

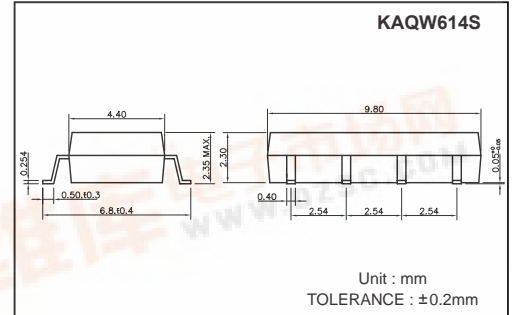
cosmo

High Voltage, Photo MOS Relay KAQW614S

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

Features

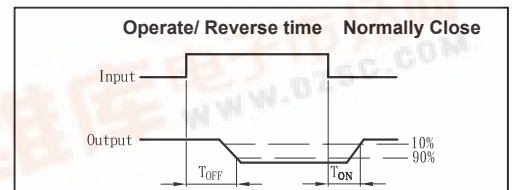
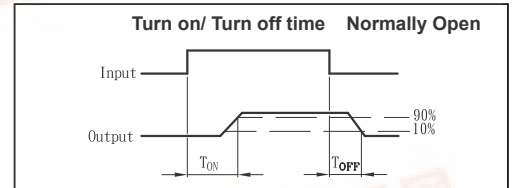
1. Normally Open and Close, Single Pole Single Throw
2. Control 400VAC or DC Voltage
3. Switch 130mA Loads
4. LED control Current, 5mA
5. Low ON-Resistance
6. dv/dt, >500V/ms
7. Isolation Test Voltage, 1500VACrms



Absolute Maximum Ratings

(Ta=25°C)

| | |
|--|---------------------|
| Emitter (Input) | |
| Reverse Voltage | 5.0V |
| Continuous Forward Current | 50mA |
| Peak Forward Current | 1A |
| Power Dissipation | 100mW |
| Derate Linearly from 25°C | 1.3mW/°C |
| Detector (Output) | |
| Output Breakdown Voltage | ±400V |
| Continuous Load Current | ±130mA |
| Power Dissipation | 500mW |
| General Characteristics | |
| Isolation Test Voltage | 1500VACrms |
| Isolation Resistance Vio=500V, Ta=25°C | ≥10 ¹⁰ Ω |
| Total Power Dissipation..... | 550mW |
| Derate Linearly from 25°C | 2.5mW/°C |
| Storage Temperature Range | -40°C to +125°C |
| Operating Temperature Range | -30°C to +85°C |
| Junction Temperature | 100°C |
| Soldering Temperature, 2mm from case..... | 260°C |



Electro-optical Characteristics

(Ta=25°C)

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Unit |
|-------------------------|-----------------------|---|------|------|------|------|
| Emitter (Input) | | | | | | |
| Forward Voltage | V _F | I _F = 10mA | | 1.8 | 2.0 | V |
| Operation Input Current | I _{FON(N.O)} | V _L = ±20V, I _L = 100mA (N.O) | | | 5 | mA |
| | I _{FON(N.C)} | V _L = ±20V, I _L ≤ 5μA (N.C) t = 10mS | | | | |
| Recovery Input Current | I _{FON(N.O)} | V _L = ±20V, I _L ≤ 5μA (N.O) | 0.2 | | | mA |
| | I _{FON(N.C)} | V _L = ±20V, I _L = 100mA (N.C) t = 10mS | | | | |

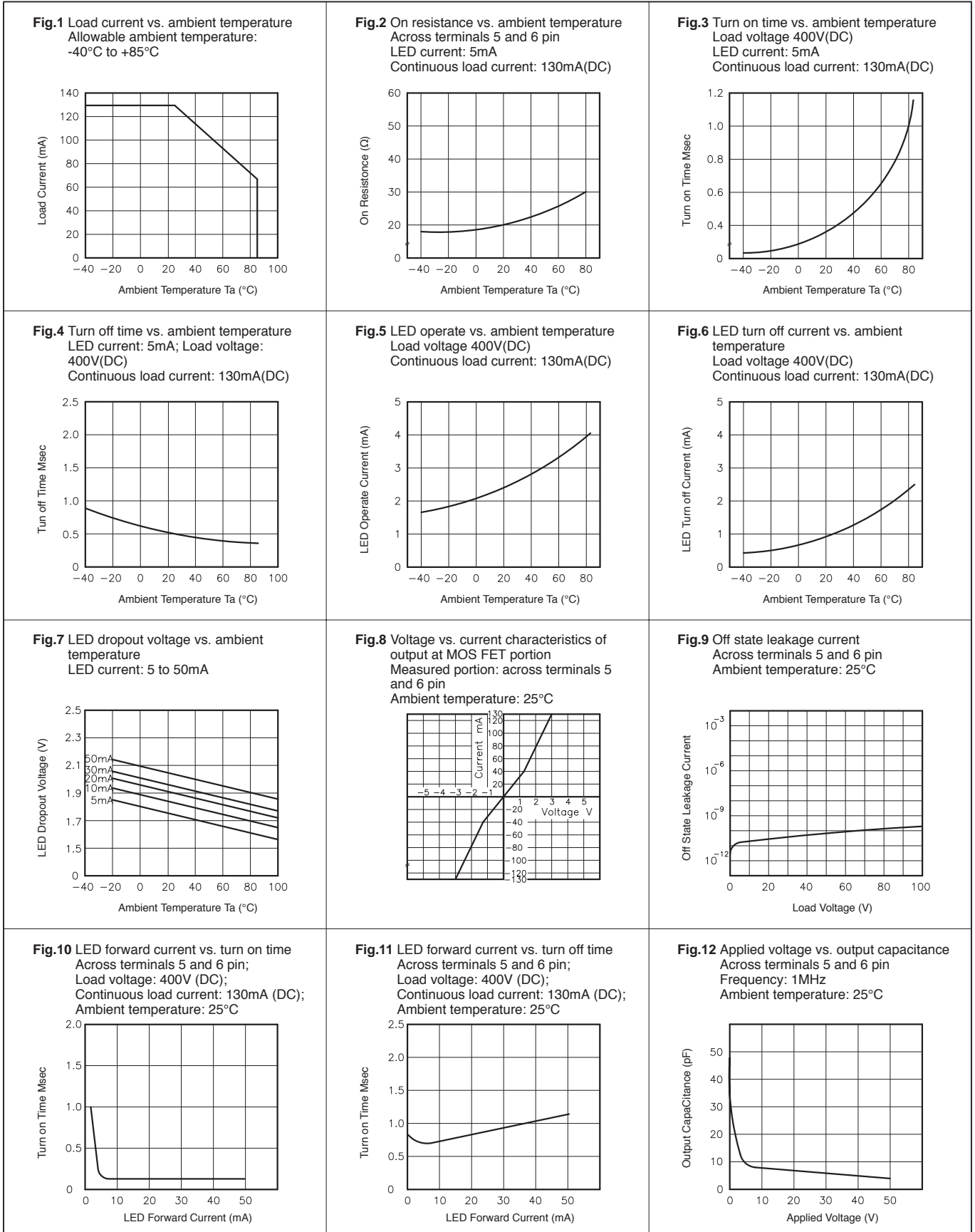
| | | | | | | |
|---------------------------------|-------------------|---|-----|-----|-----|----|
| Detector (Output) normally open | | | | | | |
| Output Breakdown Voltage | V _B | I _B = 50μA | 400 | | | V |
| Output Off-State Leakage | I _{TOFF} | V _T = 100V, I _F = 0mA | | 0.2 | 1 | μA |
| I/O Capacitance | C _{ISO} | I _F = 0, f = 1MHz | | 6 | | pF |
| ON Resistance | R _{ON} | I _L = 100mA, I _F = 10mA | | 20 | 30 | Ω |
| Turn-On Time | T _{ON} | I _F = 10mA, V _L = ±20V | | 0.3 | 1.0 | ms |
| Turn-Off Time | T _{OFF} | t = 10ms, I _L = ±100mA | | 0.7 | 1.5 | ms |

| | | | | | | |
|----------------------------------|-------------------|---|-----|-----|-----|----|
| Detector (Output) normally close | | | | | | |
| Output Breakdown Voltage | V _B | I _B = 50μA | 400 | | | V |
| Output Off-State Leakage | I _{TOFF} | V _T = 100V, I _F = 0mA | | 0.2 | 2 | μA |
| I/O Capacitance | C _{ISO} | I _F = 0, f = 1MHz | | 6 | | pF |
| ON Resistance | R _{ON} | I _L = 100mA, I _F = 10mA | | 40 | 50 | Ω |
| Reverse (ON) Time | T _{ON} | I _F = 10mA, V _L = ±20V | | 0.6 | 1.5 | ms |
| Operate (OFF) Time | T _{OFF} | t = 10ms, I _L = ±100mA | | 0.3 | 1.0 | ms |

Mos Relay Schematic and Wiring Diagrams

| Type | Schematic | Output configuration | Load | Connection | Wiring Diagrams |
|----------|-----------|----------------------|-------|------------|---|
| KAQW614S | | 1a1b | AC/DC | - | <p>(1) Two independent 1 Form A & 1 Form B use</p> <p>(2) 1 Form A & 1 Form B use</p> |

Data Curve (KAQW614S Normally Open Characteristics)



Data Curve (KAQW614S Normally Close Characteristics)

