

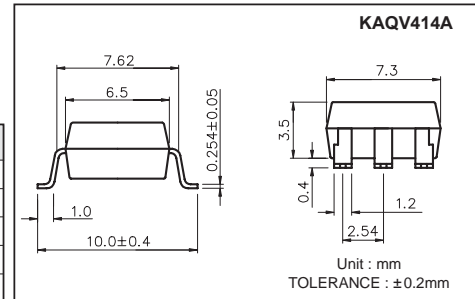
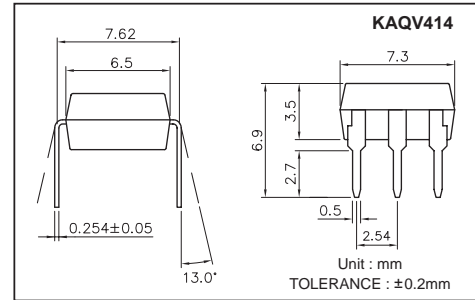
# High Voltage, Photo Mos Relay

# KAQV414/414A

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

## Features

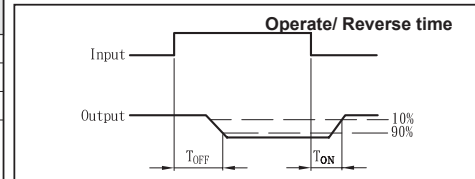
1. Normally Close, Single Pole Single Throw
2. Control 400VAC or DC Voltage
3. Switch 130mA Loads
4. LED control Current, 5mA
5. Low ON-Resistance
6. dv/dt, >500V/ms
7. Isolation Test Voltage, 3750VACrms



## Absolute Maximum Ratings

(Ta=25°C)

Emitter ( Input )	Detector ( Output )
Reverse Voltage.....5.0V	Output Breakdown Voltage .....±400V
Continuous Forward Current .....50mA	Continuous Load Current .....±130mA
Peak Forward Current .....1A	Power Dissipation .....500mW
Power Dissipation .....100mW	
Derate Linearly from 25°C .....1.3mW/°C	
<b>General Characteristics</b>	
Isolation Test Voltage.....3750VACrms	Storage Temperature Range ....-40°C to +125°C
Isolation Resistance	Operating Temperature Range...-30°C to +85°C
Vio=500V, Ta=25°C .....≥10 <sup>10</sup> Ω	Junction Temperature.....100°C
Total Power Dissipation .....550mW	Soldering Temperature,
Derate Linearly from 25°C .....2.5mW/°C	2mm from case, 10 sec .....260°C



## Electro-optical Characteristics

(Ta=25°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit	
<b>Emitter (Input)</b>							
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =10mA		1.2	1.5	V	
Operation Input Current	I <sub>OFF</sub>	V <sub>L</sub> =±20V, I <sub>L</sub> ≤5μA			5	mA	
Recovery Input Current	I <sub>ON</sub>	V <sub>L</sub> =±20V, I <sub>L</sub> =100mA, t =10mS	0.2			mA	
<b>Detector (Output)</b>							
Output Breakdown Voltage	V <sub>B</sub>	I <sub>B</sub> =50μA	400			V	
Output Off-State Leakage	I <sub>TOFF</sub>	V <sub>T</sub> =100V, I <sub>F</sub> =10mA		0.2	2	μA	
I/O Capacitance	C <sub>ISO</sub>	I <sub>F</sub> =0, f =1MHz		6		pF	
ON Resistance	Connection	A	R <sub>ON</sub>	I <sub>L</sub> =100mA, I <sub>F</sub> =10mA	40	50	Ω
		B			20	25	
		C			10	12.5	
Reverse (ON) Time	T <sub>ON</sub>	I <sub>F</sub> =10mA, V <sub>L</sub> =±20V		0.6	1.5	ms	
Operate (OFF) Time	T <sub>OFF</sub>	t =10ms, I <sub>L</sub> =±100mA		0.3	1.0	ms	

## Mos Relay Schematic and Wiring Diagrams

Type	Schematic	Output configuration	Load	Connection	Wiring Diagrams
KAQV414 & KAQV414A		1a	AC/DC	A	
			DC	B	
			DC	C	

## Data Curve

