

COSMO High Voltage, Solid State Relay-MOSFET Output KAQV212/212A

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

Features

1. Normally Open, Single Pole Single Throw
2. Control 60VAC 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

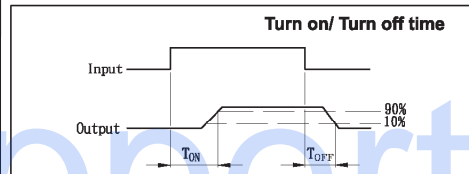
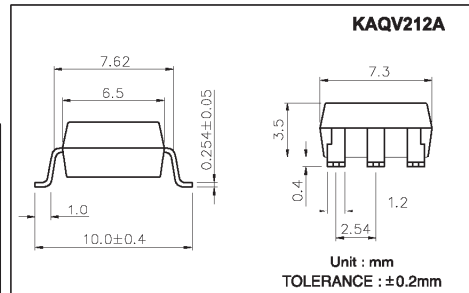
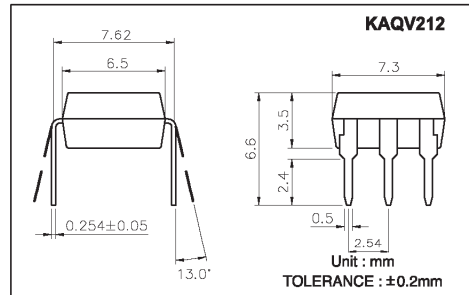
Absolute Maximum Ratings

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

Emitter (Input)	Detector (Output)
Reverse Voltage.....5.0V	Output Breakdown Voltage $\pm 60\text{V}$
Continuous Forward Current50mA	Continuous Load Current $\pm 400\text{mA}$
Peak Forward Current1A	Power Dissipation500mW
Power Dissipation100mW	
Derate Linearly from 25°C1.3mW/°C	

General Characteristics

Isolation Test Voltage3750VACrms	Storage Temperature Range ...-40°C to +125°C
Isolation Resistance	Operating Temperature Range...-30°C to +85°C
$V_{io}=500\text{V}$, $T_a=25^\circ\text{C}$ $\geq 10^{10}\Omega$	Junction Temperature.....100°C
Total Power Dissipation550mW	Soldering Temperature,
Derate Linearly from 25°C2.5mW/°C	2mm from case, 10 sec260°C



Electro-optical Characteristics

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Emitter (Input)						
Forward Voltage	V_F	$I_F=10\text{mA}$		1.2	1.5	V
Operation Input Current	I_{FON}	$V_L=\pm 20\text{V}$, $I_L=100\text{mA}$, $t=10\text{ms}$			5	mA
Recovery Input Current	I_{FOFF}	$V_L=\pm 20\text{V}$, $I_L\leq 5\mu\text{A}$	0.2			mA
Detector (Output)						
Output Breakdown Voltage	V_B	$I_B=50\mu\text{A}$	60			V
Output Off-State Leakage	I_{TOFF}	$V_T=60\text{V}$, $I_F=0\text{mA}$		0.2	1	μA
I/O Capacitance	C_{ISO}	$I_F=0$, $f=1\text{MHz}$		0.8		pF
ON Resistance	Connection	A	$I_L=100\text{mA}$, $I_F=10\text{mA}$	0.83	2.50	Ω
		B		0.44	1.25	
		C		0.25	0.63	
Turn-On Time	T_{ON}	$I_F=10\text{mA}$, $V_L=\pm 20\text{V}$		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
KAQV212 & KAQV212A		1a	AC/DC	A	
			DC	B	
			DC	C	

Data Curve

