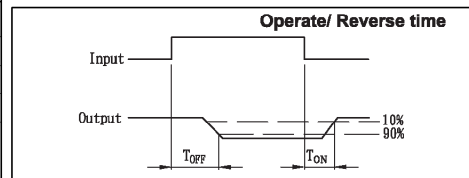
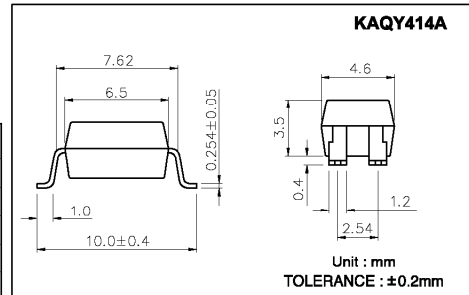
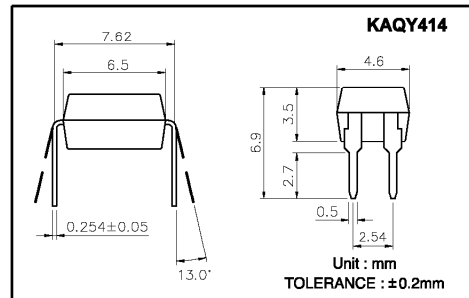


# COSMO High Voltage, Solid State Relay-MOSFET Output **KAQY414/414A**

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

( $T_a=25^\circ C$ )

Emitter ( Input )	Detector ( Output )
Reverse Voltage..... 5.0V	Output Breakdown Voltage..... $\pm 400V$
Continuous Forward Current..... 50mA	Continuous Load Current..... $\pm 130mA$
Peak Forward Current..... 1A	Power Dissipation..... 500mW
Power Dissipation..... 100mW	
Derate Linearly from 25°C..... 1.3mW/°C	
General Characteristics	
Isolation Test Voltage..... 3750VACrms	Storage Temperature Range.... $-40^\circ C$ to $+125^\circ C$
Isolation Resistance	Operating Temperature Range... $-30^\circ C$ to $+85^\circ C$
$V_{IO}=500V, T_a=25^\circ C$ ..... $\geq 10^{10}\Omega$	Junction Temperature..... $100^\circ C$
Total Power Dissipation..... 550mW	Soldering Temperature,
Derate Linearly from 25°C..... 2.5mW/°C	2mm from case, 10 sec..... $260^\circ C$

## Electro-optical Characteristics

( $T_a=25^\circ C$ )

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
<b>Emitter (Input)</b>						
Forward Voltage	$V_F$	$I_F = 10mA$		1.2	1.5	V
Operation Input Current	$I_{OFF}$	$V_L = \pm 20V, I_L \leq 5\mu A$			5	mA
Recovery Input Current	$I_{ON}$	$V_L = \pm 20V, I_L = 100mA, t = 10mS$	0.2			mA
<b>Detector (Output)</b>						
Output Breakdown Voltage	$V_B$	$I_B = 50\mu A$	400			V
Output Off-State Leakage	$I_{TOFF}$	$V_T = 100V, I_F = 10mA$		0.2	2	$\mu A$
I/O Capacitance	$C_{ISO}$	$I_F = 0, f = 1MHz$		6		pF
ON Resistance	$R_{ON}$	$I_L = 100mA, I_F = 0mA$		40	50	$\Omega$
Reverse (ON) Time	$T_{ON}$	$I_F = 10mA, V_L = \pm 20V$		0.6	1.5	ms
Operate (OFF) Time	$T_{OFF}$	$t = 10ms, I_L = \pm 100mA$		0.3	1.0	ms

## Schematic and Wiring Diagrams

Type	Schematic	Output configuration	Load	Connection	Wiring Diagrams
KAQY414 & KAQY414A		1b	AC/DC	—	

**Data Curve**

