

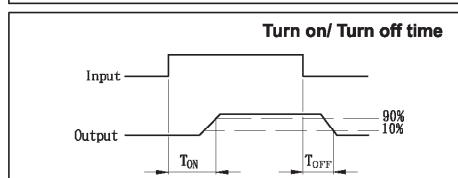
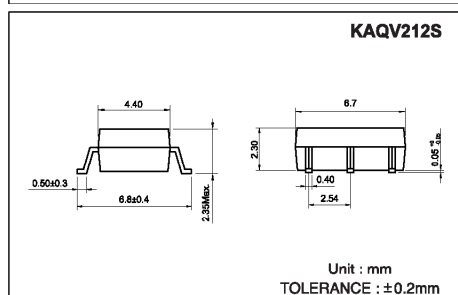
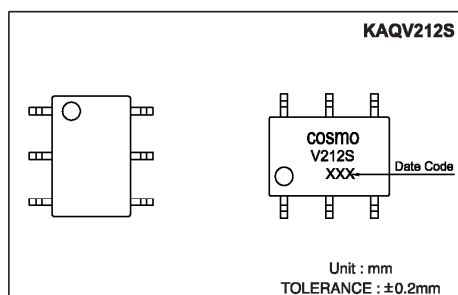
Features

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, 1500VACrms

Absolute Maximum Ratings

(Ta=25°C)

Emitter (Input)	Detector (Output)
Reverse Voltage.....5.0V	Output Breakdown Voltage±60V
Continuous Forward Current50mA	Continuous Load Current±400mA
Peak Forward Current1A	Power Dissipation500mW
Power Dissipation100mW	
Derate Linearly from 25°C1.3mW/°C	
General Characteristics	
Isolation Test Voltage1500VACrms	Storage Temperature Range ...-40°C to +150°C
Isolation Resistance	Operating Temperature Range...-40°C to +85°C
Vio=500V, Ta=25°C≥10 ¹⁰ Ω	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

(Ta=25°C)

Parameter			Symbol	Conditions	Min.	Typ.	Max.	Unit
Emitter (Input)								
Forward Voltage			V _F	I _F =10mA		1.2	1.5	V
Operation Input Current			I _{FON}	V _L =±20V, I _L =100mA, t =10mS			5	mA
Recovery Input Current			I _{FOFF}	V _L =±20V, I _L ≤5uA	0.2			mA
Detector (Output)								
Output Breakdown Voltage			V _B	I _B =50uA	60			V
Output Off-State Leakage			I _{TOFF}	V _T =60V, I _F =0mA		0.2	1	uA
I/O Capacitance			C _{ISO}	I _F =0, f =1MHz		0.8		pF
ON Resistance	Connection	A	R _{ON}	I _L =100mA, I _F =10mA		0.83	2.50	Ω
		B				0.44	1.25	
		C				0.25	0.63	
Turn-On Time			T _{ON}	I _F =10mA, V _L =±20V		0.2	1.5	ms
Turn-Off Time			T _{OFF}	t =10ms, I _L =±100mA		0.3	1.5	ms

Schematic and Wiring Diagrams

Type	Schematic	Output configuration	Load	Connection	Wiring Diagrams
KAQV212S		1a	AC/DC	A	
			DC	B	
			DC	C	

Data Curve

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

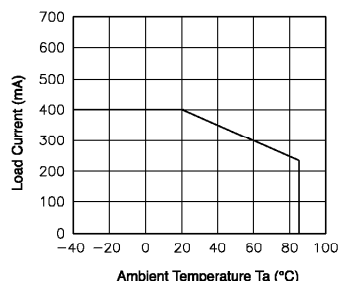


Fig.2 On resistance vs. ambient temperature
Across terminals 4 and 6 pin
LED current: 5mA
Continuous load current:400mA(DC)

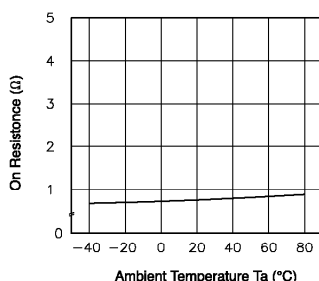


Fig.3 Turn on time vs. ambient temperature
Load voltage 60V(DC)
LED current: 5mA
Continuous load current:400mA(DC)

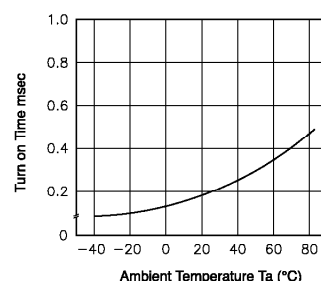


Fig.4 Turn off time vs. ambient temperature
LED current: 5mA; Load voltage:
60V(DC)
Continuous load current:400mA(DC)

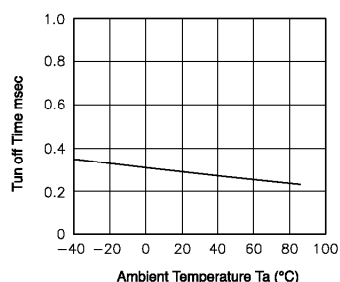


Fig.5 LED operate vs. ambient temperature
Load voltage 60V(DC)
Continuous load current:400mA(DC)

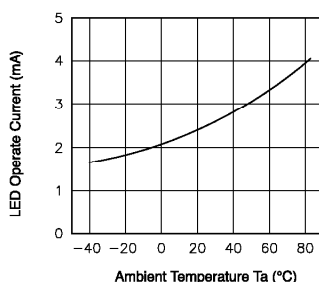


Fig.6 LED turn off current vs. ambient temperature
Load voltage 60V(DC)
Continuous load current:400mA(DC)

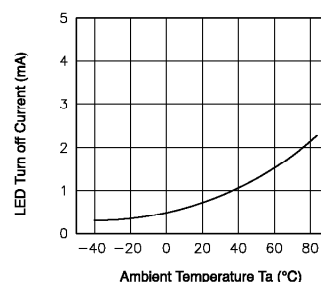


Fig.7 LED dropout voltage vs. ambient temperature
LED current: 5 to 50mA

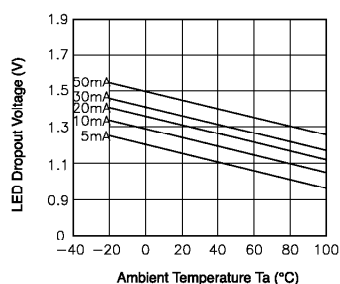


Fig.8 Voltage vs. current characteristics of output at MOS FET portion
Measured portion: across terminals 4 and 6 pin
Ambient temperature: 25°C

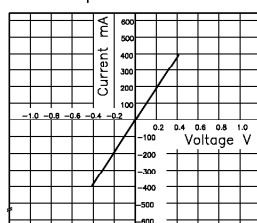


Fig.9 Off state leakage current
Across terminals 4 and 6 pin
Ambient temperature: 25°C

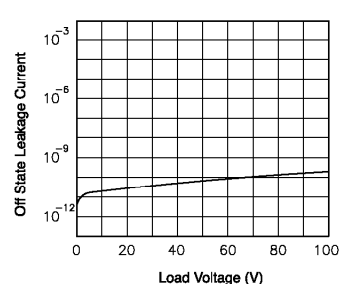


Fig.10 LED forward current vs. turn on time
Across terminals 4 and 6 pin;
Load voltage: 60V (DC);
Continuous load current:400mA (DC);
Ambient temperature: 25°C

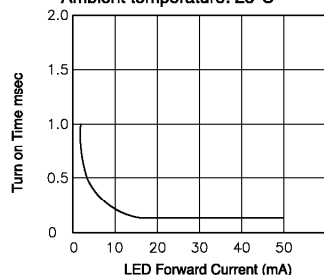


Fig.11 LED forward current vs. turn off time
Across terminals 4 and 6 pin;
Load voltage: 60V (DC);
Continuous load current:400mA (DC);
Ambient temperature: 25°C

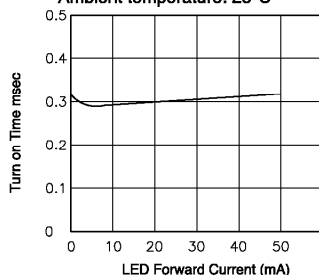


Fig.12 Applied voltage vs. output capacitance
Across terminals 4 and 6 pin
Frequency: 1MHz
Ambient temperature: 25°C

