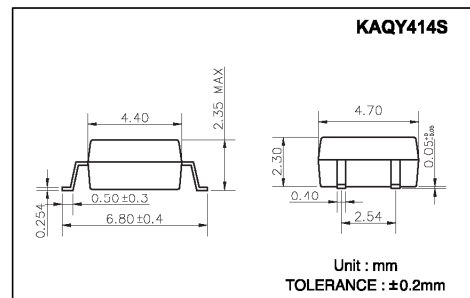


Features

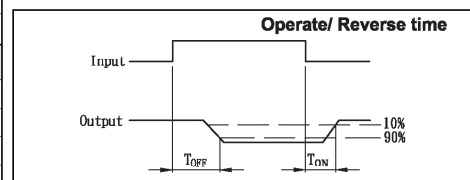
1. Normally Close, Single Pole Single Throw
2. Control 400VAC or DC Voltage
3. Switch 130mA Loads
4. LED control Current, 5mA
5. Low ON-Resistance
6. dv/dt, >500V/ms
7. Isolation Test Voltage, 1500VACrms



Absolute Maximum Ratings

(Ta=25°C)

Emitter (Input)	Detector (Output)
Reverse Voltage..... 5.0V	Output Breakdown Voltage..... ±400V
Continuous Forward Current..... 50mA	Continuous Load Current..... ±130mA
Peak Forward Current.....1A	Power Dissipation.....500mW
Power Dissipation.....100mW	
Derate Linearly from 25°C..... 1.3mW/°C	
General Characteristics	
Isolation Test Voltage..... 1500VACrms	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 sec..... 260°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 _{OFF}	V _L = ±20V, I _L ≤ 5uA			5	mA
Recovery Input Current	I _{ON}	V _L = ±20V, I _L = 100mA, t = 10mS	0.2			mA
Detector (Output)						
Output Breakdown Voltage	V _B	I _B = 50uA	400			V
Output Off-State Leakage	I _{TOFF}	V _T = 100V, I _F = 0mA		0.2	2	uA
I/O Capacitance	C _{ISO}	I _F = 0, f = 1MHz		6		pF
ON Resistance	R _{ON}	I _L = 100mA, I _F = 10mA		40	50	Ω
Reverse (ON) Time	T _{ON}	I _F = 10mA, V _L = ±20V		0.6	1.5	ms
Operate (OFF) Time	T _{OFF}	t = 10ms, I _L = ±100mA		0.3	1.0	ms

Schematic and Wiring Diagrams

Type	Schematic	Output configuration	Load	Connection	Wiring Diagrams
KAQY414S		1b	AC/DC	—	

Data Curve

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

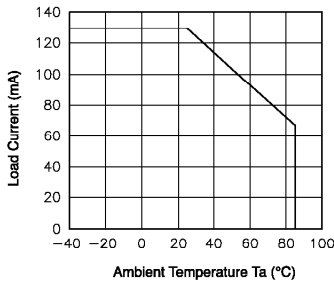


Fig.2 On resistance vs. ambient temperature
Across terminals 3 and 4 pin
LED current: 0mA
Continuous load current: 130mA(DC)

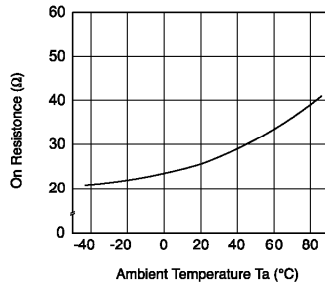


Fig.3 Operate (OFF) time vs. ambient temperature
Load voltage 400V(DC)
LED current: 5mA
Continuous load current: 130mA(DC)

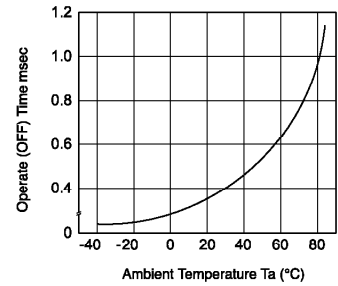


Fig.4 Reverse (ON) time vs. ambient temperature; LED current: 5mA;
Load voltage: 400V(DC)
Continuous load current: 130mA(DC)

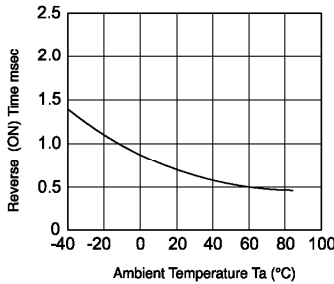


Fig.5 LED operate (OFF) vs. ambient temperature
Load voltage: 400V(DC)
Continuous load current: 130mA(DC)

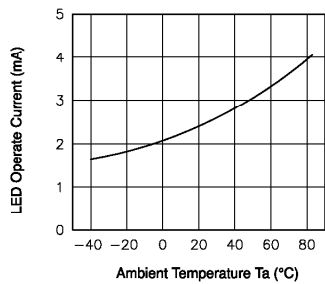


Fig.6 LED reverse (ON) current vs. ambient temperature
Load voltage 400V(DC)
Continuous load current: 130mA(DC)

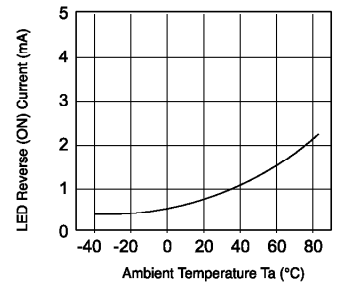


Fig.7 LED dropout voltage vs. ambient temperature
LED current: 5 to 50mA

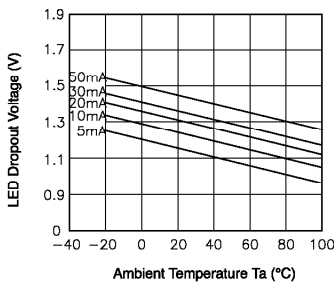


Fig.8 Voltage vs. current characteristics of output at MOS FET portion
Measured portion: across terminals 3 and 4 pin
Ambient temperature: 25°C

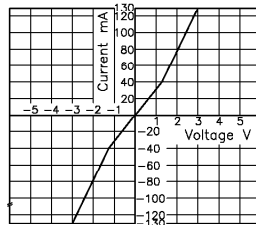


Fig.9 Off state leakage current
Across terminals 3 and 4 pin
Ambient temperature: 25°C

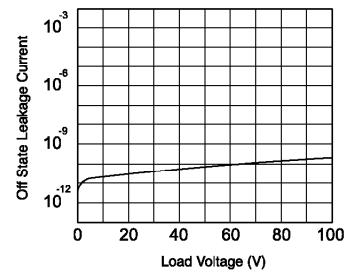


Fig.10 LED forward current vs. operate (OFF) time
Across terminals 3 and 4 pin;
Load voltage: 400V (DC);
Continuous load current: 130mA (DC);
Ambient temperature: 25°C

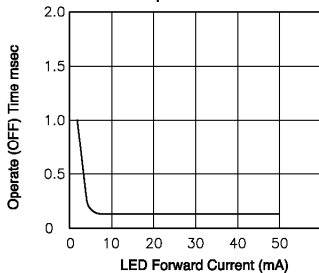


Fig.11 LED forward current vs. reverse (ON) time
Across terminals 3 and 4 pin;
Load voltage: 400V (DC);
Continuous load current: 130mA (DC);
Ambient temperature: 25°C

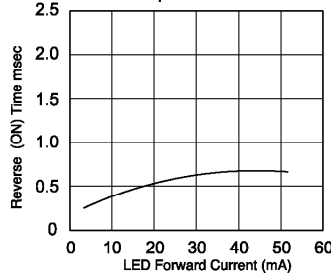


Fig.12 Applied voltage vs. output capacitance
Across terminals 3 and 4 pin
Frequency: 1MHz
Ambient temperature: 25°C

