

# COSMO High Voltage, Solid State Relay-MOSFET Output KAQW212/212A

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

## Features

1. Normally Open, Single Pole Single Throw
2. Control 60V AC or DC Voltage
3. Switch 400mA Loads
4. LED control Current, 5mA
5. Low ON-Resistance
6.  $dv/dt$ , >500V/ms
7. Isolation Test Voltage, 3750VACrms

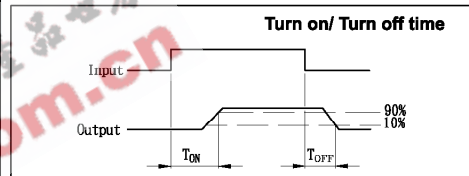
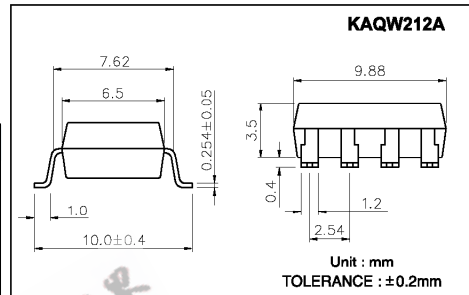
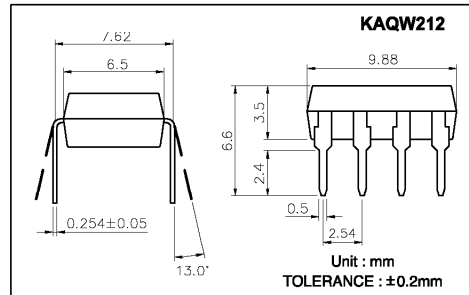
## Absolute Maximum Ratings

( $T_a=25^\circ\text{C}$ )

Emitter ( Input )	Detector ( Output )
Reverse Voltage.....5.0V	Output Breakdown Voltage .....±60V
Continuous Forward Current .....50mA	Continuous Load Current .....±400mA
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°C to +125°C
Isolation Resistance	Operating Temperature Range...-30°C to +85°C
$V_{io}=500V, T_a=25^\circ\text{C}$ ..... $\geq 10^{10}\Omega$	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

( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
<b>Emitter (Input)</b>						
Forward Voltage	$V_F$	$I_F=10\text{mA}$		1.2	1.5	V
Operation Input Current	$I_{FON}$	$V_L=\pm 20V, I_L=100\text{mA}, t=10\text{mS}$			5	mA
Recovery Input Current	$I_{FOFF}$	$V_L=\pm 20V, I_L\leq 5\mu\text{A}$	0.2			mA
<b>Detector (Output)</b>						
Output Breakdown Voltage	$V_B$	$I_B=50\mu\text{A}$	60			V
Output Off-State Leakage	$I_{TOFF}$	$V_T=60V, I_F=0\text{mA}$		0.2	1	$\mu\text{A}$
I/O Capacitance	$C_{ISO}$	$I_F=0, f=1\text{MHz}$		6		pF
ON Resistance	$R_{ON}$	$I_L=100\text{mA}, I_F=10\text{mA}$		0.83	2.50	$\Omega$
Turn-On Time	$T_{ON}$	$I_F=10\text{mA}, V_L=\pm 20V$		0.2	1.5	ms
Turn-Off Time	$T_{OFF}$	$t=10\text{ms}, I_L=\pm 100\text{mA}$		0.3	1.5	ms

## Schematic and Wiring Diagrams

Type	Schematic	Output configuration	Load	Connection	Wiring Diagrams
KAQW212 & KAQW212A		2a	AC/DC	-	<p>(1) Two independent 1 Form A use</p> <p>(2) 2 Form A use</p>

## Data Curve

