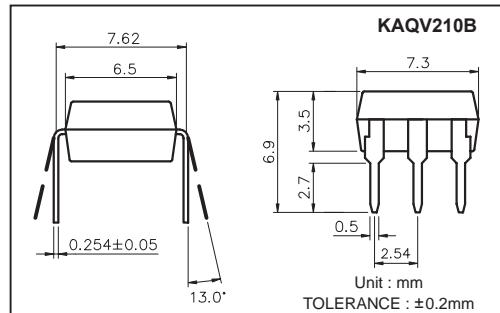


COSMO**High Voltage, Photo Mos Relay KAQV210B/210AB**

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

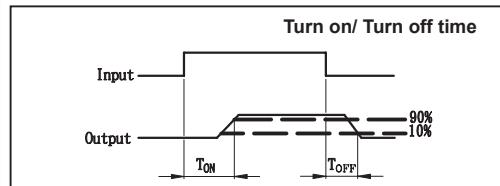
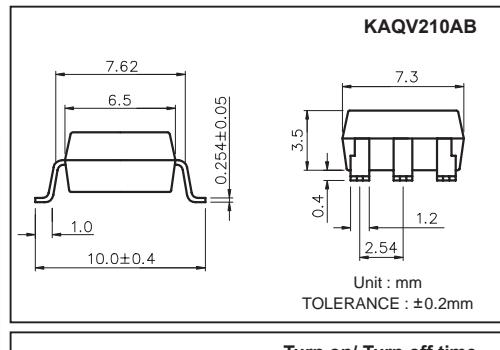
Features

1. Normally Open, Single Pole Single Throw
2. Control 350VAC 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

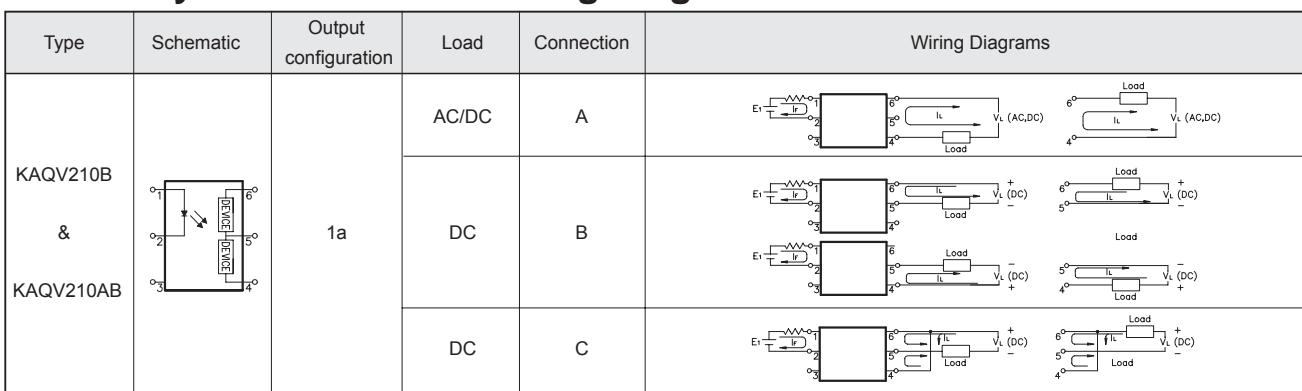
		(Ta=25°C)
Emitter (Input)	Detector (Output)	
Reverse Voltage.....	5.0V	Output Breakdown Voltage±350V
Continuous Forward Current	50mA	Continuous Load Current±130mA
Peak Forward Current	1A	Power Dissipation500mW
Power Dissipation	100mW	
Derate Linearly from 25°C	1.3mW/°C	
General Characteristics		
Isolation Test Voltage.....	3750VACrms	Storage Temperature Range ...-40°C to +125°C
Isolation Resistance		Operating Temperature Range...-30°C to +85°C
Vio=500V, Ta=25°C	≥10 ¹⁰ Ω	Junction Temperature.....100°C
Total Power Dissipation	550mW	Soldering Temperature,
Derate Linearly from 25°C	2.5mW/°C	2mm from case, 10 sec260°C



Electro-optical Characteristics

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit	
Emitter (Input)							
Forward Voltage	VF	IF=10mA		1.2	1.5	V	
Operation Input Current	IFON	VL =±20V, IL =100mA, t =10mS		5		mA	
Recovery Input Current	IFOFF	VL =±20V, IL ≤5μA	0.05			mA	
Detector (Output)							
Output Breakdown Voltage	VB	IB=50μA	350			V	
Output Off-State Leakage	IOTOFF	VT =100V, IF =0mA	0.2	2		uA	
I/O Capacitance	CISO	IF =0, f =1MHz	6			pF	
ON Resistance	Connection	RON	IL =100mA, IF =10mA	28	35	Ω	
				14	18		
				7	9		
Turn-On Time		TON	IF =10mA, VL =±20V t =10ms, IL =±100mA	0.1	0.5	ms	
Turn-Off Time		TOFF		0.3	0.5	ms	

Mos Relay Schematic and Wiring Diagrams



Data Curve

Fig.1 Load current vs. ambient temperature
Allowable ambient temperature:
-40°C to +85°C

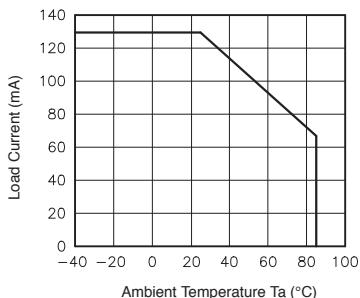


Fig.2 On resistance vs. ambient temperature
Across terminals 4 and 6 pin
LED current: 5mA
Continuous load current: 130mA(DC)

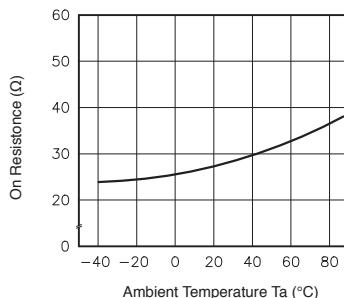


Fig.3 Turn on time vs. ambient temperature
Load voltage 350V(DC)
LED current: 5mA
Continuous load current: 130mA(DC)

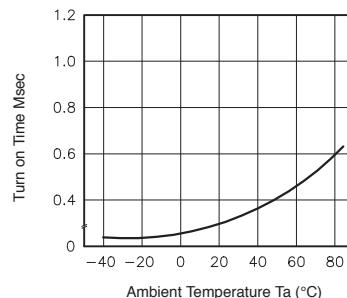


Fig.4 Turn off time vs. ambient temperature
LED current: 5mA; Load voltage:
350V(DC)
Continuous load current: 130mA(DC)

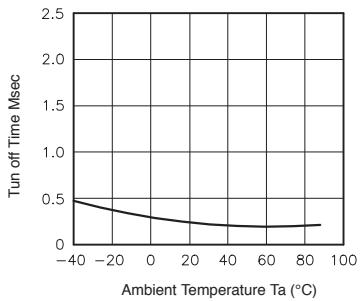


Fig.5 LED operate vs. ambient temperature
Load voltage 350V(DC)
Continuous load current: 130mA(DC)

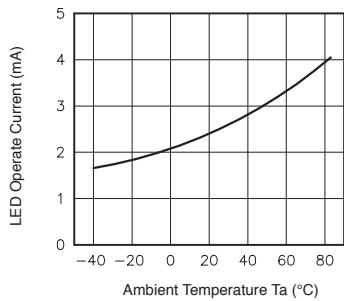


Fig.6 LED turn off current vs. ambient temperature
Load voltage 350V(DC)
Continuous load current: 130mA(DC)

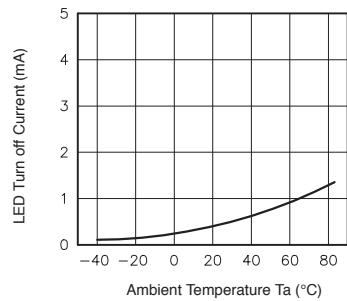


Fig.7 LED dropout voltage vs. ambient temperature
LED current: 5 to 50mA

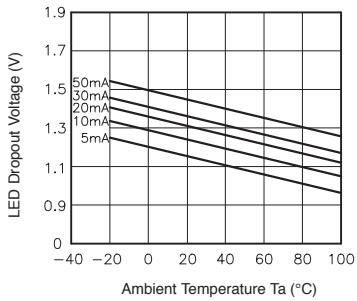


Fig.8 Voltage vs. current characteristics of output at MOS FET portion
Measured portion: across terminals 4 and 6 pin
Ambient temperature: 25°C

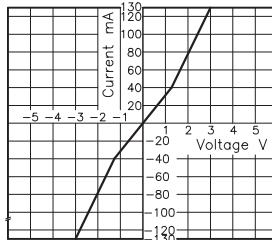


Fig.9 Off state leakage current
Across terminals 4 and 6 pin
Ambient temperature: 25°C

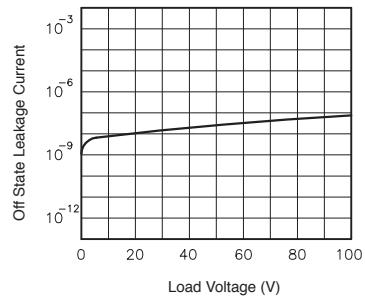


Fig.10 LED forward current vs. turn on time
Across terminals 4 and 6 pin;
Load voltage: 350V (DC);
Continuous load current: 130mA (DC);
Ambient temperature: 25°C

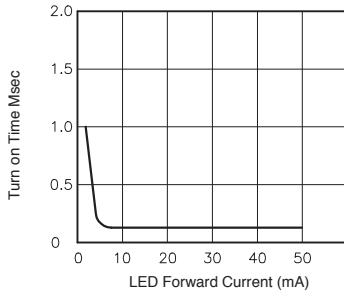


Fig.11 LED forward current vs. turn off time
Across terminals 4 and 6 pin;
Load voltage: 350V (DC);
Continuous load current: 130mA (DC);
Ambient temperature: 25°C

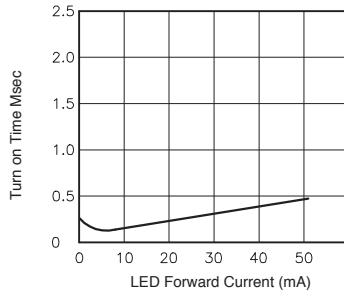


Fig.12 Applied voltage vs. output capacitance
Across terminals 4 and 6 pin
Frequency: 1MHz
Ambient temperature: 25°C

