temperatures               |         |
|                         | Storage                 | $T_{stg}$  |                    | -40°C to +100°C -40°F to +212°F |           |  |         |