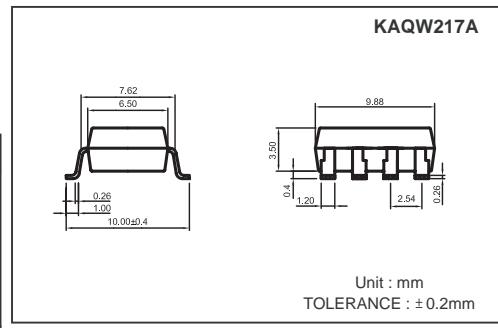
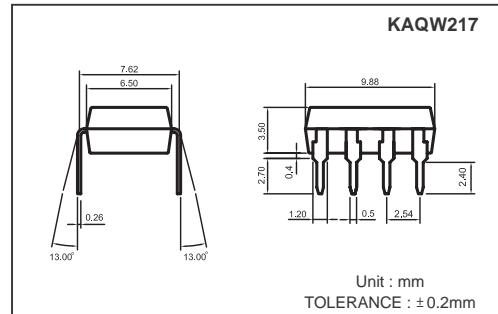


COSMO High Voltage, Solid State Relay-MOSFET Output KAQW217/217A

UL 1577/ UL 508 (File No.E108430), FI EN60950 (File No.FI13698)

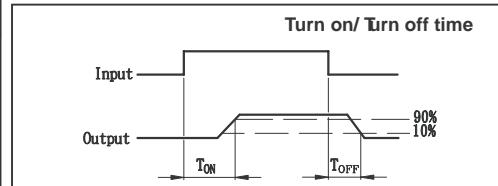
Features

1. Normally Open, Single Pole Single Throw
2. Control 200VAC or DC Voltage
3. Switch 180mA Loads
4. LED control Current, 5mA
5. Low ON-Resistance
6. dv/dt, >500V/ms
7. Isolation Test Voltage, 3750VACrms



Absolute Maximum Ratings

| (Ta=25°C) | |
|--|--|
| Emitter (Input) | Detector (Output) |
| Reverse Voltage..... | 5.0V |
| Continuous Forward Current | 50mA |
| Peak Forward Current | 1A |
| Power Dissipation | 75mW |
| Derate Linearly from 25°C | 1.3mW/°C |
| General Characteristics | |
| Isolation Test Voltage..... | 3750VACrms |
| Isolation Resistance | Operating Temperature Range ...-40°C to +150°C |
| Vio=500V, Ta=25°C | ≥10 ¹⁰ Ω |
| Total Power Dissipation | 500mW |
| Derate Linearly from 25°C | 2.5mW/°C |
| Storage Temperature Range ...-40°C to +150°C | |
| Operating Temperature Range...-40°C to +85°C | |
| Junction Temperature..... | 100°C |
| Soldering Temperature, | |
| 2mm from case, 10 sec | 260°C |



Electro-optical Characteristics

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Unit |
|--------------------------|--------|------------------------------|------|------|------|------|
| Emitter (Input) | | | | | | |
| Forward Voltage | VF | IF =10mA | | 1.2 | 1.5 | V |
| Operation Input Current | IFON | VL =±20V, IL =100mA, t =10ms | | 1.5 | 5 | mA |
| Recovery Input Current | IFOFF | VL =±20V, IL ≤5uA | 0.2 | | | mA |
| Detector (Output) | | | | | | |
| Output Breakdown Voltage | VB | IB=50uA | 200 | | | V |
| Output Off-State Leakage | IOFF | VT =100V, IF =0mA | 0.2 | 1 | | uA |
| I/O Capacitance | CISO | IF =0, f =1MHz | 6 | | | p F |
| ON Resistance | RON | IL =100mA, IF =10mA | 6 | 15 | | Ω |
| Turn-On Time | TON | IF =10mA, VL =±20V | 0.4 | 1.0 | | ms |
| Turn-Off Time | TOFF | t =10ms, IL =±100mA | 0.3 | 1.0 | | ms |

Schematic and Wiring Diagrams

| Type | Schematic | Output configuration | Load | Connection | Wiring Diagrams |
|--------------------------|-----------|----------------------|-------|------------|---|
| KAQW217 & KAQW217A | | 2a | AC/DC | - | <p>(1) Two independent 1 Form A use</p> <p>(2) 2 Form A use</p> |

Data Curve

Fig.1 Load current vs. ambient temperature
Allowable ambient temperature:
-40°C to +85°C

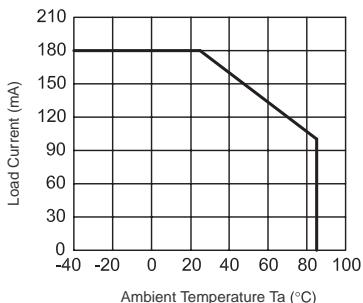


Fig.2 On resistance vs. ambient temperature
Across terminals 5,7 and 6,8 pin
LED current: 5mA
Continuous load current: 180mA(DC)

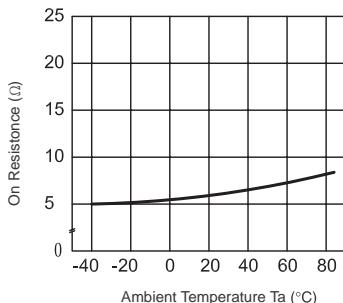


Fig.3 Turn on time vs. ambient temperature
Load voltage: 200V(DC)
LED current: 5mA
Continuous load current: 180mA(DC)

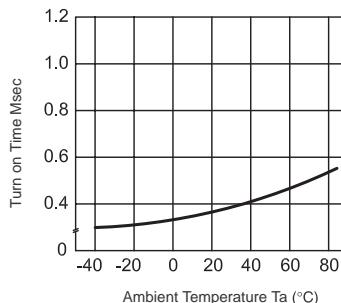


Fig.4 Turn off time vs. ambient temperature
LED current: 5mA; Load voltage:
200V(DC)
Continuous load current: 180mA(DC)

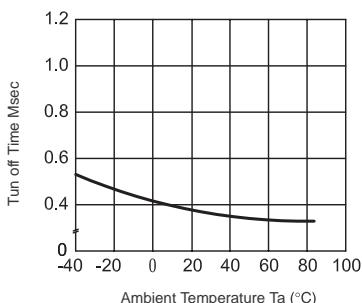


Fig.5 LED operate vs. ambient temperature
Load voltage: 200V(DC)
Continuous load current: 180mA(DC)

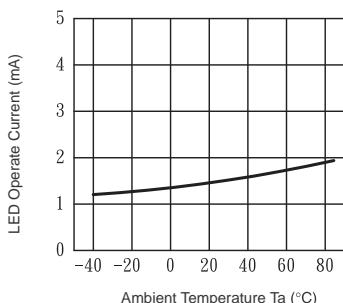


Fig.6 LED turn off current vs. ambient temperature
Load voltage: 200V(DC)
Continuous load current: 180mA(DC)

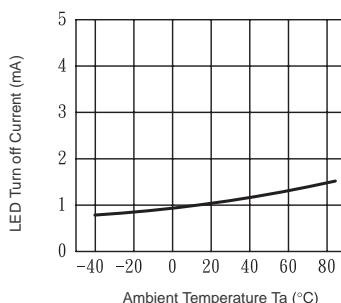


Fig.7 LED dropout voltage vs. ambient temperature
LED current: 5 to 50mA

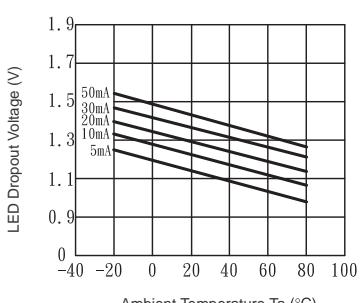


Fig.8 Voltage vs. current characteristics of output at MOS FET portion
Measured portion: across terminals 5,7 and 6,8 pin
Ambient temperature: 25°C

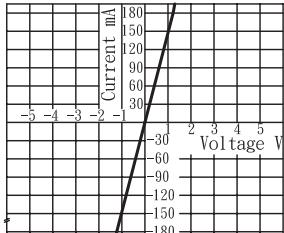


Fig.9 Off state leakage current
Across terminals 5,7 and 6,8 pin
Ambient temperature: 25°C

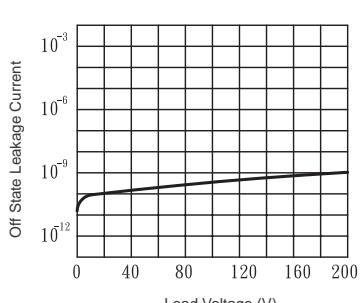


Fig.10 LED forward current vs. turn on time
Across terminals 5,7 and 6,8 pin;
Load voltage: 200V (DC);
Continuous load current: 180mA (DC);
Ambient temperature: 25°C

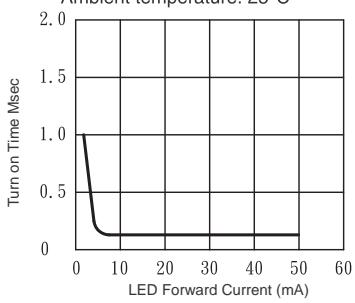


Fig.11 LED forward current vs. turn off time
Across terminals 5,7 and 6,8 pin;
Load voltage: 200V (DC);
Continuous load current: 180mA (DC);
Ambient temperature: 25°C

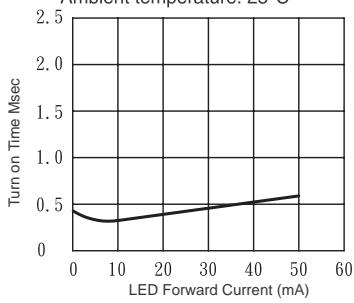


Fig.12 Applied voltage vs. output capacitance
Across terminals 5,7 and 6,8 pin
Frequency: 1MHz
Ambient temperature: 25°C

