

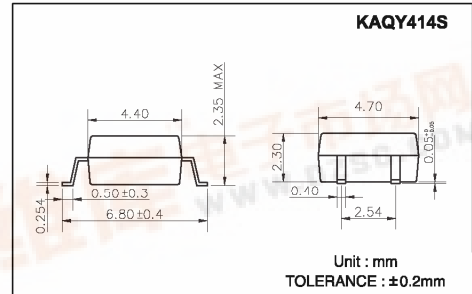
**cosmo**

**High Voltage, Solid State Relay-MOSFET Output KAQY414S**

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

**Features**

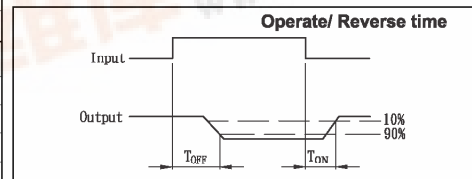
1. Normally Close, Single Pole Single Throw
2. Control 400VAC or DC Voltage
3. Switch 130mA Loads
4. LED control Current, 5mA
5. Low ON-Resistance
6.  $dv/dt, >500V/ms$
7. Isolation Test Voltage, 1500VACrms



**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..... 1500VACrms	Storage Temperature Range.... -40°C to +125°C
Isolation Resistance	Operating Temperature Range... -30°C to +85°C
Vio=500V, Ta=25°C..... $\geq 10^{10} \Omega$	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>FOFF</sub>	V <sub>L</sub> = ±20V, I <sub>L</sub> ≤ 5uA			5	mA
Recovery Input Current	I <sub>FON</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> = 50uA	400			V
Output Off-State Leakage	I <sub>TOFF</sub>	V <sub>T</sub> = 100V, I <sub>F</sub> = 0mA		0.2	2	uA
I/O Capacitance	C <sub>ISO</sub>	I <sub>F</sub> = 0, f = 1MHz		6		pF
ON Resistance	R <sub>ON</sub>	I <sub>L</sub> = 100mA, I <sub>F</sub> = 10mA		40	50	Ω
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

**Schematic and Wiring Diagrams**

Type	Schematic	Output configuration	Load	Connection	Wiring Diagrams
KAQY414S		1b	AC/DC	—	

Data Curve

